The Texas Commission on Environmental Quality (TCEQ, commission, or agency) adopts amendments to §§307.2 - 307.4, 307.6 - 307.10.

Sections §§307.3, 307.4, 307.6, 307.8 and 307.10 are adopted *with changes* to the proposed text as published in the September 13, 2013, issue of the *Texas Register* (38 TexReg 5998). Sections §§307.2 and 307.7, and 307.9 are adopted *without changes* to the proposed text and will not be republished.

Background and Summary of the Factual Basis for the Adopted Rules

The rules are amended to satisfy Texas Water Code (TWC), §26.023, which requires the commission to set water quality standards by rule for water in the state and allows the commission to amend the standards. The Federal Water Pollution Control Act, §303 (commonly referred to as the Clean Water Act, 1972, 33 United States Code, §1313(c)), also requires all states to adopt water quality standards for surface water and to review and revise those standards at least every three years. 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 stormwater 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 water quality data 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 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 the EPA.

The Texas statewide surface water quality standards were last amended in June 2010. The EPA approved the majority of the state's revised standards by 2013.

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 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 designated uses when it can be demonstrated, through a Use Attainability Analysis (UAA), that attaining the current designated uses or criteria are 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 or criteria. Natural characteristics include temperature, pH, dissolved oxygen, diversity of aquatic organisms, amount of stream flow, 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 adopting editorial revisions as well as substantive changes. Editorial revisions are adopted to improve clarity, to make grammatical corrections, and to renumber or reletter subdivisions as appropriate.

Numerous revisions of toxic criteria are adopted to incorporate new data on toxicity effects. Also, adopted revisions provide clarity on how water quality standards would be assessed using instream monitoring data. Numerous revisions are adopted for the uses and criteria of individual water bodies in order to incorporate new data and the results of recent UAAs.

Section by Section Discussion

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

§307.2, Description of Standards

Adopted changes to §307.2 are strictly editorial and are included to improve clarity.

§307.3, Definitions and Abbreviations

Adopted changes to §307.3 include a new definition in §307.3(a) for "Primary contact recreation 2," and the term "Primary contact recreation" is adopted to be changed to "Primary contact recreation 1." Also, the term "handfishing" is adopted as an addition to the definition for "Primary contact recreation 1." New definitions are adopted for "Biotic ligand model" and "Industrial cooling water area."

In response to comments, the definition for "Industrial cooling water area" was modified and adopted to include reference to §307.8(b).

§307.4, General Criteria

Adopted changes to §307.4 include adding industrial cooling water areas as surface waters that must be maintained so as to not interfere with reasonable use of such waters. Adopted revisions also specify that numerical temperature criteria are not applicable in designated industrial cooling water areas.

The horizontal boundaries of the industrial cooling water area would be specified in the applicable wastewater permit. Maximum temperature differentials for freshwater streams, freshwater lakes and impoundments, tidal river reaches, and bay and gulf waters, as well as maximum temperature criteria specified in Appendix A of §307.10, would not be applicable within industrial cooling water areas.

Adopted revisions to §307.4(j) include a description regarding the applicability of primary contact recreation 2 (PCR 2) as a new category of recreational use. This adopted provision clarifies that PCR 2 is only applicable when designated for an individual water body in Appendix A or G of §307.10. Also in §307.4(j), the term primary contact recreation (PCR) is adopted as being changed to primary contact recreation 1 (PCR 1).

In response to comments, the following sentence was added to §307.4(j)(2)(B): "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."

§307.6, Toxic Materials

Adopted changes to §307.6 include revisions of some numeric criteria.

Section 307.6(c)(1), Table 1, which lists numeric criteria for the protection of aquatic life, includes adopted revisions to footnotes to render the rule more accessible to individuals using assistive technology such as screen reader programs. For added clarity, adopted revisions also include the addition of parentheses around the correction factors at the beginning of the criteria equations for cadmium and lead.

Numerous changes are adopted to the human health criteria in Table 2, §307.6(d)(1). Revisions are adopted to the criteria for the following nine chemicals to include updated cancer potency factors and animal body weights recommended by the EPA: benzo(a)anthracene, bis(2-chloroethyl)ether, carbon tetrachloride, dichloromethane, hexachloroethane, pentachlorophenol, 1,1,2,2-tetrachloroethane, tetrachloroethylene, and trichloroethylene. Revised criteria for two chemicals, nitrobenzene and thallium, are revised based on updated reference doses recommended by the EPA. Adopted criteria revisions for the following nine chemicals are based on changes in bioconcentration factors (BCFs): cresols, danitol, 1,2-dibromoethane, dicofol, hexachlorophene, methoxychlor, methyl ethyl ketone, pyridine, and 2,4,5-TP. Revised criteria for dieldrin are adopted to correct a calculation error in the previous version of the rule. Human health criteria for 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dioxins/furans, mercury, and polychlorinated biphenyls (PCBs), which were previously expressed as fish tissue-based concentrations, are revised to water column-based concentrations. Additional adopted changes include revising the mercury criteria back to the previously EPA-approved criteria found in the 2000 version of the rule. The adopted change to the mercury criteria is due to the EPA disapproval of the revised criteria in the 2010 Texas Surface Water Quality Standards (TSWQS) in an action letter dated June 29, 2011. Revisions to footnotes were included to render the rule more accessible to individuals using assistive technology such as screen reader programs.

In response to comments regarding Table 2, §307.6(d)(1), all human health criteria for hexachlorophene and the fish only criterion for cresols and tetrachloroethylene were corrected in the adopted rule.

Adopted changes to §307.6(d)(2) and (5) clarify that human health concentration criteria to prevent contamination of drinking water, fish, and other aquatic life to ensure that they are safe for human consumption apply to all water bodies identified as having a public drinking water supply use in Appendix A of §307.10 or as a sole-source surface drinking water supply in Appendix B of §307.10. The reference to tissue-based criteria in §307.6(d)(10) is removed to be consistent with the revisions to the criteria in Table 2, §307.6(d)(1).

§307.7, Site-Specific Uses and Criteria

In §307.7(b)(1), PCR 2 is adopted as an additional category of recreational use for freshwater, with a geometric mean criterion for *E. coli* of 206 per 100 milliliters (mL). Throughout this section, the term PCR is adopted to change to PCR 1. Adopted changes to §307.7 remove language allowing fecal coliform to be used as an alternative indicator of recreational suitability in high saline inland waters.

§307.8, Application of Standards

Adopted changes to §307.8 include adding language to more clearly state that different mixing zone sizes may apply to different types of numeric criteria. Adopted language is also added to §307.8(b)(2)(C) to specify that the 50-foot radius zone of initial dilution applies to the Gulf of Mexico as well as other large, tidal water bodies.

§307.9, Determination of Standards Attainment

Adopted changes to §307.9 include revisions to §307.9(c) to clarify that samples taken for the purposes of standards attainment determinations are collected and preserved in accordance with reliable procedures acceptable to the commission. The adopted changes also clarify that attainment is achieved when the water column is entirely mixed for chloride, sulfate, total dissolved solids, dissolved oxygen, or chlorophyll *a* standards.

Adopted changes to §307.9(e)(1) clarify that the long-term mean of chloride, sulfate, and total dissolved solids data may be used to demonstrate compliance with provisions specified in §307.7(b)(4)(A).

Adopted revisions to §307.9(e)(3) include removal of the high-flow exemption for bacteria samples taken during extreme hydrologic conditions, such as very high flows and flooding immediately after heavy rains. Clarification of the time period and hydrologic conditions during which the high-flow exemption would apply are also removed. Removal of the high-flow exemption and applicable conditions are a result of the EPA's disapproval of these provisions in an action letter dated June 29, 2011. Other adopted revisions to this section specify that attainment of bacteria standards would allow consideration of statistical variability to reduce uncertainty in determinations. Evaluations of bacteria standards would be in accordance with applicable sections of the TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas.

The adopted change to §307.9(e)(7) is to correct a reference to screening levels for nutrients. During the proposal phase of the 2010 revision of this rule, nutrient screening levels were included for consideration as part of §307.10, Appendix F; however, screening levels were not adopted as part of this appendix in the final rule. The adopted change removes the reference to screening levels that was inadvertently included in the final version of the rule.

Adopted changes to §307.9(f) remove deferment of impairment for water bodies with presumed high aquatic life uses and associated timeframes, notice, and public comment in the Clean Water Act §303(d)/§305(b) Integrated Report (IR). This change is due to the EPA's disapproval of these provisions in an action letter dated August 24, 2012. Other adopted revisions to this section specify that standards attainment of biological integrity would allow consideration of statistical variability to reduce uncertainty in determinations in accordance with applicable sections of the TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas.

§307.10, Appendices A - G

In §307.10, Appendix A, designations of PCR, are adopted as changed to PCR 1. Adopted changes to §307.10, Appendix A include removal of language allowing use of fecal coliform as an alternative indicator of recreational suitability in high saline inland waters.

The adopted changes to the aquatic life use for Upper Pecos River (2311) from high to limited is based on the results of a UAA. In addition, revised site-specific dissolved oxygen criteria are adopted based on the results of UAAs for Pine Island Bayou (0607) and Lower Atascosa River (2107). Adopted footnotes are added for Hillebrandt Bayou (0704) and Upper Pecos River (2311) for site-specific minimum 24-hour dissolved oxygen criteria.

Adopted changes to the 24-hour minimum dissolved oxygen criteria for Lower Laguna Madre (2491) and Oso Bay (2485) are due to the EPA's disapproval of the 24-hour minimum dissolved oxygen criteria for these segments in the 2010 TSWQS.

Adopted changes in §307.10, Appendix A also include the creation of five new segments, all of which are currently portions of existing segments, based on differing hydrological conditions: Middle Oyster Creek (1258), created from the upper portion of Oyster Creek Above Tidal (1110); Leon River Above Belton Lake (1259), created from the lower portion of the Leon River Below Proctor Lake (1221); Upper Atascosa River (2118), created from the middle portion of Atascosa River (2107); Rio Grande Below Rio Conchos (2315), created from the upper portion of Rio Grande Above Amistad Reservoir (2306); and Upper Laguna Madre (2490), created from the upper portion of Laguna Madre (2491). In addition, two segments are being renamed (2107 - Lower Atascosa

River and 2491 - Lower Laguna Madre) due to the creation of new segments referenced above.

Changes being adopted also include removal of the public water supply use for Upper Oyster Creek Above Tidal (1110) and removal of all footnote language allowing fecal coliform to be used as an alternative bacteria indicator in high saline inland waters.

Revisions to dissolved minerals criteria are adopted for six segments based on new calculations using updated information: Little Wichita River (0211), San Gabriel River (1214), San Gabriel/North Fork San Gabriel River (1248), Lake Corpus Christi (2103), Lower Atascosa River (2107), and Rio Grande Above Amistad Reservoir (2306).

Revisions to the pH range criteria are adopted for Wright Patman Lake (0302), Lake Palestine (0605), and Cedar Creek Reservoir (0818) based on new calculations using updated information.

In response to comments, the adopted introduction paragraph to Appendix A includes changes to address the addition of industrial cooling water impoundments and a correction of a typographical error in the chloride criteria for Grapevine Lake (Segment 0826).

Adopted changes to §307.10, Appendix B include both the addition of new water bodies that qualify as sole-source drinking water supplies and the deletion of water bodies that no longer qualify as sole-source drinking water supplies, in accordance with TWC, §26.0286. Adopted additions to Appendix B are: Lake Kickapoo (0213), Big Creek Lake (0303), Sabine River Above Caney Creek (0503), Sabine River Above Toledo Bend Reservoir (0505), Lake Murvaul (0509), Lower Neches Valley Authority Canal (0602), Neches River Below B.A. Steinhagen Lake (0602), Trinity River Tidal (0801), Trinity River Above Lake Livingston (0804), Lake Grapevine (0826), Lake Houston (1002), Brazos River Below Navasota River (1202), Navasota River Below Lake Limestone (1209), Lake Mexia (1210), Lake Graham/Lake Eddleman (1231), White River Lake (1240), Lake Georgetown (1249), Brady Creek Reservoir (1416), Concho River (1421), Lake Texana (1604), Guadalupe River Below San Antonio River (1802), Guadalupe River Below San Marcos (1803), Lake Dunlap (1804), Lake Placid (1804), Lake Wood (1804), Guadalupe River Above Canyon Lake (1806), Guadalupe River Below Canyon Dam (1812), Upper Blanco River (1813), Medina River Below Medina Diversion Lake (1903), and Boerne Lake (1908). Adopted deletions from Appendix B are: Caney Creek Reservoir (0302), Cooper Lake (0307), Big Cypress Creek Below Lake O' the Pines (0402), Trinity River (0803), Lake Waxahachie (0816), Lavon Lake (0821), Lake Weatherford (0832), Lake Amon G. Carter (0834), Lake J.B. Thomas (1413), O.H. Ivie Reservoir (1433), and Terminal Reservoir (1802).

In response to comments, Lavon Lake (0821) and Big Cypress Creek Below Lake O' the Pines (0402) are no longer being deleted from §307.10, Appendix B.

Adopted changes to §307.10, Appendix C include the addition of descriptions for new segments and revisions to descriptions of existing segments affected by the creation of new segments in §307.10, Appendix C. Middle Oyster Creek is added as new Segment 1258 based on hydraulic differences with the remainder of Upper Oyster Creek Above Tidal (1110); Upper Atascosa River is added as new Segment 2118 based on the results of an aquatic life UAA; the Rio Grande Below Rio Conchos is added as new Segment 2315 based on hydraulic differences, due to spring flow, with the remainder of Rio Grande Above Amistad Reservoir (2306); Upper Laguna Madre is added as new Segment 2490 based on comments by the EPA in an action letter dated August 24, 2012; and Leon River Above Belton Lake is added as new Segment 1259 based on stakeholder comments. The upper boundaries of Oyster Creek Above Tidal (1110), Lower Atascosa River (2107), and Rio Grande Above Amistad Reservoir (2306) are changed as a result of creating these new segments. The creation of Leon River Above Belton Lake (1259) necessitates changing the lower boundary of Leon River Below Proctor Lake (1221). The name of Segment 2491 is changed to Lower Laguna Madre to distinguish it from the newly created Upper Laguna Madre (2490).

Segment boundary revisions are adopted for Pine Island Bayou (0607) and Lower

Atascosa River (2107) based on results of aquatic life UAAs that identified differing hydrologic characteristics within the classified segments. Upstream portions with different hydrologic characteristics are removed and placed in §307.10, Appendix D. The boundary of Trinity River Tidal (0801) is updated to reflect the addition of a saltwater barrier. The upper boundary of International Falcon Reservoir (2303) is updated to better describe the normal pool elevation of the lake, and the description of the lower boundary of Rio Grande Below Amistad Reservoir (2304) is updated to match the upper boundary of International Falcon Reservoir (2303).

Revisions are adopted to descriptions of the following segments to clarify or to correct clerical errors in existing descriptions: Old River is added to the description for Houston Ship Channel Tidal (1006), the description of the lower boundary of the Colorado River Tidal (1401) is changed from the Gulf of Mexico to Matagorda Bay because a diversion channel now connects the segment to Matagorda Bay, and Rio Grande Below Amistad Reservoir (2304) boundary is updated based on more accurate measurements.

The correction of the normal pool elevation for Lake Travis (1404) is adopted based on information from the Texas Water Development Board.

In response to comments, the adoption of amended §307.10, Appendix C includes changes to the description for Pine Island Bayou (0607), the upper boundary of Middle

Oyster Creek (1258), and the boundaries of Upper Laguna Madre (2490) and Lower Laguna Madre (2491).

Adopted changes to §307.10, Appendix D include the addition of eight water bodies with designated aquatic life uses and dissolved oxygen criteria. The additions are mainly due to the results of receiving water assessments (RWA); however, some are the result of more extensive investigations via a UAA. All water bodies are tributaries within the listed segment numbers. Water bodies added because of UAAs are as follows: Pine Island Bayou (0607); Willow Creek (0607); Skull Creek (1402); and Atascosa River (2118). UAAs also led to the revision of two existing Appendix D entries: Boggy Creek (0607); and Cypress Creek (0608). Water bodies added because of an RWA are as follows: Town Creek (0831); Flag Lake Drainage Canal (1111); Wilbarger Creek (1428); and unnamed tributary of Wilbarger Creek (1428).

Other adopted changes include: segment number update for West Prong Atascosa River (2118) due to changes in segment boundaries; description change to South Mayde Creek (1014) due to EPA comments; correction of county name in the first entry for Dry Creek (1428); removal of county names in descriptions to prevent duplication of information; the addition of county names to some descriptions to clarify the full extent of streams; and footnotes added to define seasonal dissolved oxygen criteria for a number of water bodies.

The seasonal dissolved oxygen as described in the footnote for the Lavaca River (1602), is adopted as changed from an average of 2.0 milligrams per Liter (mg/L) and a minimum of 1.0 mg/L to an average of 3.0 mg/L and a minimum of 2.0 mg/L due to EPA disapproval of the criteria in the 2010 TSWQS.

In response to comments, the adoption of amended §307.10, Appendix D includes changes to the aquatic life use of Pine Island Bayou (0607) and the upper boundary of Dry Creek (1009). Also in response to comments, the county name assigned to Walnut Creek (0409) was corrected.

Adopted changes to §307.10, Appendix E include the addition of two new site-specific copper water-effect ratios (WER) in the watersheds of Segments 0506 and 0823, the addition of one new site-specific zinc WER in the watershed of Segment 0601, the addition of one new site-specific nickel WER in the watershed of Segment 1005, and the addition of two new site-specific aluminum WERs in the watersheds of Segments 0611 and 1005. Changes are adopted to existing site-specific criteria for lead in the watershed of Segment 0404 in order to adjust the criteria by the correction factor applied to all statewide criteria calculations for lead found in Table 1 of §307.6(c)(1). Adopted footnotes are added to the "Parameter" column for 25 existing entries to clearly state whether the site-specific parameter applies to the entire water body or to only a portion of the water body.

In response to comments, the adoption of §307.10, Appendix E includes a copper WER result for the City of Port Lavaca (2453).

Adopted revisions to §307.10, Appendix F include removing the following segments and their associated numeric nutrient criteria for the following 36 reservoirs: Palo Duro Reservoir (0100), Lake Arrowhead (0212), Lake Tanglewood (0229), Wright Patman Lake (0302), Lake Tawakoni (0507), Murvaul Lake (0509), Lake Fork Reservoir (0512), Lake Palestine (0605), Lake Livingston (0803), Lake Worth (0807), Eagle Mountain Reservoir (0809), Bardwell Reservoir (0815), Cedar Creek Reservoir (0818), Lewisville Lake (0823), Grapevine Lake (0826), White Rock Lake (0827), Benbrook Lake (0830), Richland-Chambers Reservoir (0836), Lake Conroe (1012), Whitney Lake (1203), Lake Granbury (1205), Millers Creek Reservoir (1208), Somerville Lake (1212), Proctor Lake (1222), Waco Lake (1225), Lake Sweetwater (1237), Granger Lake (1247), Lake Limestone (1252), Aquilla Reservoir (1254), Lake Colorado City (1412), Brady Creek Reservoir (1416), Twin Buttes Reservoir (1423), O.C. Fisher Lake (1425), Lake Corpus Christi (2013), Red Bluff Reservoir (2312), and Cox Lake (2454). All adopted removals of numeric nutrient criteria are due to the EPA disapproval of the revised criteria in the 2010 TSWQS in an action letter dated July 2, 2013.

Adopted revisions to §307.10, Appendix G include changing the presumed PCR use with corresponding criteria of 126 colonies per 100 mL to a secondary contact recreation 1 (SCR 1)use with corresponding criteria of 630 colonies per 100 mL for three unclassified water bodies in the Trinity River Basin and five unclassified water bodies in the Brazos River Basin. Adopted changes are based on the results from Recreational Use Attainability Analysis (RUAA).

Other adopted changes to §307.10, Appendix G include changing the presumed PCR use with corresponding criteria of 126 colonies per 100 mL to a secondary contact recreation 2 (SCR 2) use with corresponding criteria of 1,030 colonies per 100 mL for three unclassified water bodies in the Brazos River Basin. Adopted changes are based on the results from RUAA.

Final Regulatory Impact Analysis

The commission reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the rule changes are not subject to Texas Government Code, §2001.0225, because they do not meet the criteria for a "major environmental rule" as defined in the statute.

A "major environmental rule" is defined in Texas Government Code, §2001.0225(a) as applying to rules adopted by a state agency that: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The adopted amendments were developed in order to be consistent with the water quality standard rules in the Clean Water Act and the TWC. The amendments do not exceed a standard set by federal law, exceed an express requirement of state law, nor exceed a requirement of the National Pollutant Discharge Elimination System delegation memorandum of agreement between the TCEQ and the EPA. The amendments were not developed solely under the general powers of the agency, but were specifically developed to meet water quality standards established under federal and state law. In addition, the standards are 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).

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 TSWQS establishes 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. Clean Water Act, §303 requires states to publicly review and revise their surface water quality standards every three years. The revisions will satisfy the federal requirement for a triennial review.

These adopted revised criteria are protective of human health and provide a public benefit. The specific purpose of the rule changes are to satisfy state and federal statutory requirements in TWC, §26.023 and Clean Water Act, §303(d), respectively. The adopted revisions more accurately assess water quality in the state and revise requirements to protect human health and water quality. The adopted rules would substantially advance this stated purpose by adopting revised 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 amendments revising the state's surface water quality standards do not limit or restrict a person's rights in private real property.

Consistency with the Coastal Management Program

The commission reviewed the adopted rulemaking and found that the rulemaking is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 *et seq.*, and therefore must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the adopted rules in accordance with Coastal Coordination Act Implementation Rules, 31 TAC §505.22 and found the adopted rulemaking is consistent with the applicable CMP goals and policies.

CMP goals applicable to the adopted rules include 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 adopted 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.

CMP policies applicable to the adopted rules include 30 TAC §501.21. The adopted 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 adopted 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 adopted 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.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with these CMP goals and policies and because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas.

The commission invited public comment regarding the consistency with the CMP during the public comment period. No comments were received regarding the CMP.

Public Comment

A public hearing was held in Austin, Texas on October 17, 2013 to receive public comment on the proposed revisions to Chapter 307. Commission staff members were available before and after the hearing to address specific questions from those who attended the hearing. The comment period for the proposed revisions ended on October 24, 2013.

The commission received timely comments from: American Chemical Council (ACC), Association of Electric Companies of Texas (AECT), Bayou Preservation Association (BPA), Big Thicket Association (BTA), Brazos River Authority (BRA), Cibolo Nature Center (CNC), City of Corpus Christi (Corpus Christi), Honorable Dickie Clary - Precinct 4 Hamilton County Commissioner (Commissioner Clary), Coryell County Commissioners Court (Coryell County), City Public Service Board (CPS Energy), Dow Chemical Company (Dow), ExxonMobil Refining & Supply (ExxonMobil), Galveston Bay Foundation (GBF), City of Hamilton (Hamilton), Hamilton County Commissioner's Court (Hamilton County), Houston Parks Board (HPB), Katten Muchin Rosenman LLP (Katten), Kelly Hart & Hallman LLP (Kelly Hart), National Wildlife Federation (NWF), San Antonio River Authority (SARA), Lone Star Chapter of the Sierra Club (Sierra Club), Texas Association of Dairymen (TAD), Texas Campaign for the Environment (TCE), Texas Chemical Counsel (TCC), Texas Commission on Environmental Quality Public Interest Counsel (OPIC), Texas Conservation Alliance (TCA), Texas Department of

Agriculture (TDA), Texas Farm Bureau (TFB), Texas Parks & Wildlife Department (TPWD), Texas Poultry Federation (TPF), Texas State Representative District 59 J. D. Sheffield (State Rep. Sheffield), Texas State Soil & Water Conservation Board (TSSWCB), Texas Water Resources Institute (TWRI), Lial Tischler and Associates (T/K), EPA, United States Tubular Products (USSTP), and over 2,000 individuals.

Response to Comments

General Comments related to the TSWQS Changes

Comment: BRA, ExxonMobil, Katten, TCC, and T/K offer overall support of the revised rules and appreciation of TCEQ's open public participation process during the development of the proposed water quality standards rule.

Response: The commission acknowledges this comment and appreciates the support.

Comment: The Sierra Club notes that it has been represented for several years in the Surface Water Quality Standards Advisory Work Group (SWQSAWG) established by TCEQ a number of years ago to provide feedback to the agency staff on the review of the TSWQS. Thus, Sierra Club has followed development of proposed revisions to the TSWQS closely. However, the Sierra Club comments that two of the significant *proposals for these TSWQS revision (the addition of the new PCR 2 recreational category and temperature revisions including the designation of industrial cooling water areas) were not brought before the SWQSAWG for discussion. Therefore, the TCEQ should not consider adoption of those revisions before the issues have had a thorough vetting in the SWQSAWG. Moreover, one of the proposed revisions, setting a new PCR 2 category and subsequent bacteria pollution level of 206 colonies E. Coli per 100 mL, contradicts public opposition to the changing of bacteria pollution levels for PCR streams expressed in comments on the 2010 proposed TSWQS revisions. OPIC, TPWD, and NWF are also concerned that the PCR 2 standard is being proposed without being considered by the SWQSAWG along with new language in* §§*307.3(a)(32), 307.4(f) and (4), and 307.8(b)(10) regarding "industrial cooling water areas."*

Response: Potential changes to major topics occurring during this revision cycle were discussed during advisory work group meetings. However, subsequent to the meetings, temperature revisions were included to address recent concerns regarding thermal provisions in wastewater permits. After public discussion at the August 21, 2013, commissioners' agenda, the commissioners approved the publication of, and hearing on, proposed amendments to Chapter 307, as recommended by the Executive Director. At the same time, the commissioners authorized staff to make the

necessary changes to the preamble and rule to ensure that a public discussion occurred as to the appropriateness of establishing a PCR 2 category for bacteria at 206 colonies per 100 mL. Therefore, the PCR 2 category was included in the rule proposal for public comment.

The commission significantly values stakeholder involvement in the water quality standards process, and staff sent members of the SWQSAWG advance notice of the potential changes prior to the start and end of the public comment period and before the public hearing held on October 17, 2013. Although not proposed as part of the 2010 revision to the TSWQS, the commission discussed the PCR 2 category with stakeholders in meetings of the SWQSAWG and information from these prior discussions was reviewed to develop the current PCR 2 proposal. The commission will continue to coordinate with stakeholders during future revisions to address temperature and recreational standards. The commission adopts these revisions as proposed.

Comment: HPB comments that on page 1 of the preamble, the TCEQ misstates the purpose of standards by stating: "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." HPB comments that while the TCEQ may have established these criteria in the past, the TCEQ omits mention of the requirement that a particular use cannot be removed for any technical reason if the use is an existing use as defined at 40 Code of Federal Regulations (CFR) §131.3. HPB also disagrees with the statement within the proposed preamble that states may modify designated uses when it can be demonstrated, through a UAA, that attaining the current designated uses and/or criteria is not appropriate. HPB believes that states may only modify a designated use if it is not an existing use and if one of several technical demonstrations is made. HPB believes that the TCEQ's interpretation is contrary to federal regulations at 40 CFR §131.3(g) - (h). Therefore, HPB asks if the TCEQ believes that a use can be revised even if it is an existing use.*

Response: States are not prohibited from removing designated uses that are existing uses. 40 CFR §131.10(h) outlines the conditions when states can remove designated uses that are existing uses. The section provides that: "a state may not remove designated uses if: (1) they are existing uses, ... unless a use requiring more stringent criteria is added; or (2) such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control."

The statement within the proposed preamble referenced in HPB's comment is consistent with EPA rules at 40 CFR §131.10(j) requiring a state to conduct a UAA when it "designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act," or "wishes to remove a designated use that is specified in section 101(a)(2) of the Act or to adopt subcategories of uses specified in section 101(a)(2) of the Act which require less stringent criteria."

The commission adopts the language as proposed.

Comment: OPIC and HPB question how PCR 2 will affect wastewater permits.

Response: 30 TAC §309.9(h)(2), states that the monthly average bacteria effluent limitation in a Texas Pollutant Discharge Elimination System (TPDES) permit must be the applicable geometric mean for the most stringent contact recreation category as specified in Chapter 307 of the TSWQS. The most stringent contact recreation category in the TSWQS is PCR 1. Therefore, all TPDES permits for domestic waste water must adhere to the geometric mean of 126 colonies associated with PCR 1. The commission adopts the language as proposed.

§307.3 - Definitions and Abbreviations

Comment: T/K supports adding the definition of the :"Biotic Ligand Model," a method for developing site-specific aquatic life criteria, to §307.3(a)(11).

Response: The commission acknowledges this comment.

Comment: Exxon, TCC, Katten, and T/K support adding the definition of an "industrial cooling water area" in §307.3(a)(32). The EPA finds the definition acceptable, but suggests adding a reference to the mixing zone provision in §308.8(b) to the definition.

NWF objects to the definition, commenting that it appears to be broad enough to apply to any permitted wastewater discharge. Sierra Club and OPIC are opposed to this definition being added at this time because the need for this concept has not been adequately explained, and no justification has been given regarding the urgency of adding this definition now without a more thorough vetting through stakeholders. Additionally, the definition does not establish the possible sizes or limitations of these areas.

Response: The commission acknowledges the comments in support of

industrial cooling water areas. The commission agrees with the EPA's suggested revision to the definition and added the phrase: "... and §307.8(b) of this title (relating to Mixing Zones)" at the end of the proposed definition and adopts the definition as modified.

The commission responds that, if approved by the EPA, the horizontal boundaries for industrial cooling water areas would initially be described and defined in each permit's fact sheet. Like mixing zones, the industrial cooling area size and shape may vary in individual permits to account for site-specific conditions like stream flow, water body morphometry, effluent flow, zone of passage concerns, discharge structures, and ecological sensitivity at discharge site. The commission and the EPA are working towards a mutually-agreed upon plan to develop implementation procedures for temperature, which will include a process to define the horizontal boundaries of industrial cooling water areas. The commission will develop procedures with stakeholder input and will ultimately adopt them in the commission's Procedures to Implement the Texas Surface Water Quality Standards (RG-194), which also includes the processes for establishing sizes of mixing zones.

Comment: BPA and TPWD support the inclusion of "handfishing" in §307.3(a)(49).

Response: The commission acknowledges this comment.

Comment: T/K supports adding a definition for TMDL found at §307.3(a)(75), which is based on the federal regulation at 40 CFR §130.2(i). The EPA recommends adding the following sentence to the definition: "A TMDL is calculated as the sum of individual waste load allocations for point sources and load allocations for nonpoint sources and natural background."

Response: The commission acknowledges this comment in support of the definition for TMDL; however, this definition was added during the 2000 revision of the standards. During this revision, the definition was moved in order to appear in correct alphabetical order. The preamble for this proposed revision incorrectly stated that the definition was new, and this error was corrected in this preamble.

The commission declines to add the language suggested by EPA because it does not think it necessary to include details of how a TMDL is calculated in the Chapter 307 definition. However, the commission agrees with EPA that the proposed additional language is generally how a TMDL is calculated.

§307.4 - General Criteria

Comment: BPA comments that it seeks to assist the TCEQ and other stakeholders in achieving compliance with the aesthetic water quality standards of §307.4(b) and asks if the TCEQ has records quantifying the amounts of floating debris in each stream segment. Also, BPA asks how the TCEQ documents compliance with aesthetic water quality standards.

Response: The commission does not collect information on the amount of floating debris as part of routine surface water quality monitoring. In general, the narrative criteria are assessed by the commission as part of the IR, in accordance with Clean Water Act, §303(d)/§305(b). Although the commission's procedures to develop the IR, found in the Guidance for Assessing and Reporting Surface Water Quality in Texas, do not specifically address narrative criteria for aesthetics, the commission may consider this topic in a future revision of the assessment guidance.

The commission's water quality management programs are intended to protect, prevent degradation of, and improve aesthetic water quality. As part of the commission's routine investigations of wastewater treatment plants, investigators evaluate the presence of sludge, foam, or any sewage

debris in accordance with aesthetic provisions in §307.4(b). If any sewage related evidence is found by the investigator, it is brought to the attention of the facility and may result in a notice of violation or enforcement referral. The commission's Stormwater and Municipal Separate Storm Sewer System programs include permit requirements to regulate non-point source pollution in urban areas, which can impact aesthetic water quality. When excessive debris (such as illegal dumping) is found by commission personnel conducting investigations or environmental sampling, the commission coordinates with the local authorities who have enforcement jurisdiction to clean-up the water body. The commission also coordinates and provides funding from Clean Water Act, §319 Nonpoint Source grants for clean-up programs as part of educational outreach activities in watershed based plans.

The commission adopts the language as proposed.

Comment: Exxon, CPS Energy, TCC, AECT, USSTP, T/K, and Katten support the proposed revisions to §307.4(f) that would exempt industrial cooling water areas from numerical temperature criteria. The EPA finds the proposed language acceptable and looks forward to additional discussion with the TCEQ on the development of implementation procedures for establishing size limitations for industrial cooling water areas.

Response: The commission acknowledges these comments in support of thermal provisions in §307.4(f). The commission has maintained an open dialogue with the EPA to address temperature issues, including implementation in wastewater permitting. The commission and the EPA are working towards a mutually-agreed upon path forward, which will include stakeholder input to develop implementation procedures and additional review of temperature criteria. The commission adopts the language as proposed.

Comment: AECT and CPS Energy are concerned that the rules might be implemented such that cooling reservoirs at electric generating plants might be characterized as industrial cooling impoundments and subject them to more stringent numerical temperature criteria than currently apply to those types of facilities. CPS Energy comments that it is important to remember that most of these man-made cooling impoundments are artificial ecological environments with managed fisheries, have low potential to affect main stream waterways, and are not comparable to natural lakes or natural water bodies.

Response: Many reservoirs in Texas were constructed for the purpose of cooling industrial effluent, and these reservoirs continue to support healthy

fisheries and aquatic communities. Furthermore, these impoundments serve water conservation and water quality objectives, and currently no water bodies are impaired for temperature on the EPA-approved 2012 Texas §303(d) List.

As part of the permitting process, the commission takes into consideration the potential designation of a water body as an industrial cooling impoundment in accordance with the definition in §307.3. The commission revised Chapter 307 to allow industrial cooling water areas to be applied in water bodies that receive thermal effluent but do not meet the definition of industrial cooling impoundments. If newly-adopted temperature provisions are approved by the EPA, the proposed temperature standards would initially be implemented on a case-by-case basis in each permit to take into account the site-specific requirements of each discharge situation. By considering these scenarios in this way, the commission and the EPA have been able to reach agreements on some permits for electric generation facilities with thermal discharges. The commission adopts the language as proposed.

Comment: USSTP and CPS Energy think the rules lack sufficient explanation regarding the method permit writers are to follow when establishing horizontal *boundaries of industrial cooling water areas and recommends including a criteria for establishing those boundaries. T/K comments that this provision recognizes that areas of surface water bodies that are used for cooling of thermal effluents can have temperatures that exceed the criteria without any adverse impacts on designated uses of the surface water segment.*

Response: If the adopted revisions are approved by the EPA, the horizontal boundaries for industrial cooling water areas would initially be described and defined in each permit's fact sheet. Like mixing zones, the industrial cooling water area size and shape may vary in individual permits to account for site-specific conditions like stream flow, water body morphometry, effluent flow, zone of passage concerns, discharge structures, and ecological sensitivity at discharge site. The commission and the EPA are working towards a mutually-agreed upon plan to develop implementation procedures for temperature, which will include a process to define the horizontal boundaries of industrial cooling water areas. The commission will develop procedures with stakeholder input and will ultimately adopt them in the commission's Procedures to Implement the Texas Surface Water Quality Standards (RG-194), which also includes the processes for establishing sizes of mixing zones. The commission adopts the language as proposed.

Comment: Sierra Club notes that the proposal states that numerical criteria for temperature would not be applicable in designated industrial cooling water areas, the horizontal boundaries of which would be defined in the applicable wastewater permit. However, there has been no information provided regarding how these boundaries would be determined in wastewater permits. Sierra Club notes there is no urgent reason that the TCEQ staff has put forward to explain why this proposal was made or needs to be incorporated into the standards now. OPIC notes that the proposed rules state that the boundaries will be defined in the applicable wastewater permit, but, without proposing amendments to the implementation procedures, it cannot be determined whether the proposed rules will be protective of water quality. TPWD comments that temperature directly affects nutrient cycling and that these provisions will directly impact the fisheries resources that TPWD manages.

Response: The commission's Procedures to Implement the Texas Surface Water Quality Standards (RG-194) are not being revised along with the water quality standards during this revision cycle because portions of the guidance have yet to be approved by the EPA. If the adopted temperature standards are approved by EPA, the temperature standards would initially be implemented on a case-by-case basis and explained in each permit's fact sheet. The commission has maintained an open dialogue with the EPA to

address temperature issues, including implementation in wastewater permitting. The commission and the EPA are working towards a mutually-agreed upon path forward, which will include stakeholder input to develop implementation procedures and additional review of temperature criteria. The commission adopts this language as proposed.

Comment: TSSWCB, Hamilton County, Hamilton, T/K, TAD, TFB, Kelly Hart, TCC, ExxonMobil, Coryell County, TDA, TWRI, State Rep. Sheffield, Commissioner Clary, and nine individuals support the addition of a PCR 2 use category in §307.4(j) and §307.7(b)(1), with a criterion for bacteria of 206 colonies per 100 mL. They note that the PCR 2 criteria for bacteria of 206 colonies is recognized by the EPA and the regulatory community as being protective of human health in water bodies where contact recreation activities are known to occur. The commenters find that the PCR 2 category is appropriate because some water bodies are infrequently used for recreation reducing the risk of ingestion or have limited access. Additionally, many water bodies lack sufficient water to support recreational activities.

Response: The commission acknowledges this comment.

Comment: TPWD, TCE, BPA, Sierra Club, HPB, CNC, GBF, TCA, SARA, NWF, OPIC, and over 2,000 individuals object to creating a PCR 2 category that would establish a *higher bacteria standard of 206 colonies for controlling pollution in some water bodies, creating greater risk for people when using water bodies categorized under the PCR 2 standard. They note that regardless of the frequency of water recreation activities, all Texans should be afforded the protection of the strictest PCR standards when accessing Texas waterways. Additionally, the current recreational use of a water body does not always predict future recreational use. The objecting commenters urge that the designation and application of PCR 2 (proposed §§307.3(a)(50), 307.4(j), and 307.7(b)(1)) be removed from the proposed standards.*

Response: The commission is expanding the current category for PCR use into two categories (PCR 1 and PCR 2) to better characterize the different levels of water recreation activities that can occur in Texas. In the late 1980s and 1990s, a contact recreation use was broadly presumed for all surface waters in Texas, with the exception of eight unique water bodies such as ship channels. As a result of these presumptions, there may be numerous water bodies with inappropriate recreational uses. This additional use will provide the commission the ability to better assign appropriate recreational use on water bodies.

In accordance with 40 CFR §131.10(c), EPA regulations allow states to: "... adopt sub-categories of a use and set the appropriate criteria to reflect

varying needs of such sub-categories of uses..." The revised standards create sub-categories of recreational uses and assigned appropriate criteria to the uses to more adequately reflect the nature of Texas water and current scientific evidence. Existing uses in all categories will be maintained for the affected water bodies. The commission adopts the PCR 2 category as proposed.

Comment: TPWD requests adding language that specifically designates water bodies in parks as having the highest level of protection of either PCR or PCR 1 because TPWD believes all water bodies in parks, whether federal, state, or local, are likely to have frequent use, including wading by children. TPWD requests that if PCR 2 is adopted, that the following language be added to §307.4(j) to address state parks: "All water bodies within state parks are designated as Primary Contact Recreation 1." TPWD further recommends that the protection be extended to all types of parks.

Response: Designating all water bodies in parks as having a PCR use is not appropriate and could result in inappropriate water quality standards for numerous water bodies throughout the state. The commission will evaluate water bodies on a site-specific basis to establish the appropriate recreation use and note that the presence of all parks is a factor considered in the evaluation of a RUAA. The commission adopts §307.4(j) as proposed.

Comment: OPIC comments that in 30 TAC §307.4(j)(3)(B) and (C) a water body can be assigned the presumed use of PCR 1 or SCR 1 for the purpose of a regulatory action without requiring the water body be listed in Appendix G of §307.10. OPIC comments that PCR 1 is presumed for all unclassified water bodies, but the TCEQ may assign less stringent uses after a "reasonable level of inquiry" is conducted to determine if a different presumed use is appropriate. This reasonable level of inquiry includes "review of available relevant information or completed site surveys." OPIC questions whether "reasonable level of inquiry," "available relevant information," and "completed site surveys" as described in the rule have any relevant meaning in relation to PCR 2 when there are no corresponding proposed updates to the implementation procedures.

Response: The Procedures to Implement the Texas Surface Water Quality Standards (RG-194) are not being revised along with the water quality standards during this revision cycle since portions of the guidance have yet to be approved by the EPA. If PCR 2 is approved, guidance will be added to the Procedures to Implement the Texas Surface Water Quality Standards (RG-194) during the next revision requiring a RUAA and a rule change for assigning PCR 2 to a water body. The commission adopts the language as proposed.

Comment: OPIC questions if PCR 2 is a presumed use.

Response: A designation of PCR 2 requires a RUAA and is not a presumed use. PCR 1 is distinguished from PCR 2 by frequency of use and other factors affecting recreation in the water body. A RUAA study is needed to determine this information. The commission adopts the language as proposed.

Comment: GBF, NWF, OPIC, and TPWD comment that it is unclear how to differentiate between PCR 1 and PCR 2.

Response: The PCR 2 category is distinguished from PCR 1 by how frequently contact recreation activities occur and other factors affecting recreation in the water body. Frequency is determined from information gathered in the interview process of the RUAA. The RUAA interview process documents what type, when, and how often recreation is occurring. This information, along with other data in the RUAA report (such as remoteness of location, lack of access via parks or road crossings, and steepness of stream banks), would be used to make the determination between PCR 1 and PCR 2. The commission adopts the language as

proposed.

Comment: GBF comments that historical and future uses are not taken into account.

Response: RUAAs take historical information into account in two ways: (1) comprehensive RUAAs require a thorough historical review of recreational uses; and (2) when interviews are conducted individuals are asked about both current and past recreational uses. According to the Clean Water Act, use changes made through UAAs are reviewed during future triennial revisions. If new information is available, it will be reviewed to determine if the recreational use is still appropriate.

§307.6 - Toxic Materials

Comment: T/K, ExxonMobil, and TCC support all the proposed changes in the aquatic life-based criteria for toxics found in §307.6, Table 1 and the revisions to the human health-based toxics criteria in §307.6, Table 2 that are based on revisions to cancer potency factors, reference doses, and BCFs. T/K also supports the correction of the calculation error for the dieldrin criterion.

Response: The commission acknowledges this comment.

Comment: HPB comments that the preamble to the proposed rules state: "For the proposed statewide human health toxic criteria, none are new, 12 are more stringent than the current standards, and 26 are less stringent." HPB and several individuals oppose less stringent human health toxic criteria. Limits that are highly protective of human health have great value in supporting the effort to clean Texas's waterways and should be maintained.

Response: The commission notes that the revisions are based on new information and studies on the potential toxic effects of chemicals of concern to human health. Triennial revisions of the rules are performed in part to include new scientific data on the effects of chemicals and pollutants. Revisions to toxic criteria are made in accordance with EPA guidance and federal regulations. The commission adopts human health criteria as proposed.

Comment: TPWD requests the rationale for changing the dioxin/furan and PCB criteria from tissue-based to water column criteria in §307.6, Table 2. T/K, ExxonMobil, and TCC comment that they understand the reason why the TCEQ is revising the fish tissue-based human health criteria for 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dioxins/furans, mercury, and PCBs to water column concentrations and supports the *revised concentrations. However, T/K, ExxonMobil, and TCC believe that the change does not address the underlying conflict between the standards for bioaccumulative chemicals and the method that the TCEQ uses to identify impaired waters under the Clean Water Act, §303(d) for such chemicals. Because the TCEQ uses the Texas Department of State Health Services (TDSHS) consumption advisories to list surface water bodies as impaired under Clean Water Act, §303(d), and the TDSHS bases these advisories on fish tissue concentrations that use different assumptions than those described in this rule, there is a fundamental conflict in developing a TMDL that satisfies the different standards of the two agencies. T/K, ExxonMobil, and TCC suggest that this conflict be resolved in the next triennial revision.*

T/K continues to believe that fish and shellfish tissue standards for bioaccumulative chemicals have a stronger scientific basis than water column concentrations for these chemicals. The translation from tissue concentrations to water column concentrations introduces substantial site-specific uncertainty into the resulting numeric water quality criteria, resulting in criteria that can be either over- or under-protective. The EPA comments that the proposed criteria are technically acceptable, and the EPA recommends retaining the current criteria for these substances measured in fish tissue. The EPA states that fish tissue is a preferred and more cost-effective indicator of levels of PCBs, dioxins/furans, and DDT compounds in surface waters.

Response: The commission acknowledges these comments in support of fish tissue-based criteria. In the 2010 TSWQS revisions, the TCEQ adopted human health criteria for fish tissue for mercury, PCBs, dioxins/furans, and DDT and its metabolites. With the exception of mercury, the EPA has approved these revised criteria. While EPA has no nationally recommended fish tissue criteria for all of these analytes except for mercury, some stakeholders expressed an interest in developing fish tissue-based human health criteria for several highly bioaccumulative substances.

The TDSHS is charged under state statute with the authority to determine if a water body contains fish or any other organism that may be unsafe for human consumption. As in the past, the commission intended for listings of impaired water bodies on the state Clean Water Act, §303(d) list to still be based on fish consumption advisories or bans that are issued by TDSHS. TDSHS collects and evaluates fish tissue data applying specialized expertise, procedures, and assumptions. The new fish tissue criteria in the TSWQS were primarily intended to improve the application of site-specific bioaccumulation factors and targets for water-column concentrations in water quality management programs.

However, EPA's national framework for assessing attainment of tissue-

based criteria now appears to be incompatible with the current state procedures for identifying impairments. In commenting on guidance for the 2012 assessment, the EPA has indicated that TCEQ should utilize the 2010 adopted fish tissue-based criteria to define impairment rather than basing impairments on TDSHS advisories. In addition, EPA requested that TCEQ acquire TDSHS fish tissue data when assessing standards attainment.

In order to avoid confusing the public concerning the risk of fish consumption, and to preclude incompatible procedures between other state and federal agencies, the commission has adopted the proposal to change all fish tissue-based criteria back to water-column based concentrations. The commission does not have authority over the assumptions or methodologies used by the TDSHS when determining the risk associated with consuming aquatic life from surface waters of the state. The commission will continue to meet quarterly with the TDSHS and other state agencies on fish tissue contamination issues.

The commission adopts the language as proposed.

Comment: The EPA comments that the proposed revisions for the mercury criteria represent the criteria currently effective under the Clean Water Act. However, the EPA *continues to recommend the adoption of the Clean Water Act, §304(a) nationally recommended water quality criterion of 0.3 milligram per kilogram (mg/kg) (measured in fish tissue). This value has undergone extensive peer review by the United States National Academy of Sciences, National Research Council. In 2010, the EPA also published companion implementation guidance to address issues associated with the new water quality criterion and to facilitate implementation of the criterion in the TMDL and permitting programs.*

BRA supports the revision of the mercury standard in §307.6(d)(1) to the criteria approved in the 2000 revisions to the TSWQS. BRA notes that since the EPA disapproved the TCEQ's revised mercury criteria proposed in the 2010 TSWQS, reverting to the last EPA-approved standard from 2000 seems to be the best option for continued protection. HPB opposes re-instating the 1995 mercury standard and urges stronger action to eliminate mercury from Texas waterways.

Response: The commission acknowledges these comments both in support and opposition of the mercury criteria for the protection of human health. In a letter dated June 29, 2011, the EPA disapproved the new criterion of 0.7 mg/kg for mercury in edible fish tissue that was adopted during the 2010 TSWQS revisions. The commission respectfully disagrees with the EPA's disapproval action of the adopted criterion of 0.7 mg/kg mercury in edible

fish tissue in the 2010 revisions of the standards. In light of the inherent uncertainty concerning appropriate reference doses and other variables involved in the calculation of human health criteria, the difference in the adopted criterion of 0.7 mg/kg and the EPA's national guidance criterion of 0.3 mg/kg is relatively small. For these reasons, the commission believes that the criterion adopted during the 2010 revision of the TSWQS is as scientifically defensible as EPA's nationally recommended criterion.

The disapproval action results in reverting to the previous human-health criteria for mercury, which are a concentration in freshwater of 0.0122 micrograms per liter (µg/L) and concentration in saltwater of 0.0250 µg/L. The majority of states in the United States still have the EPA-approved water quality criteria for mercury that are expressed solely as a concentration in water, and the commission's water concentration criteria are very comparable to most of those states. The commission adopts the criteria as proposed.

Comment: ACC comments that the proposed amendments to the standards include calculated human health criteria in water for dioxins in water and fish and fish only using water column-based concentrations. The calculations assumed a BCF of 5,000 to translate tissue-based criterion to a water column criterion. However, reviews of

BCFs found that the values are subject to sources of uncertainty that can result in incorrect estimation of actual bioconcentration. Subsequently, uncertainties in BCFs also imply that species-specific information on lipid content and other biota-related parameters are important for the reliable estimation of accumulation and subsequent risk of chemicals in fish.

ACC comments that the human health criteria for dioxin assumes an incremental cancer risk level of 1 in 100,000 and applies a linear extrapolation. However, there has been much scientific discussion on the mode of action for dioxin, and it has been noted that the available data favors the use of non-linear methods for extrapolation below the point of departure of mathematically modeled human or animal data for dioxin. Thus, ACC comments that the use of a non-linear extrapolation for the derivation of the TCEQ human health criteria for dioxin effectively considers the available mode of action information and is a scientifically justified approach. Dow recommends TCEQ consider the EPAs 2012 analysis of dioxin toxicity, rather than the linear cancer slope factor used in TCEQs current dioxin proposal. Also, Dow recommends applying greater levels of uncertainty to the reference dose and BCF approaches in the rule proposal. TCEQ should continue to apply appropriate variances and incorporate site-specific factors to develop site-specific adjustments.

Response: TCEQ's proposal follows EPA's current national guidance

regarding water quality standard development for dioxin. BCFs for a particular chemical can vary widely depending on site-specific factors from water body to water body. The commission recognizes that using a "one size fits all" approach may result in an overestimation (or underestimation) of bioaccumulation when applied to a given site. However, facilities may, with the agreement of the commission, develop site-specific BCFs. The commission will further evaluate the suggested approaches and assumptions for future consideration in criteria development. The human health criteria for dioxin are adopted as proposed.

Comment: T/K comments that the fish only criterion for cresols in Table 2 of §307.6 is shown as 9.301 µg/L. T/K believes the correct value is 9,301 µg/L based on the data analysis provided during the stakeholders meetings and the fact that the criteria based on exposure through both the water and fish tissue pathways should always be equal to or greater than criterion for the fish only pathway, which for cresols is 1,041 µg/L.

Response: The commission agrees that there is a typographical error for this constituent in §307.6, Table 2. The typographical error was corrected and adopted to reflect a fish only criterion of 9,301 µg/L.

Comment: The EPA comments that they believe there was a calculation error for *hexachlorophene, which was based on the revised BCF of 278 in both of the proposed human health criteria. Although the differences are minor, the correct values are 2.04 ug/L (water and fish criterion) and 2.90 ug/L (fish only criterion).*

Response: The correction to the BCF was made in the calculation, and the revised human health criteria of 2.04 µg/L (water and fish) and 2.90 µg/L (fish only) are adopted.

Comment: The EPA comments that they appreciate incorporation of the updated reference dose and cancer potency factor published by the EPA in 2012 in the proposed rules. For tetrachloroethylene, the criterion for non-carcinogenic effects (based on exposure factors for children) is more protective than the proposed criterion of 622 ug/L for carcinogenic effects. The EPA recommends adoption of the lower value of 525 ug/L, for consumption of fish.

Response: The commission agrees and adopts the fish only criterion of 525 µg/L for consumption of fish.

§307.7 - Site-Specific Uses and Criteria

Comment: EPA and OPIC state that the proposed criterion of 206 colonies for PCR 2 *exceeds the recommendations included in EPA's 2012 Recreational Water Quality Criteria (RWQC) document. EPA notes that states may choose another illness rate if it would protect the designated uses of PCR, which EPA would evaluate as part of the state's submission of the revised water quality standards for approval. OPIC also questions how the criterion for PCR 2 will maintain and promote public health.*

Response: In the 1986 RWQC, the EPA established 1% as the key risk of illness threshold for assigning an adequate level of protection to support PCR. The EPA 1986 RWQC stated that a level of 206 colonies per 100 mL is protective of PCR and represented a 1% risk of illness. The EPA's 2012 RWQC maintained the protectiveness of the 126 colonies per 100 mL *E. coli* criterion. To demonstrate this protectiveness, EPA relied upon a regression equation developed in the 1986 RWQC that extrapolated *E. coli* results from more recent Enterococci sampling because EPA's 2012 epidemiological studies only included Enterococcus. In the 2012 RWQC, EPA did not state that 206 colonies was no longer protective of PCR nor did they provide an alternative acceptable risk of illness to the 1% threshold. Therefore, since the regression equation used to confirm the protectiveness of the 126 colonies of *E. coli* criterion during the 2012 RWQC is the same equation used in 1986 to determine 206 colonies was protective of PCR and because EPA did not provide additional information suggesting an illness

rate of 1% is no longer protective, the commission has no reason to believe that 206 colonies is no longer protective of PCR or represents an illness rate greater than 1%. The commission adopts the language as proposed.

Comment: EPA notes that non-human fecal sources may pose risks comparable to those risks from human sources.

Response: The commission acknowledges this comment.

Comment: Commissioner Clary comments that additional site-specific information, such as wildlife sources that are unavoidably high and limited aquatic recreation potential, should be used when determining the difference between PCR 1 and PCR 2.

Response: The commission acknowledges this comment and will continue to consider site-specific factors when determining the appropriate recreational use category.

§307.8 - Application of Standards

Comment: Katten strongly supports the revision of §307.8(b)(10) to clearly state that the TCEQ may specify different mixing zone sizes in wastewater permits for companies *with temperature numeric criteria.*

Response: The commission acknowledges this comment.

§307.9 - Determination of Standards Attainment

Comment: T/K, Exxon, and TCC support the proposed revisions to §307.9 which include clarification regarding sampling and analysis for determination of standards attainment at §307.9(c); clarification that chloride, sulfate, and total dissolved solids criteria are based on an annual average at §307.9(e)(1); use of statistical variability analysis in assessing compliance with bacteria criteria at §307.9(e)(3); and use of statistical variability analysis in assessing biological integrity of a surface water at §307.9(f).

Response: The commission acknowledges this comment.

Comment: The EPA and TPWD appreciate and support the proposed language in §307.9(c)(2) to address the applicability of measurements taken at depth in deeper water systems when such systems are not stratified. However, the EPA also suggests including additional language, such as that shown in the following, to address monitoring in stratified waters: "For those instances where the water column is not entirely mixed according to determinations described in the TCEQ Guidance for

Assessing and Reporting Surface Water Quality in Texas as amended, alternative methods may be used in which case the water quality standards apply to any sample taken in the water column for parameters indicated in this section."

Response: Parameters indicated in §307.9(c)(2) are expected to attain standards when the water column is mixed; however, stratification may limit the attainability of these parameters due to natural conditions, particularly in the dense bottom layers of deep reservoirs. Samples taken near the surface, as indicated in this section and in the commission's Guidance for Assessment and Reporting Surface Water Quality in Texas, are more appropriate than the suggested language for determinations of standards attainment when the water column is stratified. This language is adopted as proposed.

Comment: The EPA suggests modifying the first sentence in §307.9(c)(2) to read: "Bacterial and temperature determinations must be conducted on grab samples or in situ measurements...."

Response: The intent of §307.9(c)(2) is to describe the expected attainability of samples in the water-column. Monitoring methods used in implementation are described by reference to the commission's Texas

Surface Water Quality Monitoring Procedures. These procedures are updated on a frequent basis and more appropriately prescribe the monitoring procedures to be followed to determine attainment with the TSWQS. Therefore, the commission respectfully declines to adopt the EPA's suggested language and adopts the language as proposed.

Comment: HPB comments that there is also a change in the compliance section in §307.9(e)(1) that changes the idea that compliance "must" be based on a long-term mean to "may" be based on a long-term mean. HPB is concerned that this change may undermine the TCEQ's enforcement efforts and the ability of individual citizens to determine whether water quality standards are being met. HPB suggests that supplying a list of compliance alternatives would fit this need better than changing the language from "must" to "may." HPB asks how the TCEQ will ensure compliance under this provision when there is no clear path for the regulated community to demonstrate its compliance. TPWD does not understand the rationale to allow that determinations be made based on the long-term mean and for clarification of situations when the long-term mean would not be used for standards determination.

Response: The proposed change to §307.9(e)(1) clarify the long-term mean of chloride, sulfate, and total dissolved solids data may be used to demonstrate compliance with provisions specified in §307.7(b)(4)(A). This

clarification is necessary because criteria in §307.7(b)(4)(A) are established as averages over an annual period. This provision was changed from "must" to "may" to account for differences in availability of samples for attainment determinations. These changes allow the commission to determine if dissolved minerals criteria are being attained, in accordance with minimum data requirements established in the commission's Guidance for Assessing and Reporting Surface Water Quality in Texas as amended. The commission anticipates determinations to be made using a minimum of ten samples, taken over at least a two-year period in accordance with these procedures.

The provision more adequately describes the current procedures used during the IR and do not affect procedures to permit dissolved mineral limits as described in the commission's Procedures to Implement the Texas Surface Water Quality Standards (RG-194). These procedures consider site-specific dissolved minerals criteria established in accordance with §307.7(b)(4)(A), the antidegradation policy in §307.5 and secondary maximum contaminant levels for drinking water in accordance with §§290.101 - 290.119 to establish effluent limits for the regulatory community, rather than §307.9(e)(1). These procedures factor in a margin of safety to determine effluent limits, and are protective of general water

quality as well as public water supply uses. Once established, limits of dissolved minerals are expressed in wastewater permits as weekly average, daily average, and/or daily maximums, which are stringent approximations of the annual average. Monitoring to demonstrate compliance is prescribed as part of the permit, and is typically required on a weekly or sometimes more frequent basis. None of these compliance and enforcement requirements are affected by changes in §307.9(e)(1). The commission adopts the language as proposed.

Comment: HPB and the EPA support removal of the high-flow exemption in §307.9(e)(3) for bacteria samples taken during extreme hydrologic conditions, such as very high flows and flooding immediately after heavy rains. The TPF opposes removal of this exemption and requests the commission re-propose this provision.

Response: The commission acknowledges the comments supporting the removal of the high-flow exemption for bacteria samples. The provision was removed due to EPA disapproval after the last triennial revision of the TSWQS in 2010.

Since standards must be federally approved prior to implementation in Clean Water Act activities, the commission typically removes disapproved

provisions as part of an upcoming triennial revision. In the case of the disapproved exemption of bacteria samples collected during high flow conditions, much of their implementation would be in the IR assessment. Leaving these disapproved provisions in the standards could create confusion during development of the IR.

In light of the EPA's disapproval, the commission developed an alternative assessment methodology and accompanying standards provision to verify impairments from bacteria. As part of the 2012 IR, the commission used a two-tiered approach to increase confidence when identifying new impairments from bacteria. By increasing the minimum number of samples to 20 and using an 80% confidence level, the commission is ensuring that a new bacteria listing is based on exceedance of a criterion rather than random variation. New standards provisions that specifically allow for statistical variability to be considered during determination of attainment with bacteria standards were adopted in §307.9(e)(3) during this triennial review. The commission adopts the language as proposed.

Comment: The EPA notes that it may consider proposed language in §307.9(e)(3), which allows standards attainment determinations for bacteria to account for statistical variability, to be an assessment provision rather than a water quality *standard. TPWD asks that prior to adopting or implementing this provision, the TCEQ should develop written guidance describing how the provision would be implemented and bring this material before the Assessment Guidance Advisory Work Group for consideration.*

Response: The commission responds that these revisions should be considered a water quality standard since they specifically address attainment of numeric criteria to protect contact recreational uses.

The commission also responds that guidance for the assessment of bacteria incorporating statistical variability of bacteria data (*E. coli* and Enterococcus) was developed and implemented during preparation of the 2012 IR and presented during the June 2011 meeting of the SWQSAWG. Draft procedures were developed by the commission prior to the development of the 2012 IR. Stakeholder input was taken into consideration to develop the procedures described in section 2-1 of the May 2012 Guidance for Assessment and Reporting Surface Water Quality in Texas, which is available for review on the commission's Web site. The commission adopts the language as proposed.

Comment: TPF does not support the proposed change to §307.9(f) that would remove deferment of impairment for water bodies with presumed high aquatic life uses and *associated timeframes, notice, and public comment in the Texas IR. TPWD supports the language in this section, which allows standards attainment determinations for biological integrity to account for statistical variability.*

Response: The commission acknowledges these comments in support of and opposition to the change in §307.9(f) regarding standards attainment determinations of biological integrity.

The commission responds that because standards must be federally approved prior to implementation in Clean Water Act activities, the commission typically removes disapproved provisions as part of an upcoming triennial revision. In the case of the disapproved provision allowing deferment of impairment status for water bodies with presumed aquatic life uses, much of this implementation would be in the IR. Leaving this disapproved provision in the standards could create confusion when developing the IR.

In light of EPA's disapproval, the commission included an additional standards provision in §307.9(f) to verify impairments of biological integrity. This provision specifically allows for statistical variability to be considered during determination of attainment with biological integrity

standards, which will increase confidence when identifying new impairments when developing the IR. The commission adopts the language as proposed.

§307.10 - Appendices A - G

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

General Comments

Comment: The EPA comments that they will provide a separate review of UAAs or other documentation on the following segments: 0607, 0704, 2107, 2118, 2311, 2485, and 2490. The EPA will also review any additional documentation on Segment 0305.

Response: The commission acknowledges this comment and will await the results of EPA's review.

Comment: The EPA asks whether it would be appropriate to add a reference to the provisions for industrial cooling water, areas to the seventh paragraph of the introduction of §307.10, Appendix A, relating to temperature. The EPA notes that a phrase such as "... except as noted in §307.4(h) and §307.8(b)" could be added to end of this sentence.

Response: The suggested phrase was added to the introduction of §307.10, Appendix A in the suggested location, and the language is adopted as modified.

Dissolved Oxygen

Comment: For Pine Island Bayou (0607), TPWD does not object to the revised dissolved oxygen criteria and concurs with a high aquatic use designation for the classified segment. BTA agrees with the assessment of Pine Island Bayou.

Response: The commission acknowledges this comment.

Comment: The EPA recommends that aquatic life uses be adopted for Segments 1006 and 1007 of the Houston Ship Channel. The EPA notes that data has been collected to demonstrate that an aquatic life use is justified. In accordance with this recommendation, the EPA states that the dissolved oxygen standards should be re-evaluated. Increasing the dissolved oxygen standards from 1.0 mg/L to 2.0 mg/L for Segment 1007 and from 2.0 mg/L to 3.0 mg/L for Segment 1006 are recommended to protect the actual aquatic life use. The adoption of uses and revised standards would allow a transition to a dissolved oxygen standard of 4.0 mg/L and high quality aquatic life use for Segment 1005, and the present transition from a standard of 2.0 *mg/L to 4.0 mg/L may result in impairment around the segment boundary.*

Response: The commission is proposing no change to the §307.10, Appendix A entry for Segments 1006 or 1007. At this time, no other evaluation of these segments in the form of a UAA has been performed. The comment requesting the re-evaluation of both segments is noted and may be considered by the Water Quality Standards Group of the Water Quality Planning Division and the Standards Implementation Team of the Water Quality Division for the next triennial revision.

Comment: Corpus Christi disagrees with the proposed dissolved oxygen minimum criterion of 3.5 mg/l for Oso Bay (2485). The criterion directly contradicts the 2010 UAA recommendation of 2.0 mg/l minimum with no technical justification for the higher amount. Corpus Christi notes that this calls into question a statement in the executive summary that states that none of the proposed dissolved oxygen revisions are expected to require more stringent treatment by domestic wastewater treatment facilities. Based on the Oso Bay revision, Corpus Christi does not think that statement is correct. Corpus Christi comments that adoption of the proposed dissolved oxygen standard will result in undue hardship to the city because it would make plant upgrades already in place obsolete without a clear demonstration that the more restrictive criterion is needed to protect existing uses.

Response: During the 2010 TSWQS revision, the commission adopted a minimum dissolved oxygen criterion of 2.0 mg/L for Laguna Madre (2491) and Oso Bay (2485). The adopted minimum dissolved oxygen criterion was developed from a UAA study which utilized the entire Laguna Madre as a reference to Oso Bay. The 2.0 mg/L minimum dissolved oxygen criterion was disapproved by the EPA in an action letter dated August 24, 2012. In this action letter, the EPA suggested the division of Laguna Madre into multiple segments. In the same letter, the EPA also suggested a revision of the dissolved oxygen minimum criterion from 4.0 mg/L to 3.6 mg/L. The commission is adopting segment boundary revisions as the Lower Laguna Madre (2490) and the Upper Laguna Madre (2491). The commission also adopts as proposed a modified minimum dissolved oxygen criterion of 3.5 mg/L for the Upper Laguna Madre and Oso Bay (2485). A dissolved oxygen criterion of 3.5 mg/L was adopted as opposed to the EPA suggested 3.6 mg/L because the commission sets dissolved oxygen criteria in half mg/L increments.

The commission also notes that because of the disapproval of the adopted 2010 minimum dissolved oxygen criterion for Oso Bay, the criterion currently in effect for Clean Water Act purposes is the dissolved oxygen

minimum criterion of 4.0 mg/L. Therefore, the changes adopted in this revision are less stringent than those currently approved for use in Clean Water Act actions.

Comment: Corpus Christi comments that the dissolved oxygen criteria for Lower Laguna Madre do not appear to include a 24-hour dissolved oxygen minimum.

Response: Section 307.7(b)(3)(A)(i) cites the associated dissolved oxygen mean and minimum criteria associated with each aquatic life use subcategory. These criteria are applicable to classified water bodies found in Appendix A of §307.10 unless otherwise footnoted. As no footnote is given for the Lower Laguna Madre (2491), the minimum dissolved oxygen criterion associated with an exceptional aquatic life use (4.0 mg/L) applies. The commission adopts the language as proposed.

Total Dissolved Solids, Chlorides, Sulfate

Comment: The EPA comments that there is a typographical error in the chloride criterion for Grapevine Lake (0826). The EPA states that assuming no revision is proposed, the chloride criterion for this water body should be 80 mg/L

Response: The typographical error is corrected, and the language is adopted as modified with a chloride criterion in Grapevine Lake (0826) of 80 mg/L.

Recreation

Comment: BPA comments that in §307.10, Appendix A, as a consequence of improved water quality resulting from implementation of Chapter 307 and other efforts, more recreation is being conducted on Houston area waterways than may have been documented in prior UAAs (as per 40 CFR §131.1). Therefore, BPA supports the PCR designations of Cypress Creek, Greens Bayou Above Tidal, and Buffalo Bayou in §307.10, Appendix A continue to be an appropriate designation, and efforts should continue to attain the water quality standards listed.

Response: The commission acknowledges this comment.

Comment: One individual supports the Leon River Segment 1221 retaining its PCR use and associated criterion.

Response: The commission acknowledges this comment.

Comment: TAD and eight individuals recommend that TCEQ consider applying a PCR 2 designation to the newly proposed Leon River Below Proctor Lake (1221) and Leon River Above Belton Lake (1259) based on water quality data collected during the RUAA. The commenters note that accessibility and frequency of use in both of these segments does not support a PCR 1 designation.

Response: The commission relied upon information collected during the RUAA for each water body to develop the adopted site-specific contact recreation uses. Information collected during the RUAA indicated that the deepest portions of the Leon River Below Lake Proctor (1221) had an average depth of 27 inches as well as five rope swings found along the segment. Information from the interviews found 34 instances of PCR occurring on the segment. The deepest portions of the Leon River Above Belton Lake (1259) had an average depth of 31 inches and three public parks located on the segment. Interviews found 17 instances of PCR with three observations of swimming in Fauntleroy Park by the investigators conducting the study. Due to these findings, a change from the presumed PCR 1 use category is not appropriate for this water body.

Appendix B, Sole-source Surface Drinking Water Supplies

Comment: The EPA questions the removal of Big Cypress Creek below Lake O' the

Pines (0402) and Lavon Lake (0821) because information from TCEQ's Drinking Water Watch database and other sources indicate they are being used as public drinking water sources.

Response: The commission agrees that Big Cypress Below Lake O' the Pines (0402) and Lavon Lake (0821) should not have been removed from the sole source list. Therefore, in response to the comment, the commission modified §307.10, Appendix B to include these segments as sole-source drinking water sources. The commission adopts the language as modified.

Appendix C, Segment Descriptions

Comment: The EPA comments that the changes in §307.10, Appendix C, are generally acceptable; however, it may be helpful to revise the description of the upper end of Segment 0607 to read: "... the confluence with Willow Creek in Hardin/Jefferson County," since Pine Island Bayou is the boundary between these two counties and Willow Creek flows south through Jefferson County.

Response: The commission agrees with the comment and revised the description of Segment 0607 as requested in the adopted §307.10, Appendix C.

Comment: Hamilton County, Hamilton, Coryell County, Commissioner Clary, TSSWCB, TAD, and eight individuals support the change in §307.10, Appendix C splitting Segment 1221 of the Leon River into two smaller stream segments identified as the Leon River Below Proctor Lake (1221) and the Leon River Above Belton Lake (1259).

Response: The commission acknowledges this comment.

Comment: BRA notes that in §307.10, Appendix C, new Middle Oyster Creek (1258) is defined as being "from the confluence with the Brazos River to the Brazos River Authority diversion dam 1.8 kilometer (km) (1.1 mile (mi)) upstream of SH 6 in Fort Bend County." BRA comments that it does not own any dams in Fort Bend County, so this description appears inaccurate.

Response: The commission concurs that the upper boundary description is incorrect and changed it to read: "... to the Flat Bank diversion channel in Fort Bend County." The commission adopts the language as modified.

Comment: TPWD recommends revising the proposed segment boundaries of Upper Laguna Madre (2490) and Lower Laguna Madre (2491) to follow common practice and to more accurately depict geomorphic and ecological differences between the *ecosystems. Doing so will allow evaluation of each segment independently and allow the TCEQ greater flexibility in developing and implementing practices and policies to manage and protect state resources. TPWD notes that the area known as the Land Cut or Land Bridge provides a geomorphic basis for distinction between the upper and lower Laguna Madre.*

Response: The commission agrees that the boundaries for both Upper Laguna Madre (2491) and Lower Laguna Madre (2490) should follow common conventions as used by the public, state, and federal government agencies. The boundaries were adjusted to reflect that the Saltillo Flats separate the two segments, and the commission adopts the language as modified.

Appendix D, Site-specific Uses and Criteria for Unclassified Water Bodies

Comment: The EPA comments that they will provide separate reviews of UAAs for the following water bodies: Boggy Creek (0607), Pine Island Bayou (0607), Willow Creek (0607), Cypress Creek (0608), Town Creek (0831), Flag Lake Drainage Canal (1111), Skull Creek (1402), and Atascosa River (2118). The EPA also comments that several of the new entries in §307.10, Appendix D are upgrades of the presumed aquatic life uses or confirmation of the presumed aquatic life use. Therefore, the EPA will not require additional documentation for those water bodies.

Response: The commission acknowledges this comment and will await the results of EPA's review.

Comment: The EPA comments that an older UAA for Spring Branch in Chambers County, completed in 1999, was inadvertently omitted from §307.10, Appendix D (within Segment 0801, but in Liberty County). The EPA notes that the 1999 UAA recommended an intermediate aquatic life use for Spring Branch from the confluence with Lee Gully upstream to approximately 3.09 km north of the confluence with Albritton Gully. The EPA states that the TCEQ may want to add this water body to the next triennial revision.

Response: The commission acknowledges that the results of this UAA were inadvertently omitted during both this and the 2010 revision of the TSWQS. The commission notes this comment and will include this UAA during the next triennial rule revisions.

Comment: The EPA comments that Walnut Creek (currently identified within Segment 0809 and Parker and Upshur Counties) should be revised to reflect the Walnut Creek located within Segment 0409 (Upshur County). The EPA notes that a receiving water assessment, which confirmed the presumed high aquatic life use, was previously *completed for this water body.*

Response: The commission agrees that Walnut Creek, as described in §307.10, Appendix D of this rule, exists in Segment 0409 in Upshur County and not Segment 0809. The commission adopts the language as modified.

Comment: TPWD and BTA disagree with the designation of a limited aquatic life use for the unclassified segment of Pine Island Bayou (from the confluence with Willow Creek upstream to FM 787) in §307.10, Appendix D. Based on TPWD observations while participating in the UAA sampling events, the existing biology and habitat were good even though low dissolved oxygen levels were measured. Based on the available data, this section of Pine Island Bayou clearly supports at least an intermediate aquatic life use.

Response: A UAA study was conducted on Pine Island Bayou (0607) from 2005 - 2010. After reviewing the data collected during this effort, the commission concurs that an intermediate aquatic life use is appropriate for the portion of Pine Island Bayou listed in §307.10, Appendix D. The commission adopts the aquatic life use as modified.

Comment: The EPA comments that the TCEQ may also wish to review the previously *completed UAA for Dry Creek (within the watershed of Segment 1009 in Harris County) to verify the boundaries. The upper boundary for the portion assigned a limited aquatic life use is identified as "Harris County Flood Control District ditch K-145-05-00, 0.29 km upstream of Spring Cypress Road." However, in Figure 1 of the UAA, the ditch labeled K145-05-00 is several kms upstream of Spring Cypress Road. A ditch labeled as K145-01-00 is just upstream of Spring Cypress Road.*

Response: The commission agrees that the Harris County Flood Control District ditch number used as the upper boundary for Dry Creek should be K145-01-00. The commission adopts the boundary as modified.

Comment: BPA comments that the listing for Segment 1101 in §307.10, Appendix D needs to be included in the global change of "effluent dominate" to "effluent-dominated."

Response: The commission agrees with the comment and made the suggested edit. The commission adopts the language as modified.

Comment: The EPA comments that the site-specific criteria proposed in footnote 15 for the Lavaca River (within the watershed of Segment 1602) is acceptable based on the UAA submitted for the 2010 revision of the TSWQS.

Response: The commission acknowledges this comment.

Appendix E, Site-specific Toxic Criteria

Comment: The *EPA comments that the last sentence in the introductory paragraph of §307.10, Appendix E, the reference to footnote 3 of Appendix A should be revised to specify Appendix E.*

Response: The commission agrees with the comment and made the suggested edit. The commission adopts the language as modified.

Comment: The EPA has also completed a technical review of a WER study for copper developed by the City of Port Lavaca and recently received final reports for a copper WER study from the Calabrian Corporation and a zinc WER study from for an Akzo Nobel Chemicals plant. If the public comment periods are completed through the TPDES permitting process prior to the adoption of the final TSWQS, it would be appropriate to include those criteria in §307.10, Appendix E.

Response: The commission agrees with the comment and adds the copper WER results for the City of Port Lavaca. The language is adopted as

modified.

Comment: ExxonMobil and T/K support the proposed addition of the approved site-specific standard for zinc for Neches River Tidal (0601) in §307.10, Appendix E. T/K also supports the proposed nickel and aluminum adjustment factors in Phillips Ditch (1005).

Response: The commission acknowledges this comment.

Comment: BPA comments that the proposal contains the following statement: "... six proposed changes in site-specific metals criteria in §307.10(5), Appendix E are expected to avoid the imposition of inappropriately stringent criteria for a minimum of four industrial discharge permits." BPA notes that this is the entire justification for the proposed rule change in §307.10, Appendix E. Two new additions to §307.10, Appendix E are proposed in Harris County in Segment 1005 for nickel and aluminum and add reference to specific TPDES permits. Since this rule posting contains insufficient specific justification for the rule change, this proposal should be removed from the proposal project until specific justification is published.

Response: The change to site-specific metals criteria were done in accordance with TCEQ and EPA procedures. WER studies were conducted

by pemittees as site-specific adjustment factors to the statewide metals criteria listed in Table 1 of §307.6. Study results were sent to the EPA as the studies were completed, and the EPA reviewed and approved the results for these permits. WER results were included with the public notice of each permit, and all WER results adopted in this revision have already received EPA approval in accordance with §307.6(c)(9) and (10). The commission adopts the WER results as proposed.

Appendix F, Site-specific Nutrient Criteria for Selected Reservoirs

Comment: BRA comments that they have some reservations regarding the removal of chlorophyll a criteria for some reservoirs in §307.10, Appendix F while maintaining the chlorophyll a criteria for other reservoirs. BRA notes that they fully appreciate that the removals are based on the EPA's rejection of the proposed criteria for specific lakes. However, BRA is concerned about the practical implications of keeping some reservoir standards and rejecting others. BRA comments that after reading the EPA's justification for the disapproval of certain criteria it appears that a more detailed standard will be necessary to satisfy the EPA on future criteria developed for these reservoirs. BRA is concerned that this will lead to two very different sets of standards and two very different assessment methodologies. Two sets of standards and assessment methodologies will be cumbersome to manage for both the TCEQ and the

TCEQ's Clean Rivers Program partners and will be difficult to explain to the general public, especially in the event of reservoir impairment. BRA would much prefer to see one set of reservoir specific standards and one assessment methodology that will be applied to all of reservoirs in §307.10, Appendix F, even if it is more detailed than the current chlorophyll a standard.

Response: The commission acknowledges the comment in support of the addition of nutrient criteria in the 2010 revision of the rule and the removal of the reservoir specific chlorophyll *a* criteria rejected by the EPA. The commission agrees with the need to maintain one set of standards and a single assessment methodology for all reservoirs in the state. The commission will consider this comment with stakeholders in future SWQSAWG and assessment work group meetings.

Comment: HPB supports numeric nutrient criteria and questions removing numeric nutrient criteria from any reservoir. HPB questions why, rather than revising proposed nutrient criteria for reservoirs, the TCEQ is removing the numerical criteria rather than fixing the criteria.

Response: The commission typically removes previously disapproved provisions as part of a triennial revision because standards must be

federally approved prior to implementation in Clean Water Act activities, such as waste water permitting and the IR assessment. In the case of the site-specific reservoir criteria disapproved by the EPA, much of their implementation would affect the IR and waste water permitting, and leaving these disapproved provisions in the standards could create confusion in the program areas that perform these Clean Water Act activities for the agency. The commission will reconsider the criteria that were disapproved by the EPA in future triennial revisions. The commission adopts the removal of EPA disapproved criteria as proposed.

Appendix G, Site-specific Recreational Uses and Criteria for Unclassified Water Bodies

Comment: Hamilton County, Hamilton, Coryell County, TAD, TSSWCB, Commissioner Clary, and eight individuals support changing the presumed use of South Leon River (1221) to SCR 1 and changing the presumed use of Resley Creek (1221), Indian Creek (1221) and Walnut Creek (1221) to SCR 2. One person commented in support of changing the designated use of the Leon River (1221) to a SCR 1 because the Leon River is limited in use making the SCR 1 designation more appropriate.

Response: The commission acknowledges this comment.

Comment: The Sierra Club, HPB, TCE, TCA, CNC, and over 2,000 individuals oppose *the proposed downgrades from PCR to SCR 1 or SCR 2 for the 11 unclassified streams identified in §307.10, Appendix G. While there may be streams that truly warrant a lesser recreational use category or even noncontact recreation for legitimate reasons, the rationale for downgrading these 11 streams is based on incomplete information and is inconsistent with previous commission decisions.*

Response: The commission recommended use changes on eleven water bodies in §307.10, Appendix G, eight for SCR 1 and three for SCR 2. These recommended use changes were based on completed RUAA studies, which were performed according to established procedures developed by the commission and approved by EPA. The RUAA provided the information to determine the most appropriate recreational use for each water body. The commission considered feedback from the public on both the RUAA study report and the draft recommendations for each water body before the recreational use changes were proposed in this TSWQS revision. The commission notes that designating site-specific recreational uses for certain water bodies is appropriate due to contact recreation being broadly presumed for all Texas surface waters, with the exception of eight water bodies, such as ship channels. The commission adopts §307.10, Appendix G as proposed.

Comment: Sierra Club comments that TCEQ's recommendations based on RUAAs are based on questionable interpretations of the results of the RUAAs and that the basic premise of using "public access" as a basis for determining whether a body of water should be designated as fitting into a certain recreational use category (be it this proposed category or some other) and potentially subject to weak bacteria pollution standards as a result is faulty. For example, one important fact is that some of the recommended downgrades are based on assertions that the RUAAs found "naturally low water levels" in the streams that allegedly reduced their potential use as PCR streams. However, all of the RUAAs that form the basis for the proposed downgrades were conducted during summer months when water levels in streams in Texas are likely to be at their lowest except after rainfall events. Moreover, several of the RUAAs were conducted in the summer of 2009 when those areas of the state may have been undergoing at least moderate drought conditions or following on the heels of previous months of drought conditions that could have also lowered water levels.

Response: RUAAs are conducted from May - September using EPA-approved procedures in order to have the best chance to observe recreation in a stream. Although water levels are lower in the summer, conducting the studies at this time of the year gives the commission the best chance to find recreation occurring on the stream. A drought index is required in the report so the commission is better able to determine how far study

conditions deviate from normal. Public access and use of the water body by the general public and private landowners is taken into consideration when making a determination on a use change. Interviews play an important role in RUAA studies for determining current and past use of the stream. While observing recreation on the stream would be the ideal way for determining if recreation occurs on the stream, the commission uses information in the interview forms, as well as information from other water agencies familiar with the water body, to determine the recreational use of the stream. The commission adopts the language as proposed.

Comment: Sierra Club and NWF comment that the recommended downgrades for the South Leon River (1221) and Resley Creek (1221) in the Brazos Basin are not accurately based on the findings of the RUAAs and, therefore, are not justified. TPWD comments that their review of the reports and accompanying documents provided indicated that both water bodes should remain as PCR. NWF comments that findings in the RUAAs for those streams indicated that PCR did occur. The EPA comments that they have concerns about the proposed revisions in §307.10, Appendix G for Resley Creek, Indian Creek, and the South Leon River (all within Segment 1221). The EPA notes that there is information found in the UAA and RUAAs that did not support re-classifying these water bodies from presumed PCR use.

Response: The commission relied upon information collected during the RUAA for each water body to develop the adopted site-specific contact recreation uses. Information collected during the RUAA indicated that the deepest portions of Resley Creek (1221) had an average depth of eight inches, and eight of ten individuals interviewed did not know of any PCR occurring on the stream. Data collected on the South Leon River (1221) indicated the deepest portions had an average depth of 14 inches; individuals interviewed did not identify PCR as a personal use, and public access to the South Leon River was very limited. Information collected during the RUAA for Indian Creek (1221) indicated that the deepest portions of the stream had an average depth of 11 inches, no pools greater than one meter deep, and no one interviewed had used the stream for PCR nor had anyone seen or heard of individuals using the stream for PCR. The commission adopts the language as proposed.

Comment: BPA comments that two unnamed tributaries of Whiteoak Bayou and Brickhouse Gully/Bayou in Segment 1017 in Harris County are water bodies that flow through urban and predominantly residential neighborhoods with significant incidence of contact by children wading. These water bodies currently carry the designations with E. coli limits of 630 colonies per 100 mL. Additionally, such designations negatively impact the downstream segments of Whiteoak Bayou

(Segment 1017 with E. coli limit of 125 colonies per 100 mL) and its designation in §307.10, Appendix A as PCR. Downstream waterways of Buffalo Bayou (Segments 1013 and 1014) could also be negatively impacted as they are used for recreation. BPA urges that these three water bodies in Segment 1017 be removed from Appendix G and revert to designation as PCR.

Response: Brickhouse Gully/Bayou and two unnamed tributaries of Whiteoak Bayou were adopted for a change to a SCR 1 recreational use in the 2010 TSWQS. The uses for these water bodies were approved by EPA in an action letter dated June 29, 2011. The commission is not adopting any changes to these streams.

Comment: TAD and eight individuals ask that TCEQ reconsider the designated use of Pecan Creek (1221) based on the water quality data collected during the RUAA. They note that this water body could easily qualify for PCR 2 or secondary contact recreation designation due to limited frequency of use. Also, the portion of Pecan Creek that is publically accessible is only a few inches deep.

Response: The commission relied upon information collected during the RUAA for each water body to adopt site-specific contact recreation uses. One out of two property owners interviewed stated that PCR activity

occurred four to five times a year and year-round on the stream. Physical characteristics of the stream indicated the deepest portions had an average depth of 8.66 inches and the presence of pools greater than one meter deep. Pecan Creek is easily accessible to the public. The stream flows through three parks, Pecan Creek Park being the largest, with a sports complex, playgrounds and a hiking trail along the creek. Due to these findings, a change from the presumed PCR 1 use category is not appropriate for this water body.

Comment: BRA supports the proposed re-classification of eight streams in the Brazos River Basin from PCR to SCR 1 and SCR 2, respectively. BRA comments that the re-classification better reflects the physical and flow characteristics of the streams and adopts reasonably attainable recreational uses of these streams.

Response: The commission acknowledges this comment.

Comment: NWF opposes the proposed SCR 1 use for East Yegua Creek (1212). Based on their understanding, the RUAA indicated that evidence of historical swimming was found. This supports PCR as an existing use that must be protected.

Response: The contact recreation information in the comment was

confirmed in the RUAA report. However, the RUAA found that nine of ten people interviewed had never used the stream for PCR nor had they ever witnessed or heard of PCR occurring on the stream. Physical characteristics of the stream indicated the deepest portions had an average depth of 15 inches, and the stream is only publically accessible at five road crossings. The stream also flows through a wildlife management area that, according to staff, is only used for SCR. The commission adopts the language as proposed.

Comment: EPA comments that it would be beneficial to include unclassified water bodies in §307.10, Appendix G where the PCR use will be retained based on a RUAA. From the informal public participation periods previously conducted by the TCEQ, these water bodies include Martin Branch (within Segment 0810), Pecan Creek (within Segment 1221) and Plum Creek (within Segment 1221).

Response: Water bodies where the presumed use has been confirmed have not been added to §307.10, Appendix G because a standards change has not occurred and the use criterion remains the same. The commission sees no reason to add water bodies to an appendix when it will have no site-specific or regulatory impact. The commission adopts §307.10, Appendix G as proposed.

Comment: EPA supports the changes to Big Sandy Creek (0810), Garrett Creek (0810), Salt Creek (0810), Navasota River Above Lake Mexia (1210), East Yegua Creek (1212), Walnut Creek (1221), Bullhead Bayou (1245), and Unnamed Tributary Bullhead Bayou (1245) in §307.10, Appendix G.

Response: The commission acknowledges this comment.

§§307.2 - 307.4 and 307.6 - 307.10

STATUTORY AUTHORITY

These amendments are adopted under the Texas Water Code (TWC), §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 adopted under TWC, §5.103, that authorizes the commission to adopt any rules necessary to carry out its powers and duties under the TWC and other laws of this state. The adopted amendments will satisfy the provision in Federal Clean Water Act, §303 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 adopted 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 TWC, federal regulations, and guidance of the EPA.

These amendments implement the TWC, §§5.103, 26.003, 26.023, and 26.026 in addition to the Federal Clean Water Act, §303 (33 United States Code, §1313).

§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 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 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) lists site-specific standards and supporting information for classified segments (Appendices A and C), water bodies that are sole-source surface drinking water supplies (Appendix B), site-specific uses and criteria for unclassified water bodies (Appendix D), site-specific toxic criteria that may be derived for any water in the state (Appendix E), chlorophyll *a* criteria 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 Uses and Criteria for Classified Segments;

(B) Appendix B - Sole-source Surface Drinking Water Supplies;

(C) Appendix C - Segment Descriptions;

(D) Appendix D - Site-specific Uses and Criteria for Unclassified Water Bodies;

(E) Appendix E - Site-specific Toxic Criteria;

(F) Appendix F - Site-specific Nutrient Criteria 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 are not included in or do not form a part of any bay or estuary but that 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 establishes a site-specific standard requires a use-attainability analysis that demonstrates that reasonably attainable water-quality related uses are protected. Upon adoption, site-specific amendments to the standards will be listed in §307.10 of this title.

(4) Factors that 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 stormwater.

(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 be included in a public notice during the permit application process. An opportunity for public comment is 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 permit also requires review and approval by the United States Environmental Protection Agency (EPA) during the permitting process.

(D) The permit must contain effluent limitations that protect existing uses and preclude degradation of existing water quality, and the term of the permit must not exceed three years. Effluent limitations that are needed to meet the existing standards are listed in the permit and are effective 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 completed and the commission agrees the completed study supports a change in the applicable standard(s).

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

(e) Standards 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 commission 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 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 identify the water body or water bodies where the criterion applies. A temporary standard identifies the numerical criteria that 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 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 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) of this section, it can be renewed during revisions of the Texas Surface Water Quality Standards. A temporary standard cannot be established that 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 become effective 20 days after the date they are filed in the office of the secretary of state. As to actions covered by 40 CFR §131.21, the rules 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 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 supersede.

§307.3. Definitions and Abbreviations.

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

(1) **Acute toxicity--**Toxicity that 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) **Attainable use**--A use that 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) **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) **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.

(7) **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.

(8) **Bioaccumulative--**Describes a chemical that is taken up by aquatic organisms from water directly or through the consumption of food containing the chemical.

(9) **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 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.

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

(11) **Biotic ligand model--**A metal bioavailability model that uses receiving water body characteristics to develop site-specific water quality criteria.

(12) **Chronic toxicity**--Toxicity that 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) **Classified**--Refers to a water body that is listed and described in Appendix A and Appendix C in §307.10 of this title (relating to Appendices A - G). Site-specific uses and criteria for classified water bodies are listed in Appendix A.

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

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

(16) **Critical low-flow**--Low-flow condition that consists of 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 below which some standards do not apply.

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

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

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

(21) ***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.

(22) **Effluent**--Wastewater discharged from any point source prior to entering a water body.

(23) **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.

(24) **Epilimnion**--The upper mixed layer of a lake (including impoundments, ponds, and reservoirs).

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

(26) **Fecal coliform**--A portion of the coliform bacteria group that 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.

(27) **Freshwaters**--Inland waters that exhibit no measurable elevation changes due to normal tides.

(28) **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.

(29) **Harmonic mean flow**--A measure of mean flow in a water course that 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.

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

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

(32) **Industrial cooling water area**--A designated area associated with a permitted wastewater discharge where numerical temperature criteria are not applicable in accordance with conditions and requirements specified in §307.4(f) of this

title (relating to General Criteria) and §307.8(b) of this title (relating to Application of Standards).

(33) **Intermittent stream**--A stream that 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 is considered intermittent.

(34) **Intermittent stream with perennial pools**--An intermittent stream that maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

(36) **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.

(37) **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, Appendix B.

(38) **Minimum analytical level**--The lowest concentration that 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 for a United States Environmental Protection Agency (EPA)-approved analytical method that 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., wastewater effluents). The commission establishes general minimum analytical levels that are applicable when information on matrix-specific minimum analytical levels is unavailable.

(39) **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, 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.

(40) **Noncontact recreation**--Activities that do not involve a significant risk of water ingestion, such as those with limited body contact incidental to shoreline

activity, including birding, hiking, and biking. Noncontact recreation use may also be assigned where primary and secondary contact recreation activities should not occur because of unsafe conditions, such as ship and barge traffic.

(41) **Nonpersistent--**Describes a toxic substance that readily degrades in the aquatic environment, exhibits a half-life of less than 60 days, and does not have a tendency to accumulate in organisms.

(42) **Nutrient criteria--**Numeric and narrative criteria that are established to protect surface waters from excessive growth of aquatic vegetation. Nutrient numeric criteria for reservoirs are expressed in terms of chlorophyll *a* concentration per unit volume as a measure of phytoplankton density.

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

(44) **Oyster waters--**Waters producing edible species of clams, oysters, or mussels.

(45) **Persistent**--Describes a toxic substance that is not readily degraded and exhibits a half-life of 60 days or more in an aquatic environment.

(46) **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.

(47) **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.

(48) **Presumed use**--A use that 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, Appendix D, or Appendix G of §307.10 of this title.

(49) **Primary contact recreation 1**--Activities that are presumed to involve a significant risk of ingestion of water (e.g., wading by children, swimming, water skiing, diving, tubing, surfing, handfishing as defined by Texas Parks and Wildlife Code, §66.115, and the following whitewater activities: kayaking, canoeing, and rafting).

(50) **Primary contact recreation 2**--Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, handfishing as defined by Texas Parks and Wildlife Code, §66.115, and whitewater kayaking, canoeing, and rafting, that involve a significant risk of ingestion of water but that occur less frequently than for primary contact recreation 1 due to:

(A) physical characteristics of the water body; or

(B) limited public access.

(51) **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).

(52) **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).

(53) **Saltwater**--A coastal water that 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 typically has a salinity of two parts per thousand or greater in a significant portion of the water column.

(54) **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 expressed in parts per thousand.

(55) **Seagrass propagation**--A water-quality-related existing use that applies to saltwater with significant stands of submerged seagrass.

(56) **Secondary contact recreation 1**--Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting, and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation 1 or 2 but more than secondary contact recreation 2.

(57) **Secondary contact recreation 2**--Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting, and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

(58) **Segment--**A water body or portion of a water body that is individually defined and classified in Appendices A and C of §307.10 of this title 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.

(59) **Settleable solids--**The volume or weight of material that settles out of a water sample in a specified period of time.

(60) **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, some water quality standards do not apply at stream flows that are less than the 7Q2 flow.

(61) **Shellfish--**Clams, oysters, mussels, crabs, crayfish, lobsters, and shrimp.

(62) **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).

(63) **Standard Methods for the Examination of Water and Wastewater**--A document describing sampling and analytical procedures that 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.

(64) **Standards**--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.

(65) **Standards implementation procedures**--Methods and protocols in the guidance document *Procedures to Implement the Texas Surface Water Quality Standards* (RG-194), as amended and approved by the commission and EPA.

(66) **Stormwater**--Rainfall runoff, snow melt runoff, surface runoff, and drainage.

(67) **Stormwater discharge**--A point source discharge that is composed entirely of stormwater associated with an industrial activity, a construction activity, a discharge from a municipal separate storm sewer system, or other discharge designated by the agency.

(68) **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; 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 topographic maps with a scale of 1:24,000.

(69) **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, 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 are authorized by state or federal law, regulation, or permit, and

that are created for the purpose of waste treatment are not considered to be water in the state.

(70) **Sustainable Fisheries**--Descriptive of water bodies that 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 or 50 surface acres; all bays, estuaries, and tidal rivers. Water bodies that are presumed to have sustainable fisheries include all designated segments listed in Appendix A unless specifically exempted.

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

(72) **Tidal**--Descriptive of coastal waters that 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.

(73) **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.

(74) **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 40 Code of Federal Regulations Part 136 and in previous editions of the publication entitled, *Standard Methods for the Examination of Water and Wastewater.*

(75) **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.

(76) **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 40 Code of Federal Regulations Part 136 and in previous editions of the publication entitled, *Standard Methods for the Examination of Water and Wastewater.*

(77) **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.

(78) **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).

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

(80) **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 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.

(81) **Toxicity biomonitoring--**The process or act of determining total toxicity. Documents that describe procedures for toxicity biomonitoring are cited in §307.6 of this title. Also referred to simply as biomonitoring.

(82) **Water-effect ratio (WER)--**The 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 can

be used to establish site-specific acute and chronic criteria to protect aquatic life. The site-specific criterion is equal to the WER times the statewide aquatic life criterion in §307.6(c) of this title.

(83) **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.)*.

(84) **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 construction or creation commenced on or after August 28, 1989, and that 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 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.

(85) **Wetland water quality functions**--Attributes of wetlands that protect and maintain the quality of water in the state, which include stormwater 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.

(86) **Zone of initial dilution**--The small area at the immediate point of a permitted discharge where initial dilution with receiving waters occurs and that 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) AP--aquifer protection.

(3) AS--agricultural water supply.

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

(5) BCF--bioconcentration factor.

(6) CASRN--Chemical Abstracts Service Registry number.

(7) CFR--Code of Federal Regulations.

(8) cfs--cubic feet per second.

(9) Cl^{-1}--chloride.

(10) CR--county road.

(11) DO--dissolved oxygen.

(12) E--exceptional aquatic life use.

(13) EPA--United States Environmental Protection Agency.

(14) degrees F--Degree(s) Fahrenheit.

(15) FM--Farm to Market Road.

(16) ft^3/s--cubic feet per second.

(17) H--high aquatic life use.

(18) HEAST--Health Effects Assessment Summary Tables.

(19) I--intermediate aquatic life use.

(20) IBWC--International Boundary and Water Commission.

(21) IRIS--Integrated Risk Information System.

(22) IS--industrial water supply.

(23) km--kilometer.

(24) L--limited aquatic life use.

(25) M--minimal aquatic life use.

(26) m--multiplier.

(27) m/km--meters per kilometer.

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

(29) MDL--method detection limit.

(30) mg/L--milligrams per liter.

(31) mi--mile.

(32) mL --milliliter.

(33) N--navigation.

(34) NCR--noncontact recreation.

(35) O--oyster waters.

(36) PCR--primary contact recreation.

(37) PS--public water supply.

(38) RfD--reference dose.

(39) RR--ranch road.

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

(41) SCR--secondary contact recreation.

(42) SH--state highway.

(43) SO_4^{-2} --sulfate.

(44) SU--standard units.

(45) TCEQ--Texas Commission on Environmental Quality.

(46) TDS--total dissolved solids.

(47) TEF--toxic equivalency factor.

(48) TMDL--total maximum daily load.

(49) TPDES--Texas Pollutant Discharge Elimination System.

(50) TRE--toxicity reduction evaluation.

(51) TSS--total suspended solids.

(52) US--United States.

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

(54) USGS--United States Geological Survey.

(55) WER--Water-effect ratio.

(56) WF--waterfowl habitat.

(57) WQM--water quality management.

(58) µg/L--micrograms per liter.

(59) 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. General criteria do not apply to those instances when 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 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 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 adversely affect benthic biota or any lawful uses.

(3) Surface waters must 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 are permitted in accordance with the Federal Clean Water Act.

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

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

(6) No foaming or frothing of a persistent nature is permissible.

(7) Surface waters must be maintained so that oil, grease, or related residue do 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 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 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) of this title. Criteria to protect aquatic life from chronic toxicity apply to surface waters with an aquatic life use of limited, intermediate, high, or exceptional as designated in §307.10 of this title (relating to Appendices A - G) 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 not cause excessive growth of aquatic vegetation that impairs an existing, designated, presumed, or attainable use. Site-specific nutrient criteria, nutrient permit limitations, or separate rules to control nutrients in individual watersheds are 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 impoundments, industrial cooling water areas, and all other surface water in the state must 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 impoundments, which in most areas of the state contribute to water conservation and water quality objectives. In addition, numerical criteria for temperature are not applicable in designated industrial cooling water areas, as defined in §307.3 of this title (relating to Definitions and Abbreviations). The horizontal boundaries of an industrial cooling water area must be defined in the applicable wastewater permit. 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 temperature elevations within designated mixing zones or industrial cooling water areas. The maximum temperature differentials are:

(1) freshwater streams: 5 degrees Fahrenheit (degrees F);

(2) freshwater lakes and impoundments: 3 degrees F; and

(3) tidal river reaches, bay, and gulf waters: 4 degrees F in fall, winter, and spring, and 1.5 degrees F 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. These criteria are not applicable within industrial cooling water areas.

(g) Salinity.

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

(2) Criteria for chloride, sulfate, 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 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 not preclude evaluations

and regulatory actions based on estuarine salinity, and careful consideration must be given to all activities that may detrimentally affect salinity gradients.

(h) Aquatic life uses and dissolved oxygen.

(1) Dissolved oxygen concentrations must 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 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 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. Higher uses are 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 24-hour minimum dissolved oxygen concentration of 1.5 mg/L must be maintained. Intermittent streams that are not specifically listed in Appendix A or D of §307.10 of this title are considered to have a minimal 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 be maintained during the seasons when the aquatic life uses occur. Unclassified intermittent streams with perennial pools are presumed to have a limited aquatic life use and corresponding dissolved oxygen criteria. Higher uses are protected where they are attainable.

(i) Aquatic life uses and habitat. Vegetative and physical components of the aquatic environment must 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 1. Primary contact recreation 1 is presumed for lakes, reservoirs, and tidal water bodies. Primary contact recreation 1 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 (C) of this paragraph.

(B) Primary contact recreation 2. No water body is presumed to have a use of primary 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. Primary contact recreation 2 applies to water bodies where water recreation activities that involve a significant risk of ingestion of water occur, but less frequently than for primary contact recreation 1 due to:

(i) physical characteristics of the water body; or

(ii) limited public access.

(C) 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 1 or 2 have 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 dry weather flows, 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 or greater; and

(ii) there are no existing recreational activities that create a significant risk of ingestion or uses for primary contact recreation 1 or 2.

(D) 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.

(E) 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 1, 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 1 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 1 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.

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

(l) Assessment of unclassified waters for aquatic life uses. Waters that are not specifically listed in Appendices A or D of §307.10 of this title are assigned the specific uses that are attainable or characteristic of those waters. Upon administrative or regulatory action by the commission that affects a particular unclassified water body, the characteristics of the affected water body must be reviewed by the commission to determine which aquatic life uses are appropriate. Additional uses so determined must be indicated in public notices for discharge applications. Uses that are not applicable throughout the year in a particular unclassified water body are assigned and protected for the seasons where such uses are attainable. Initial determinations of use are 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 of Standards). Uses and criteria are 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.

§307.6. 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. With the exception of numeric human health criteria, 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 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 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 not be chronically toxic to aquatic life, in accordance with §307.8 of this title.

(3) Water in the state must 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 or public drinking water supply uses must 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 be maintained to preclude adverse toxic effects on aquatic life, terrestrial life, 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 adequate toxicity information is available and that have the potential for exerting adverse impacts on water in the state.

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 Acute Criteria	Freshwater Chronic Criteria	Saltwater Acute Criteria	Saltwater Chronic Criteria
Aldrin	309-00-2	3.0	---	1.3	---
Aluminum (d)	7429-90-5	991w	---	---	---
Arsenic (d)	7440-38-2	340w	150w	149w	78w
Cadmium (d)	7440-43-9	(1.136672-(ln(hardness)(0.041838)))(w$e^{(1.0166(\ln(\text{hardness}))-2.4743)}$)	(1.101672-(ln(hardness)(0.041838)))(w$e^{(0.7409(\ln(\text{hardness}))-4.719)}$)	40.0w	8.75w
Carbaryl	63-25-2	2.0	---	613	---

Parameter	CASRN	Freshwater Acute Criteria	Freshwater Chronic Criteria	Saltwater Acute Criteria	Saltwater Chronic Criteria
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	$0.316we^{(0.8190(\ln(hardness))+3.7256)}$	$0.860we^{(0.8190(\ln(hardness))+0.6848)}$	---	---
Chromium (Hex)(d)	18540-29-9	15.7w	10.6w	1,090w	49.6w
Copper (d)[1]	7440-50-8	$0.960me^{(0.9422(\ln(hardness))-1.6448)}$	$0.960me^{(0.8545(\ln(hardness))-1.6463)}$	13.5w	3.6w
Cyanide[2] (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	---	---

Parameter	CASRN	Freshwater Acute Criteria	Freshwater Chronic Criteria	Saltwater Acute Criteria	Saltwater Chronic Criteria
Dieldrin	60-57-1	0.24	0.002	0.71	0.002
Diuron	330-54-1	210	70	---	---
Endosulfan I *(alpha)*	959-98-8	0.22	0.056	0.034	0.009
Endosulfan II *(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	0.002	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	58-89-9	1.126	0.08	0.16	---

Parameter	CASRN	Freshwater Acute Criteria	Freshwater Chronic Criteria	Saltwater Acute Criteria	Saltwater Chronic Criteria
(gamma)(Lindane)					
Lead (d)	7439-92-1	(1.46203-(ln(hardness)(0.145712))) ($we^{(1.273(\ln(\text{hardness}))-1.460)}$)	(1.46203-(ln(hardness)(0.145712))) ($we^{(1.273(\ln(\text{hardness}))-4.705)}$)	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	$0.998we^{(0.8460(\ln(\text{hardness}))+2.255)}$	$0.997we^{(0.8460(\ln(\text{hardness}))+0.0584)}$	118w	13.1w
Nonylphenol	84852-15-3 and 25154-52-3	28	6.6	7	1.7

Parameter	CASRN	Freshwater Acute Criteria	Freshwater Chronic Criteria	Saltwater Acute Criteria	Saltwater Chronic Criteria
Parathion (ethyl)	56-38-2	0.065	0.013	---	---
Pentachlorophenol	87-86-5	$e^{(1.005(pH)-4.869)}$	$e^{(1.005(pH)-5.134)}$	15.1	9.6
Phenanthrene	85-01-8	30	30	7.7	4.6
Polychlorinated Biphenyls (PCBs) [3]	1336-36-3	2.0	0.014	10	0.03
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 (TBT)	688-73-3	0.13	0.024	0.24	0.0074
2,4,5 Trichlorophenol	95-95-4	136	64	259	12
Zinc (d)	7440-66-6	$0.978we^{(0.8473(\ln(hardness))+0.884)}$	$0.986we^{(0.8473(\ln(hardness))+0.884)}$	92.7w	84.2w

1	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 not encompass oyster reefs containing live oysters.
2	Compliance will be determined using the analytical method for available cyanide.
3	These criteria apply to the sum of all congener or all isomer or homolog or Arochlor analysis.
(d)	Indicates that the criteria for a specific parameter are for the dissolved portion in water. All other criteria are for total recoverable concentration, except where noted.
e	The mathematical constant that is the basis of the natural logarithm. When rounded to four decimal points, *e* is equal to 2.7183.
m	Indicates that a criterion may be multiplied by a water-effect ratio (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.
w	Indicates that a criterion is multiplied by a WER in order to incorporate the effects of local water chemistry on toxicity. The WER is equal to 1 except where sufficient data is available to establish a site-specific WER. WERs 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.

(2) Numerical criteria are based on ambient water quality criteria documents published by the United States Environmental Protection Agency (EPA). EPA guidance criteria have been appropriately recalculated to eliminate the effects of toxicity data for aquatic organisms that 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). Additional EPA guidelines that may be used to establish aquatic life criteria are detailed in the guidance documents.

(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 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 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. There must be no lethality to aquatic organisms that 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 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 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 calculated as 0.3 of the LC_{50} of the most sensitive aquatic species; $LC_{50} \times (0.3) =$ acute criteria;

(B) concentrations of nonpersistent toxic materials must 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 0.1 of acute LC_{50} values to the most sensitive aquatic species; $LC_{50} \times (0.1) =$ chronic criteria;

(C) concentrations of persistent toxic materials that do not bioaccumulate 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 0.05 of LC_{50} values to the most sensitive aquatic species; $LC_{50} \times (0.05) =$ chronic criteria; and

(D) concentrations of toxic materials that bioaccumulate must 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; $LC_{50} \times (0.01) =$ 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. Site-specific values for each segment are given in the standards implementation procedures (RG-194) as amended.

(9) Criteria for most metals are multiplied by a water-effect ratio (WER) in order to incorporate the effects of local water chemistry on toxicity. The WER is assumed to be equal to one except where sufficient site-specific data are available to determine the WER for a particular water body or portion of a water body. A WER is only applicable to those portions of a water body that are adequately addressed by site-specific data. WERs that 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 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, must be noted in a public notice during the permit application process. An opportunity for public comment must be provided, and the WER 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) 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 of Standards). The application of a site-specific standard must not impair an existing, attainable, or designated use. Factors that 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, 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 tests or other analyses approved by the commission; 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.

Figure: 30 TAC §307.6(d)(1)

TABLE 2

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
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
Acrylonitrile	107-13-1	0.80	3.8
Aldrin	309-00-2	0.00094	0.0010
Anthracene	120-12-7	5,569	---
Antimony	7440-36-0	6[1]	1,071
Arsenic (d)	7440-38-2	10[1]	---
Barium (d)	7440-39-3	2,000[1]	---
Benzene	71-43-2	5[1]	513
Benzidine	92-87-5	0.00086	0.0020
Benzo(*a*)anthracene	56-55-3	0.68	3.28
Benzo(*a*)pyrene	50-32-8	0.068	0.33
Bis(chloromethyl)ether	542-88-1	0.0024	0.44
Bis(2-chloroethyl)ether	111-44-4	0.57	10.06

		A	B
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
Bis(2-ethylhexyl)phthalate	117-81-7	6[1]	41
Bromodichloromethane	75-27-4	10.2	322
Bromoform	75-25-2	69.1	2,175
Cadmium (d)	7440-43-9	5[1]	---
Carbon Tetrachloride	56-23-5	4.3	30.5
Chlordane	12789-03-6	0.0080	0.0081
Chlorobenzene	108-90-7	100[1]	5,201
Chlorodibromomethane	124-48-1	7.6	239
Chloroform	67-66-3	70[1]	7,143
Chromium (Hex) (d)	18540-29-9	62	502
Chrysene	218-01-9	68.13	327
Cresols	[2]	1,041	9,301
Cyanide (free) [3]	57-12-5	200[1]	---
4,4'-DDD	72-54-8	0.0059	0.0059
4,4'-DDE	72-55-9	0.0040	0.0040
4,4'-DDT	50-29-3	0.0040	0.0040
2,4-D	94-75-7	70[1]	---

		A	B
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
Danitol	39515-41-8	262	473
1,2-Dibromoethane	106-93-4	0.17	4.24
m-Dichlorobenzene	541-73-1	473	1,445
o-Dichlorobenzene	95-50-1	600[1]	4,336
p-Dichlorobenzene	106-46-7	75[1]	---
3,3'-Dichlorobenzidine	91-94-1	0.32	0.44
1,2-Dichloroethane	107-06-2	5[1]	553
1,1-Dichloroethylene	75-35-4	7[1]	23,916
Dichloromethane	75-09-2	5[1]	22,222
1,2-Dichloropropane	78-87-5	5[1]	226
1,3-Dichloropropene	542-75-6	3.4	211
Dicofol	115-32-2	0.30	0.30
Dieldrin	60-57-1	0.001	0.001
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	7.80E-8	7.97E-8

		A	B
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
		Toxic Equivalency	
Congener/Isomer		Factor	
2,3,7,8 TCDD		1	
1,2,3,7,8 PeCDD		1	
2,3,7,8 HxCDDs		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	
2,3,4,7,8 PeCDF		0.3	
2,3,7,8 HxCDFs		0.1	
2,3,4,7,8 HpCDFs		0.01	
OCDD		0.0003	
OCDF		0.0003	
PCB 77		0.0001	
PCB 81		0.0003	
PCB126		0.1	
PCB 169		0.03	
Endrin	72-20-8	0.20	0.20

Parameter	CASRN	A Water and Fish µg/L	B Fish Only µg/L
Ethylbenzene	100-41-4	700[1]	7,143
Fluoride	16984-48-8	4,000[1]	---
Heptachlor	76-44-8	0.0015	0.0015
Heptachlor Epoxide	1024-57-3	0.00074	0.00075
Hexachlorobenzene	118-74-1	0.0044	0.0045
Hexachlorobutadiene	87-68-3	6.5	274
Hexachlorocyclohexane (*alpha*)	319-84-6	0.050	0.093
Hexachlorocyclohexane (*beta*)	319-85-7	0.17	0.33
Hexachloro-cyclohexane *(gamma)*(Lindane)	58-89-9	0.2[1]	6.2
Hexachlorocyclopentadiene	77-47-4	50[1]	---
Hexachloroethane	67-72-1	4.97	11.51
Hexachlorophene	70-30-4	2.05	2.90
Lead (d)	7439-92-1	1.15	3.83
Mercury in freshwater	7439-97-6	0.0122	0.0122

		A	B
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
Mercury in saltwater	7439-97-6	---	0.0250
Methoxychlor	72-43-5	1.59	1.61
Methyl Ethyl Ketone	78-93-3	13,865	9.92E+5
Nickel (d)	7440-02-0	332	1140
Nitrate-Nitrogen as total Nitrogen	14797-55-8	10,000[1]	---
Nitrobenzene	98-95-3	45	1,853
N-Nitrosodiethylamine	55-18-5	0.0037	2.1
N-Nitroso-di-*n*-Butylamine	924-16-3	0.119	4.2
Pentachlorobenzene	608-93-5	1.0	1.0
Pentachlorophenol	87-86-5	0.80	9.1
Polychlorinated Biphenyls (PCBs) [4]	1336-36-3	6.4E-4	6.4E-4
Pyridine	110-86-1	23	947
Selenium	7782-49-2	50[1]	---
1,2,4,5-Tetrachlorobenzene	95-94-3	0.65	0.71
1,1,2,2-Tetrachloroethane	79-34-5	1.7	40

		A	B
		Water and Fish	Fish Only
Parameter	CASRN	µg/L	µg/L
Tetrachloroethylene	127-18-4	5[1]	525
Thallium	7440-28-0	0.12	0.23
Toluene	108-88-3	1,000[1]	---
Toxaphene	8001-35-2	0.0053	0.0053
2,4,5-TP (Silvex)	93-72-1	19	21
1,1,1-Trichloroethane	71-55-6	200[1]	956,663
1,1,2-Trichloroethane	79-00-5	5[1]	295
Trichloroethylene	79-01-6	5[1]	82
2,4,5 Trichlorophenol	95-95-4	1,194	2,435
TTHM (Sum of total trihalomethanes)		80[1]	---
bromodichloromethane	75-27-4		
dibromochloromethane	124-48-1		
tribromomethane (bromoform)	75-25-2		
trichloromethane (chloroform)	67-66-3		
Vinyl Chloride	75-01-4	0.25	24

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

2 Consists of *m*, *o*, and *p* Cresols. The criteria 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, 108-39-4 for *m*-Cresol, and 106-44-5 for *p*-Cresol.

3 Compliance is determined using the analytical method for available cyanide.

4 Until Method 1668 or equivalent method to measure PCB congeners is approved in 40 Code of Federal Regulations Part 136, compliance with PCB criteria is determined using Arochlor data or any alternate method listed in a TCEQ-approved Quality Assurance Plan.

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

(2) Categories of human health criteria:

(A) concentration criteria 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 that are designated or used for public drinking water supplies, including all water bodies identified as having a public drinking water supply use in Appendix A of this chapter or as a sole-source surface drinking water supply in Appendix B of this chapter. (Column A in Table 2 of paragraph (1) of this subsection);

(B) concentration criteria to prevent contamination of fish and other aquatic life to ensure that they are safe for human consumption. These criteria apply to surface waters that have sustainable fisheries and that are not designated or used for public water supply or as a sole-source surface drinking water supply (Column B in Table 2 of paragraph (1) of this subsection);

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

(A) Sources for the toxicity factors to calculate 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.

(B) For known or suspected carcinogens (as identified in EPA's IRIS database), an incremental cancer risk level of 10^{-5} (1 in 100,000) was used to derive criteria. An RfD (reference dose) was determined for noncarcinogens and for carcinogens where the EPA has not derived cancer slope factors.

(C) Consumption rates of fish and shellfish were estimated as 17.5 grams per person per day.

(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 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 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) 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); *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) 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) 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) 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 adopted by the commission as appropriate.

(5) Specific human health concentration criteria for water are applicable to water in the state that has sustainable fisheries or designation or use as a public drinking water supply or as a sole-source drinking water supply except within mixing

zones and below stream flow conditions as specified in §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 or 50 surface acres;

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

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

(6) Waters that are not considered to have a sustainable fishery, but that have an aquatic life use of limited or greater, are considered to have an incidental fishery. Consumption rates assumed for incidental fishery waters are 1.75 grams per

person per day. Therefore, numerical criteria applicable to incidental fishery waters are ten times the criteria listed in Column B of Table 2 of paragraph (1) of this subsection.

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

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

(A) For known or suspected carcinogens (as identified in EPA's IRIS database), a cancer risk of 10^{-5} (1 in 100,000) is applied to the most recent numerical criteria adopted by the 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 to public drinking water supplies in accordance with paragraph (3)(H) of this subsection.

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

(11) Additional site-specific factors may indicate that the numerical human health criteria listed in Table 2 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. The application of site-specific criteria must

not impair an existing, attainable, presumed, or designated use or affect human health. Factors that 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, 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 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 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 be sufficiently controlled to preclude acute total toxicity in all water in the state with the exception of small 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 be no significant lethality to aquatic organisms that 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 be sufficiently controlled to preclude chronic toxicity in all water in the state with an existing or designated aquatic life use of limited or greater except in mixing zones 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 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 not be acutely toxic to sensitive species of aquatic life, as demonstrated by effluent toxicity tests. Toxicity testing for this purpose is conducted on samples of 100% effluent, and the criterion for acute toxicity is 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 are in the effluent and are not listed in Table 1 in subsection (c)(1) of this section or that 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 the 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, then the permittee will be required to eliminate sources of toxicity and may be required to conduct a toxicity reduction evaluation (TRE) in accordance with the permitting procedures of the commission. In accordance with the implementation procedures, permits are amended to include appropriate provisions to eliminate toxicity. Such provisions may include total toxicity limits, chemical-specific limits, best management practices, or other actions (such as moving a discharge location) designed to reduce or eliminate toxicity. Where sufficient to attain and maintain applicable numeric and narrative state water quality standards, a chemical-specific limit, best management practices, or other actions designed to reduce or eliminate toxicity 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 include a reasonable schedule for achieving compliance with such additional conditions.

(E) Discharge permit limits based on total toxicity may be established in consideration of site-specific factors, but the application of such factors must 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 other necessary information as determined by the agency. Factors that 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 are contributing to the total toxicity of the discharge;

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

(iv) indigenous aquatic organisms, that 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, E, F, and G of §307.10 of this title (relating to Appendices A - G). Site-specific uses and numerical criteria may also be applied to unclassified waters in accordance with §307.4 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. Site-specific criteria do not apply to those instances when 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 five categories--primary contact recreation 1, primary contact recreation 2, secondary contact recreation 1, secondary contact recreation 2, and noncontact recreation waters. Classified segments are designated for primary contact recreation 1 unless sufficient site-specific information demonstrates that elevated concentrations of indicator bacteria frequently occur due to sources of pollution that 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 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 criteria are based on these indicator bacteria rather than direct measurements of pathogens. Criteria are expressed as the number 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.

(A) Freshwater

(i) Primary contact recreation 1. The geometric mean criterion for *E. coli* is 126 per 100 mL. In addition, the single sample criterion for *E. coli* is 399 per 100 mL.

(ii) Primary contact recreation 2. The geometric mean criterion for *E. coli* is 206 per 100 mL.

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

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

(v) Noncontact recreation. The geometric mean criterion for *E. coli* is 2,060 per 100 mL.

(vi) 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, unless it is demonstrated that an unclassified water body is not high saline. *E. coli* is the applicable recreational indicator for instream bacteria sampling at all times for unclassified water bodies where conductivity values indicate that the water bodies are not high saline. For high saline inland waters with primary contact recreation 1, the geometric mean criterion for Enterococci is 33 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 recreation 1. The geometric mean criterion for Enterococci is 35 per 100 mL. In addition, the single sample criterion for Enterococci is 104 per 100 mL.

(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) 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.

(C) 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) 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 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).

(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) 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 are designated for aquifer protection.

(B) Use criteria. The following use criteria apply to all 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 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 aquatic communities, and local physical and chemical characteristics. Six 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. 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) (No Change to the figure as it currently exists in TAC.)

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

Figure: 30 TAC §307.7(b)(3)(A)(ii) (No Change to the figure as it currently exists in TAC.)

(iii) The critical low-flow values in Table 4 of clause (ii) of this subparagraph for limited, intermediate, high, and exceptional aquatic life uses are based upon data from the commission'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 in Table 4 of clause (ii) of this subparagraph 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 contained in the standards implementation procedures as amended.

(iv) The critical low-flow values in Table 4 of clause (ii) of this subparagraph 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. The EPA must 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 have been determined for particular streams are listed in the standards implementation procedures.

(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) of this title (relating to Site-Specific Uses and Criteria), are applicable within buffer zones.

(ii) The criteria for median fecal coliform concentration in bay and gulf waters, exclusive of buffer zones, are 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 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, 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 be maintained and protected for all water in the state where these uses can be achieved.

§307.8. Application of Standards.

(a) Flow conditions.

(1) The following standards do not apply below critical low-flows:

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

(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) of this title (relating to Site-Specific Uses and Criteria).

(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 percentile 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) gauging station;

(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 gauging station.

(3) 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 are equal to or greater than one-fourth of critical low-flows.

(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, chloride, sulfate 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. These criteria are applicable at all flow conditions except as specified for the applicability of assessment data in §307.9 of this title (relating to Determination of Standards and Attainment).

(5) Critical low-flows and harmonic mean flows for some classified segments are listed in the standards implementation procedures as amended. These critical low-flows 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) Critical low-flows and harmonic mean flows listed in the standards implementation procedures as amended apply only to river basin and coastal basin waters. They do not apply to bay waters, gulf waters, reservoirs, or estuaries.

(7) Critical low-flows and harmonic mean flows in the standards implementation procedures as amended were calculated from historical USGS or IBWC 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 (cfs), it was rounded up to 0.1 cfs.

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

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

(b) Mixing zones. A reasonable mixing zone is 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, 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) of this title;

(F) dissolved oxygen criteria for intermittent streams, as established in §307.4(h)(4) 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 be no lethality to aquatic organisms that move through a ZID. ZIDs must not exceed the following sizes:

(A) 60 feet downstream and 20 feet upstream from a discharge point in a stream and river. In addition, ZIDs in streams and rivers must 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, a tidal river, an estuary, or the Gulf of Mexico.

(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 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, the Railroad Commission of Texas, or the United States Environmental Protection Agency, the mixing zone defined in the permit must apply.

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

(8) Mixing zones must 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 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 consist entirely of stormwater runoff). For domestic discharges with permitted monthly average flows less than one million gallons per day, a small mixing zone must be assumed in accordance with guidelines for mixing zone sizes specified in the standards implementation procedures as amended; and the commission may require specified mixing zones as appropriate.

(10) Different mixing zone sizes for specific numeric criteria, such as for the protection of human health, aquatic life, and temperature, may be specified in a wastewater permit.

(c) Minimum analytical levels. The specified definition of permit compliance for a specific toxic material must 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. 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 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) Stormwater discharges. Pollution in stormwater must not impair existing or designated uses. Controls on the quality of stormwater discharges must 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 stormwater quality are needed. The standards implementation procedures as amended describe how water quality standards are applied to Texas Pollutant Discharge Elimination System stormwater discharges. The evaluation of instream monitoring data for standards attainment includes the effects of stormwater, as described in §307.9 of this title.

§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 Texas Commission on Environmental Quality (TCEQ) *Surface Water Quality Monitoring Procedures* 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, or other reliable sources acceptable to the commission. 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.

(b) Samples to determine standards attainment are collected at locations approved by the commission. Samples collected at non-approved locations may be accepted at the discretion of the commission. 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) For the purposes of assessing standards attainment, samples are collected and preserved 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 TCEQ *Surface Water Quality Monitoring Procedures* as amended, 40 CFR Part 136, or other reliable procedures acceptable to the commission.

(2) Bacterial and temperature determinations must be conducted on samples or measurements taken at or near 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,*

and pH to determine standards attainment may vary depending on the water body being sampled. Standards for chloride, sulfate, total dissolved solids, dissolved oxygen, chlorophyll *a,* pH are applicable to the mixed surface layer, but a single sample taken near the surface normally provides an adequate representation of these parameters. When the water column is entirely mixed according to determinations described in TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended, standards may apply to any sample taken in the water column for parameters indicated in this section.

(3) 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 are collected at approximately one foot below the water surface are acceptable for assessing standards attainment of numerical criteria.

(d) Sample analysis.

(1) Numerical criteria. Procedures for laboratory analysis must be in accordance with the most recently published edition of the book entitled *Standard Methods for the Examination of Water and Wastewater,* the TCEQ *Texas Surface*

Water Quality Monitoring Procedures as amended, 40 CFR Part 136, or other reliable procedures acceptable to the commission, and in accordance with Chapter 25 of this title.

(2) Radioactivity. Measurements must 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 be selected as testing situations dictate but are generally 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. Standards attainment determinations to demonstrate compliance with the annual average may be based on the long term mean in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. Results from all monitoring stations within the segment are used to allow for reasonable parametric gradients. Total dissolved solids determinations may be based on measurements of specific conductance.

(2) Radioactivity. The impact of radioactive sources on surface waters must 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).

(3) Bacteria. Standards attainment must be based on a long-term geometric mean of applicable samples in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended, and data are evaluated in accordance with the provisions of §307.7(b)(1) of this title (relating to Site-Specific Uses and Criteria). Determination of attainment may account for statistical variability to reduce uncertainty in evaluations in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. Samples may be evaluated with the single sample maximum criterion for purposes of swimmer safety notification programs and wastewater permit compliance.

(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 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. Standards attainment for acute and chronic toxic criteria for aquatic life and human health criteria must be in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. Standards attainment for human health criteria must be based on the mean of samples collected in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended.

(5) Temperature and pH. Standards attainment must be in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended.

(6) Dissolved oxygen.

(A) Criteria for daily (24-hour) average concentrations must be compared to a time-weighted average of measurements taken over a 24-hour period in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended.

(B) Criteria for minimum concentrations must be compared to individual measurements in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. When data are collected over a

24-hour period, the lowest measurement observed during that 24-hour period is compared to the applicable minimum criterion.

(7) Chlorophyll *a* in reservoirs. Standards attainment must be based on the long term median of chlorophyll *a* measurements in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. 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). The data for the assessment must be collected at the sampling stations used for calculating the criteria, 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 assessed by indices of biotic integrity that are described in the TCEQ *Surface Water Quality Monitoring Procedures* as amended. Determination of attainment may account for statistical variability to reduce uncertainty in evaluations in accordance with TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended. Primary criteria associated with assessing the attainment of aquatic life uses are indices of biotic integrity and criteria for dissolved oxygen. 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.

(g) Additional parameters. Assessment of narrative criteria parameters must be performed in accordance with the TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas* as amended.

§307.10. Appendices A - G.

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)

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 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 gauging station.

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 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. 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 criteria for temperature are listed as maximum values at any site within the segment except as noted in §307.4(h) of this title (relating to General Criteria) and §307.8(b) of this title.

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

Canadian River Basin Designated Uses and Numeric Criteria

Segment No.	Canadian River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0101	Canadian River Below Lake Meredith	PCR1	H			1,975	760	5,000	5.0	6.5-9.0	126	95
0102	Lake Meredith	PCR1	E	PS		400	350	1,300	6.0	6.5-9.0	126	85
0103	Canadian River Above Lake Meredith	PCR1	H			1,050	540	4,500	5.0	6.5-9.0	126	95
0104	Wolf Creek	PCR1	H			420	125	1,125	5.0	6.5-9.0	126	93
0105	Rita Blanca Lake	NCR	L		WF[2]	200	200	1,000	3.0	6.5-9.0	126	85

1 The indicator bacteria for freshwater is *E. coli*.
2 Segment 0105 is designated as high quality waterfowl habitat

Red River Basin Designated Uses and Numeric Criteria

Segment No.	Red River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0201	Lower Red River	PCR1	H	PS		375	250	1,100	5.0	6.5-9.0	126	93
0202	Red River Below Lake Texoma	PCR1	H	PS		375	250	1,100	5.0	6.5-9.0	126	93
0203	Lake Texoma	PCR1	H	PS		600	300	1,500	5.0	6.5-9.0	126	92
0204	Red River Above Lake Texoma	PCR1	H			2,000	1,200	6,000	5.0	6.5-9.0	33	93
0205	Red River Below Pease River	PCR1	H			5,000	2,000	10,000	5.0	6.5-9.0	33	93
0206	Red River Above Pease River	PCR1	H			12,000	4,000	25,000	5.0	6.5-9.0	33	93
0207	Lower Prairie Dog Town Fork Red River	PCR1	H			37,000	5,300	46,200	5.0	6.5-9.0	33	93
0208	Lake Crook	PCR1	H	PS		75	150	350	5.0	6.5-9.0	126	90
0209	Pat Mayse Lake	PCR1	H	PS		100	175	350	5.0	6.5-9.0	126	90
0210	Farmers Creek Reservoir	PCR1	H	PS		200	60	550	5.0	6.5-9.0	126	93
0211	Little Wichita River	PCR1	H	PS		450	250	500	3.0 [2]	6.5-9.0	126	91
0212	Lake Arrowhead	PCR1	H	PS		250	50	500	5.0	6.5-9.0	126	93
0213	Lake Kickapoo	PCR1	H	PS		100	50	400	5.0	6.5-9.0	126	90
0214	Wichita River Below Diversion Lake	PCR1	H			1,800	800	5,000	5.0	6.5-9.0	126	90
0215	Diversion Lake	PCR1	H			1,800	1,100	5,000	5.0	6.5-9.0	126	90
0216	Wichita River Below Lake Kemp	PCR1	H			1,925	960	5,000	5.0	6.5-9.0	126	90
0217	Lake Kemp [3]	PCR1	H			7,000	2,500	15,000	5.0	6.5-9.0	33	93

Segment No.	Red River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0218	Wichita/North Fork Wichita River [4]	PCR1	H			7,500	2,800	16,250	5.0	6.5-9.0	33	93
0219	Lake Wichita	PCR1	H			1,000	400	1,800	5.0	6.5-9.0	126	90
0220	Upper Pease/North Fork Pease River	PCR1	H			12,000	3,500	30,000	5.0	6.5-9.0	33	91
0221	Middle Fork Pease River	PCR1	H			870	1,400	2,800	5.0	6.5-9.0	126	91
0222	Salt Fork Red River	PCR1	H			400	1,400	3,000	5.0	6.5-9.0	126	93
0223	Greenbelt Lake	PCR1	H	PS		250	200	750	5.0	6.5-9.0	126	93
0224	North Fork Red River	PCR1	H			800	1,200	2,500	5.0	6.5-9.0	126	91
0225	McKinney Bayou	PCR1	L	PS		60	90	400	3.0	6.0-8.5	126	93
0226	South Fork Wichita River [3]	PCR1	H			12,000	3,650	31,000	5.0	6.5-9.0	33	93
0227	South Fork Pease River	PCR1	H			270	200	1,000	5.0	6.5-9.0	126	91
0228	Mackenzie Reservoir	PCR1	H	PS		50	200	500	5.0	6.5-9.0	126	90
0229	Upper Prairie Dog Town Fork Red River	PCR1	H			350	675	2,000	5.0	6.5-9.0	126	93
0230	Pease River	PCR1	I			12,000	3,500	30,000	4.0	6.5-9.0	33	91

1 The indicator bacteria for freshwater is *E. coli*. The indicator bacteria for Segments 0204, 0205, 0206, 0207, 0217, 0218, 0220, 0226, and 0230 is Enterococci.
2 The 24-hour minimum dissolved oxygen criterion in Segment 0211 is 2.0 mg/L.
3 It is anticipated that inorganic chemical quality in Segment 0217 and 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 Designated Uses and Numeric Criteria

Segment No.	Sulphur River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0301	Sulphur River Below Wright Patman Lake	PCR1	H			120	100	500	5.0	6.0-8.5	126	90
0302	Wright Patman Lake	PCR1	H	PS		75	75	400	5.0	6.5-9.5	126	90
0303	Sulphur/South Sulphur River	PCR1	H			80	180	600	5.0	6.0-8.5	126	93
0304	Days Creek	PCR1	I			525	75	850	4.0	6.0-8.5	126	90
0305	North Sulphur River [2,3]	PCR1	I[2]			190	475	1,320	5.0	6.0-8.5	126	93
0306	Upper South Sulphur River	PCR1	I			80	180	600	4.0	6.5-9.0	126	93
0307	Jim L. Chapman Lake	PCR1	H	PS		50	50	225	5.0	6.5-9.0	126	93

1 The indicator bacteria for freshwater is *E. coli*.
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.
3 Segment 0305 is an intermittent stream with perennial pools.

Cypress Creek Basin Designated Uses and Numeric Criteria

Segment No.	Cypress Creek Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0401	Caddo Lake	PCR1	H	PS		50	50	200	5.0	5.5-9.0	126	90
0402	Big Cypress Creek Below Lake O' the Pines	PCR1	H	PS		100	50	300	5.0	5.5-8.0	126	93
0403	Lake O' the Pines	PCR1	H	PS		80	50	300	5.0	6.0-8.5	126	93
0404	Big Cypress Creek Below Lake Bob Sandlin	PCR1	I			100	100	500	4.0	6.0-8.5	126	90
0405	Lake Cypress Springs	PCR1	H	PS		100	100	500	5.0	6.0-8.5	126	93
0406	Black Bayou [2]	PCR1	H	PS		80	50	300	≤5.0[3]	5.5-8.0	126	90
0407	James' Bayou[2]	PCR1	H	PS		100	50	300	≤5.0[3]	5.5-8.0	126	90
0408	Lake Bob Sandlin	PCR1	H	PS		50	65	150	5.0	6.5-9.0	126	90
0409	Little Cypress Bayou (Creek)	PCR1	H	PS		100	50	300	≤5.0[3]	5.5-8.5	126	90
0410	Black Cypress Bayou (Creek)	PCR1	H			50	50	200	≤5.0[3]	5.5-8.0	126	90

1 The indicator bacteria for freshwater is *E. coli*.
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. When the 24-hour average dissolved oxygen is predicted to be lower than 1.5 mg/L, then the dissolved oxygen criterion is set at 1.5 mg/L. When the 24-hour dissolved oxygen criterion is greater than 2.0 mg/L, the corresponding 24-hour minimum dissolved oxygen criterion should be 1.0 mg/L less than the calculated 24-hour average. When the 24-hour

dissolved oxygen criterion is less than or equal to 2.0 mg/L, the corresponding 24-hour minimum dissolved oxygen criterion should be 0.5 mg/L less than the calculated 24-hour average criterion.

When 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.

$DO = 12.11 - 0.309T + 1.05 \log Q - 1.02 \log WS$ where DO = 24-hour average dissolved oxygen criterion

T = temperature in degrees Celsius

Q = flow in cfs

WS = watershed size in square km (up to 1000 km)

Sabine River Basin Designated Uses and Numeric Criteria

Segment No.	Sabine River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0501	Sabine River Tidal	PCR1	H						4.0	6.0-8.5	35	95
0502	Sabine River Above Tidal	PCR1	H	PS		50	50	200	5.0	6.0-8.5	126	91
0503	Sabine River Above Caney Creek	PCR1	H	PS		50	50	200	5.0	6.0-8.5	126	91
0504	Toledo Bend Reservoir	PCR1	H	PS		70	50	240	5.0	6.0-8.5	126	93
0505	Sabine River Above Toledo Bend Reservoir	PCR1	H	PS		175	100	400	5.0	6.0-8.5	126	93
0506	Sabine River Below Lake Tawakoni	PCR1	H	PS		200	100	500	5.0	6.0-8.5	126	90
0507	Lake Tawakoni	PCR1	H	PS		75[2]	75[2]	400[2]	5.0	6.0-9.0	126	93
0508	Adams Bayou Tidal	PCR1	H						4.0	6.0-8.5	35	95
0509	Murvaul Lake	PCR1	H	PS		150	75	500	5.0	6.5-9.0	126	92
0510	Lake Cherokee	PCR1	H	PS		75	50	250	5.0	6.0-8.5	126	95
0511	Cow Bayou Tidal	PCR1	H						4.0	6.0-8.5	35	95
0512	Lake Fork Reservoir	PCR1	H	PS		50	50	200	5.0	6.5-9.0	126	95
0513	Big Cow Creek	PCR1	H	PS		75	50	300	5.0	5.5-8.5	126	90
0514	Big Sandy Creek	PCR1	H	PS		75	50	300	5.0	6.0-8.5	126	90
0515	Lake Fork Creek	PCR1	H	PS		100	75	400	5.0	6.0-8.5	126	90

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

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 $SO4^{-2}$ of 50) may be appropriate if the water reuse project is not pursued.

Neches River Basin Designated Uses and Numeric Criteria

Segment No.	Neches River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0601	Neches River Tidal	PCR1	I						3.0	6.0-8.5	35	95
0602	Neches River Below B. A. Steinhagen Lake	PCR1	H	PS		50	50	200	5.0	6.0-8.5	126	91
0603	B. A. Steinhagen Lake	PCR1	H	PS		50	50	200	5.0	6.0-8.5	126	93
0604	Neches River Below Lake Palestine	PCR1	H	PS		50	50	200	5.0	6.0-8.5	126	91
0605	Lake Palestine	PCR1	H	PS		50	50	200	5.0	6.5-9.0	126	90
0606	Neches River Above Lake Palestine	PCR1	I	PS		100	50	300	4.0	6.0-8.5	126	95
0607	Pine Island Bayou	PCR1	H	PS		150	50	300	3.0	6.0-8.5	126	95
0608	Village Creek	PCR1	H	PS		150	75	300	5.0	5.5-8.0	126	90
0609	Angelina River Below Sam Rayburn Reservoir	PCR1	H	PS		70	50	250	5.0	6.0-8.5	126	90
0610	Sam Rayburn Reservoir	PCR1	H	PS		100	100	400	5.0	6.0-8.5	126	93
0611	Angelina River Above Sam Rayburn Reservoir	PCR1	H	PS		125	50	250	5.0	6.0-8.5	126	90
0612	Attoyac Bayou	PCR1	H	PS		75	50	200	5.0	6.0-8.5	126	90
0613	Lake Tyler/Lake Tyler East	PCR1	H	PS		50	50	200	5.0	6.5-9.0	126	93
0614	Lake Jacksonville	PCR1	H	PS		50	75	750	5.0	6.5-9.0	126	93

Segment No.	Neches River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0615	Angelina River/Sam Rayburn Reservoir	PCR1	H	PS		150	100	500	5.0	6.5-9.0	126	93

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

Neches-Trinity River Basin Designated Uses and Numeric Criteria

Segment No.	Neches-Trinity River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0701	Taylor Bayou Above Tidal	PCR1	I			400	100	1,100	4.0	6.5-9.0	126	95
0702	Intracoastal Waterway Tidal	PCR1	H						4.0	6.5-9.0	35	95
0703	Sabine-Neches Canal Tidal	PCR1	H						4.0	6.5-9.0	35	95
0704	Hillebrandt Bayou	PCR1	I			250	100	600	4.0[2]	6.5-9.0	126	95

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci.
2 A 24-hour minimum dissolved oxygen criterion of 2.5 mg/L applies to Segment 0704.

Trinity River Basin Designated Uses and Numeric Criteria

Segment No.	Trinity River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0801	Trinity River Tidal	PCR1	H						4.0	6.5-9.0	35	95
0802	Trinity River Below Lake Livingston	PCR1	H	PS		125	100	600	5.0	6.5-9.0	126	93
0803	Lake Livingston	PCR1	H	PS		150	60	500	5.0	6.5-9.0	126	93
0804	Trinity River Above Lake Livingston	PCR1	H			150	150	600	5.0	6.5-9.0	126	93
0805	Upper Trinity River	PCR1	H			175	175	850	5.0[2]	6.5-9.0	126	95
0806	West Fork Trinity River Below Lake Worth	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
0807	Lake Worth	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	91
0808	West Fork Trinity River Below Eagle Mountain Reservoir	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	91
0809	Eagle Mountain Reservoir	PCR1	H	PS		75	75	300	5.0	6.5-9.0	126	94
0810	West Fork Trinity River Below Bridgeport Reservoir	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	90
0811	Bridgeport Reservoir	PCR1	H	PS		75	75	300	5.0	6.5-9.0	126	90
0812	West Fork Trinity River Above Bridgeport Reservoir[3]	PCR1	I	PS		190	200	800	3.0[4]	6.5-9.0	126	88
0813	Houston County Lake	PCR1	H	PS		75	75	300	5.0	6.5-9.0	126	93

Segment No.	Trinity River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0814	Chambers Creek Above Richland-Chambers Reservoir	PCR1	H	PS		90	160	500	5.0	6.5-9.0	126	90
0815	Bardwell Reservoir	PCR1	H	PS		50	50	300	5.0	6.5-9.0	126	91
0816	Lake Waxahachie	PCR1	H	PS		50	50	300	5.0	6.5-9.0	126	91
0817	Navarro Mills Lake	PCR1	H	PS		50	75	300	5.0	6.5-9.0	126	90
0818	Cedar Creek Reservoir	PCR1	H	PS		50	100	200	5.0	6.5-9.0	126	93
0819	East Fork Trinity River	PCR1	I			100	100	500	4.0	6.5-9.0	126	91
0820	Lake Ray Hubbard	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
0821	Lavon Lake	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
0822	Elm Fork Trinity River Below Lewisville Lake	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	90
0823	Lewisville Lake	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	90
0824	Elm Fork Trinity River Above Ray Roberts Lake	PCR1	H	PS[5]		110	90	700	5.0	6.5-9.0	126	90
0825	Denton Creek	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	90
0826	Grapevine Lake	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	93
0827	White Rock Lake	PCR1	H			100	100	400	5.0	6.5-9.0	126	93
0828	Lake Arlington	PCR1	H	PS		100	100	300	5.0	6.5-9.0	126	95

Segment No.	Trinity River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0829	Clear Fork Trinity River Below Benbrook Lake	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
0830	Benbrook Lake	PCR1	H	PS		75	75	300	5.0	6.5-9.0	126	93
0831	Clear Fork Trinity River Below Lake Weatherford	PCR1	H	PS		100	100	500	5.0[6]	6.5-9.0	126	90
0832	Lake Weatherford	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
0833	Clear Fork Trinity River Above Lake Weatherford[7]	PCR1	I	PS		125	125	750	4.0[8]	6.5-9.0	126	95
0834	Lake Amon G. Carter	PCR1	H	PS		150	150	400	5.0	6.5-9.0	126	93
0835	Richland Creek Below Richland-Chambers Reservoir	PCR1	H	PS		145	170	500	5.0	6.5-9.0	126	90
0836	Richland-Chambers Reservoir	PCR1	H	PS		75	110	400	5.0	6.5-9.0	126	91
0837	Richland Creek Above Richland-Chambers Reservoir	PCR1	H	PS		145	170	500	5.0	6.5-9.0	126	90
0838	Joe Pool Lake	PCR1	H	PS		100	250	500	5.0	6.5-9.0	126	90
0839	Elm Fork Trinity River Below Ray Roberts Lake	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	90
0840	Ray Roberts Lake	PCR1	H	PS		80	60	500	5.0	6.5-9.0	126	90

Segment No.	Trinity River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0841	Lower West Fork Trinity River	PCR1	I			175	175	850	4.0[9]	6.5-9.0	126	95

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci.
2 The dissolved oxygen criterion in Segment 0805 is 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 cfs.
3 Segment 0812 is an intermittent stream with perennial pools.
4 The 24-hour minimum dissolved oxygen criterion in Segment 0812 is 2.0 mg/L.
5 The public water supply use for Segment 0824 does not apply from a point 9.5 km (5.9 mi) downstream of the confluence of Pecan Creek in Cooke County up to FM 373 in Cooke County.
6 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 mi downstream of Weatherford Dam upstream to Weatherford Dam.
7 Segment 0833 is an intermittent stream with perennial pools.
8 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 a 24-hour minimum dissolved oxygen criterion of 1.0 mg/L applies when flows are less than 1.0 cfs.
9 The dissolved oxygen criterion in Segment 0841 is 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 cfs.

Trinity-San Jacinto Coastal Basin Designated Uses and Numeric Criteria

Segment No.	Trinity-San Jacinto Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
0901	Cedar Bayou Tidal	PCR1	H						4.0	6.5-9.0	35	95
0902	Cedar Bayou Above Tidal	PCR1	H	PS		200	150	700	5.0	6.5-9.0	126	90

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

San Jacinto River Basin Designated Uses and Numeric Criteria

Segment No.	San Jacinto River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1001	San Jacinto River Tidal	PCR1	H						4.0	6.5-9.0	35	95
1002	Lake Houston	PCR1	H	PS		100	50	400	5.0	6.5-9.0	126	90
1003	East Fork San Jacinto River	PCR1	H	PS		80	50	400	5.0	6.0-8.5	126	91
1004	West Fork San Jacinto River	PCR1	H	PS		100	50	400	5.0	6.5-9.0	126	95
1005	Houston Ship Channel/San Jacinto River Tidal	NCR	H						4.0	6.5-9.0	35	95
1006[2]	Houston Ship Channel Tidal				N/IS				2.0	6.5-9.0	168	95
1007[2]	Houston Ship Channel/Buffalo Bayou Tidal				N/IS				1.0	6.5-9.0	168	95
1008	Spring Creek	PCR1	H	PS		100	50	450	5.0	6.5-9.0	126	90
1009	Cypress Creek	PCR1	H	PS		100	50	600	5.0	6.5-9.0	126	90
1010	Caney Creek	PCR1	H	PS		50	50	300	5.0	6.0-8.5	126	90
1011	Peach Creek	PCR1	H	PS		50	50	300	5.0	6.0-8.5	126	90
1012	Lake Conroe	PCR1	H	PS		50	50	300	5.0	6.5-9.0	126	90
1013	Buffalo Bayou Tidal	PCR1	I						3.0	6.5-9.0	35	92
1014	Buffalo Bayou Above Tidal	PCR1	L			110	65	600	3.0	6.5-9.0	126	92
1015	Lake Creek	PCR1	H	PS		80	50	300	5.0	6.0-8.5	126	90

Segment No.	San Jacinto River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1016	Greens Bayou Above Tidal	PCR1	L			150	150	1,000	3.0	6.5-9.0	126	92
1017	Whiteoak Bayou Above Tidal	PCR1	L			110	65	600	3.0	6.5-9.0	126	92

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci.
2 Chronic Numerical toxic criteria and chronic total toxicity requirements apply to Segments 1006 and 1007.

San Jacinto –Brazos Coastal Basin Designated Uses and Numeric Criteria

Segment No.	San Jacinto-Brazos Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1101	Clear Creek Tidal	PCR1	H						4.0	6.5-9.0	35	95
1102	Clear Creek Above Tidal	PCR1	H			200	100	600	5.0	6.5-9.0	126	95
1103	Dickinson Bayou Tidal	PCR1	H						4.0	6.5-9.0	35	95
1104	Dickinson Bayou Above Tidal	PCR1	I			200	100	600	4.0	6.5-9.0	126	90
1105	Bastrop Bayou Tidal	PCR1	H						4.0	6.5-9.0	35	95
1107	Chocolate Bayou Tidal	PCR1	H						4.0	6.5-9.0	35	95
1108	Chocolate Bayou Above Tidal	PCR1	H			200	100	900	5.0	6.5-9.0	126	90
1109	Oyster Creek Tidal	PCR1	H						4.0	6.5-9.0	35	95
1110	Oyster Creek Above Tidal	PCR1	H			300	150	750	5.0	6.5-9.0	126	90
1111	Old Brazos River Channel Tidal	PCR1	H						4.0	6.5-9.0	35	95
1113	Armand Bayou Tidal	PCR1	H						4.0	6.5-9.0	35	95

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

Brazos River Basin Designated Uses and Numeric Criteria

Segment No.	Brazos River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1201	Brazos River Tidal	PCR1	H	PS[2]					4.0	6.5-9.0	35	95
1202	Brazos River Below Navasota River	PCR1	H	PS		300	200	750	5.0	6.5-9.0	126	95
1203	Whitney Lake	PCR1	H	PS		670	320	1,500	5.0	6.5-9.0	126	93
1204	Brazos River Below Lake Granbury	PCR1	H			750	380	1,600	5.0	6.5-9.0	126	91
1205	Lake Granbury	PCR1	H	PS		1,000	600	2,500	5.0	6.5-9.0	126	93
1206	Brazos River Below Possum Kingdom Lake	PCR1	H			1,036	595	2,325	5.0	6.5-9.0	126	90
1207	Possum Kingdom Lake	PCR1	H	PS		1,200	500	3,500	5.0	6.5-9.0	126	93
1208	Brazos River Above Possum Kingdom Lake	PCR1	H			5,000	2,000	12,000	5.0	6.5-9.0	33	95
1209	Navasota River Below Lake Limestone	PCR1	H	PS		140	100	600	5.0	6.5-9.0	126	93
1210	Lake Mexia	PCR1	H	PS		100	50	400	5.0	6.5-9.0	126	90
1211	Yegua Creek	PCR1	H	PS		140	130	640	5.0	6.5-9.0	126	91
1212	Somerville Lake	PCR1	H	PS		100	100	400	5.0	6.5-9.0	126	93
1213	Little River	PCR1	H	PS		75	75	400	5.0	6.5-9.0	126	90
1214	San Gabriel River	PCR1	H	PS		50	45	550	5.0	6.5-9.0	126	91
1215	Lampasas River Below Stillhouse	PCR1	H	PS		100	75	500	5.0	6.5-9.0	126	91

Segment No.	Brazos River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
	Hollow Lake											
1216	Stillhouse Hollow Lake	PCR1	E	PS		100	75	500	6.0	6.5-9.0	126	93
1217	Lampasas River Above Stillhouse Hollow Lake	PCR1	H			500	100	1,200	5.0	6.5-9.0	126	91
1218	Nolan Creek/South Nolan Creek	PCR1	H			100	75	500	5.0	6.5-9.0	126	93
1219	Leon River Below Belton Lake	PCR1	H	PS		150	75	500	5.0	6.5-9.0	126	91
1220	Belton Lake	PCR1	H	PS		100	75	500	5.0	6.5-9.0	126	93
1221	Leon River Below Proctor Lake	PCR1	H	PS		150	100	900	5.0	6.5-9.0	126	90
1222	Proctor Lake	PCR1	H	PS		200	75	500	5.0	6.5-9.0	126	93
1223	Leon River Below Leon Reservoir	PCR1	H	PS		480	130	1,240	5.0	6.5-9.0	126	93
1224	Leon Reservoir	PCR1	H	PS		150	75	500	5.0	6.5-9.0	126	93
1225	Waco Lake	PCR1	H	PS		60	60	400	5.0	6.5-9.0	126	93
1226	North Bosque River	PCR1	H	PS		100	100	540	5.0	6.5-9.0	126	91
1227	Nolan River	PCR1	I			372	320	1,383	4.0	6.5-9.0	126	95
1228	Lake Pat Cleburne	PCR1	H	PS		100	100	300	5.0	6.5-9.0	126	93
1229	Paluxy River/North Paluxy River	PCR1	H	PS		50	100	500	5.0	6.5-9.0	126	91
1230	Lake Palo Pinto	PCR1	H	PS		100	100	450	5.0	6.5-9.0	126	93
1231	Lake Graham	PCR1	H	PS		200	75	500	5.0	6.5-9.0	126	95

Segment No.	Brazos River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1232	Clear Fork Brazos River	PCR1	H			1,250	2,200	4,900	5.0	6.5-9.0	126	93
1233	Hubbard Creek Reservoir	PCR1	H	PS		350	150	900	5.0	6.5-9.0	126	93
1234	Lake Cisco	PCR1	H	PS		75	75	350	5.0	6.5-9.0	126	93
1235	Lake Stamford	PCR1	H	PS		580	400	2,100	5.0	6.5-9.0	126	93
1236	Fort Phantom Hill Reservoir	PCR1	H	PS		130	150	550	5.0	6.5-9.0	126	93
1237	Lake Sweetwater	PCR1	H	PS		250	225	730	5.0	6.5-9.0	126	93
1238	Salt Fork Brazos River	PCR1	H			28,060	3,470	54,350	5.0	6.5-9.0	33	93
1239	White River	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	92
1240	White River Lake	PCR1	H	PS		190	90	780	5.0	6.5-9.0	126	89
1241	Double Mountain Fork Brazos River	PCR1	H			2,630	2,400	5,500	5.0	6.5-9.0	33	95
1242	Brazos River Above Navasota River	PCR1	H	PS		350	200	1,000	5.0	6.5-9.0	126	95
1243	Salado Creek[3]	PCR1	H	PS/AP[4]		50	50	400	5.0	6.5-9.0	126	90
1244	Brushy Creek	PCR1	H	PS/AP[4]		200	150	800	5.0	6.5-9.0	126	91
1245	Upper Oyster Creek	PCR1	I	PS[5]		140	75	1,070	4.0[6]	6.5-9.0	126	95
1246	Middle Bosque/South Bosque River	PCR1	H			50	260	700	5.0	6.5-9.0	126	91
1247	Granger Lake	PCR1	H	PS		50	50	400	5.0	6.5-9.0	126	90
1248	San Gabriel/North Fork San Gabriel River	PCR1	H	PS/AP[4]		50	50	400	5.0	6.5-9.0	126	95

Segment No.	Brazos River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1249	Lake Georgetown	PCR1	H	PS/AP[4]		50	50	350	5.0	6.5-9.0	126	90
1250	South Fork San Gabriel River	PCR1	H	PS/AP[4]		50	50	350	5.0	6.5-9.0	126	95
1251	North Fork San Gabriel River	PCR1	H	PS/AP[4]		50	50	400	5.0	6.5-9.0	126	91
1252	Lake Limestone	PCR1	H	PS		50	50	300	5.0	6.5-9.0	126	90
1253	Navasota River Below Lake Mexia	PCR1	H	PS		440	150	1,350	5.0	6.5-9.0	126	93
1254	Aquilla Reservoir	PCR1	H	PS		110	310	600	5.0	6.5-9.0	126	90
1255	Upper North Bosque River	PCR1	I			200	150	1,000	4.0	6.5-9.0	126	91
1256	Brazos River/Lake Brazos	PCR1	H	PS		400	200	1,150	5.0	6.5-9.0	126	95
1257	Brazos River Below Whitney Lake	PCR1	H	PS		450	250	1,450	5.0	6.5-9.0	126	95
1258	Middle Oyster Creek	PCR1	H			300	150	750	5.0	6.5-9.0	126	95
1259	Leon River Above Belton Lake	PCR1	H	PS		150	100	900	5.0	6.5-9.0	126	90

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci. The indicator bacteria for Segments 1208, 1238, and 1241 is Enterococci.
2 The public water 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 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 Designated Uses and Numeric Criteria

Segment No.	Brazos-Colorado Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1301	San Bernard River Tidal	PCR1	H						4.0	6.5-9.0	35	95
1302	San Bernard River Above Tidal	PCR1	H	PS		200	100	500	5.0	6.5-9.0	126	90
1304	Caney Creek Tidal	PCR1	H						4.0	6.5-9.0	35	95
1305	Caney Creek Above Tidal	PCR1	H			200	75	1,000	5.0[2]	6.5-9.0	126	90

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

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 2.5 mg/L and a 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 31 when flows are less than 5.0 cfs.

Colorado River Basin Designated Uses and Numeric Criteria

Segment No.	Colorado River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1401	Colorado River Tidal	PCR1	H						4.0	6.5-9.0	35	95
1402	Colorado River Below La Grange	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	95
1403	Lake Austin	PCR1	H	PS		100	75	400	5.0	6.5-9.0	126	90
1404	Lake Travis	PCR1	E	PS		100	75	400	6.0	6.5-9.0	126	90
1405	Marble Falls Lake	PCR1	H	PS		125	75	500	5.0	6.5-9.0	126	94
1406	Lake Lyndon B. Johnson	PCR1	H	PS		125	75	500	5.0	6.5-9.0	126	94
1407	Inks Lake	PCR1	H	PS		150	100	600	5.0	6.5-9.0	126	90
1408	Lake Buchanan	PCR1	H	PS		150	100	600	5.0	6.5-9.0	126	90
1409	Colorado River Above Lake Buchanan	PCR1	H	PS		200	200	900	5.0	6.5-9.0	126	91
1410	Colorado River Below O. H. Ivie Reservoir	PCR1	H	PS		500	455	1,475	5.0	6.5-9.0	126	91
1411	E. V. Spence Reservoir	PCR1	H	PS		440	360	1,630	5.0	6.5-9.0	126	93
1412	Colorado River Below Lake J. B. Thomas	PCR1	H			4,740	1,570	9,210	5.0	6.5-9.0	33	93
1413	Lake J. B. Thomas	PCR1	H	PS		140	250	520	5.0	6.5-9.0	126	90
1414	Pedernales River	PCR1	H	PS		125	75	525	5.0	6.5-9.0	126	91
1415	Llano River[2]	PCR1	H	PS		50	50	350	5.0	6.5-9.0	126	91

Segment No.	Colorado River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1416	San Saba River	PCR1	H	PS		50	50	425	5.0	6.5-9.0	126	90
1417	Lower Pecan Bayou	PCR1	H			310	120	1,025	5.0	6.5-9.0	126	90
1418	Lake Brownwood	PCR1	H	PS		150	100	500	5.0	6.5-9.0	126	90
1419	Lake Coleman	PCR1	H	PS		150	100	500	5.0	6.5-9.0	126	93
1420	Pecan Bayou Above Lake Brownwood	PCR1	H	PS		500	500	1,500	5.0	6.5-9.0	126	90
1421	Concho River	PCR1	H	PS		610	420	1,730	5.0	6.5-9.0	126	90
1422	Lake Nasworthy	PCR1	H	PS		450	400	1,500	5.0	6.5-9.0	126	93
1423	Twin Buttes Reservoir	PCR1	H	PS		200	100	700	5.0	6.5-9.0	126	90
1424	Middle Concho/South Concho River[3]	PCR1	H	PS		150	150	700	5.0	6.5-9.0	126	90
1425	O. C. Fisher Lake	PCR1	H	PS		150	150	700	5.0	6.5-9.0	126	90
1426	Colorado River Below E.V. Spence Reservoir	PCR1	H	PS		1,000	1,100	1,770	5.0	6.5-9.0	126	91
1427	Onion Creek	PCR1	H	PS/AP[4]		100[5]	100[5]	500[5]	5.0	6.5-9.0	126	90
1428	Colorado River Below Lady Bird Lake/Town Lake	PCR1	E	PS		100	100	500	6.0[6]	6.5-9.0	126	95
1429	Lady Bird Lake/Town Lake[7]	PCR1	H	PS		75	75	400	5.0	6.5-9.0	126	90
1430	Barton Creek[8]	PCR1	H	AP[4]		50	50	500	5.0	6.5-9.0	126	90
1431	Mid Pecan Bayou	PCR1				410	120	1,100	2.0	6.5-9.0	126	90

Segment No.	Colorado River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1432	Upper Pecan Bayou	PCR1	H	PS		200	150	800	5.0	6.5-9.0	126	90
1433	O. H. Ivie Reservoir	PCR1	H	PS		430	330	1,520	5.0	6.5-9.0	126	93
1434	Colorado River Above La Grange	PCR1	E	PS		100	100	500	6.0	6.5-9.0	126	95

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci. The indicator bacteria for Segment 1412 is Enterococci.

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

5 The aquifer protection reach of Segment 1427 is assigned the following criteria: 50 mg/L for Cl^{-1}, 50 mg/L for $SO4^{-2}$, 400 mg/L for TDS.

6 Dissolved oxygen criterion of 6.0 mg/L only applies at stream flows greater than or equal to 150 cfs as measured at USGS Gauging Station 08158000 located in Travis County upstream from US Highway 183. A dissolved oxygen criterion of 5.0 mg/L applies to stream flows less than 150 cfs and greater than or equal to the 7Q2 for the segment.

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

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

Colorado-Lavaca Coastal Basin Designated Uses and Numeric Criteria

Segment No.	Colorado-Lavaca Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1501	Tres Palacios Creek Tidal	PCR1	E						5.0	6.5-9.0	35	95
1502	Tres Palacios Creek Above Tidal	PCR1	H			250	100	800	5.0	6.5-9.0	126	90

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

Lavaca River Basin Designated Uses and Numeric Criteria

Segment No.	Lavaca River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1601	Lavaca River Tidal	PCR1	H						4.0	6.5-9.0	35	95
1602	Lavaca River Above Tidal	PCR1	H	PS		200	100	700	5.0	6.5-9.0	126	91
1603	Navidad River Tidal	PCR1	H						4.0	6.5-9.0	35	91
1604	Lake Texana	PCR1	H	PS		100	50	500	5.0	6.5-9.0	126	93
1605	Navidad River Above Lake Texana	PCR1	H	PS		100	50	550	5.0	6.5-9.0	126	91

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

Lavaca-Guadalupe Coastal Basin Designated Uses and Numeric Criteria

Segment No.	Lavaca-Guadalupe Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1701	Victoria Barge Canal Tidal	NCR	H						4.0	6.5-9.0	35	95

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

Guadalupe River Basin Designated Uses and Numeric Criteria

Segment No.	Guadalupe River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1801	Guadalupe River Tidal	PCR1	E						5.0	6.5-9.0	35	95
1802	Guadalupe River Below San Antonio River	PCR1	H	PS		150	100	700	5.0	6.5-9.0	126	93
1803	Guadalupe River Below San Marcos River	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	93
1804	Guadalupe River Below Comal River	PCR1	H	PS/AP[2]		100	50	400	5.0	6.5-9.0	126	90
1805	Canyon Lake	PCR1	E	PS/AP[2]		50	50	400	6.0	6.5-9.0	126	90
1806	Guadalupe River Above Canyon Lake	PCR1	E	PS/AP[2]		50	50	400	6.0	6.5-9.0	126	90
1807	Coleto Creek	PCR1	H	PS		250	100	500	5.0	6.5-9.0	126	93
1808	Lower San Marcos River[3]	PCR1	H	PS		60	50	400	5.0	6.5-9.0	126	90
1809	Lower Blanco River	PCR1	H	PS/AP[2]		50	50	400	5.0	6.5-9.0	126	92
1810	Plum Creek	PCR1	H	AP[2]		350	150	1,120	5.0	6.5-9.0	126	90
1811	Comal River[4]	PCR1	H	PS/AP[2]		50	50	400	5.0	6.5-9.0	126	80[5]
1812	Guadalupe River Below Canyon Dam	PCR1	E	PS/AP[2]		50	50	400	6.0	6.5-9.0	126	90
1813	Upper Blanco River[3]	PCR1	E	PS/AP[2]		50	50	400	6.0	6.5-9.0	126	92
1814	Upper San Marcos River[4]	PCR1	E	AP[2]		50	50	400	6.0	6.5-9.0	126	80[6]
1815	Cypress Creek	PCR1	E	PS/AP[2]		50	50	400	6.0	6.5-9.0	126	86

Segment No.	Guadalupe River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1816	Johnson Creek	PCR1	E	PS		50	50	400	6.0	6.5-9.0	126	86
1817	North Fork Guadalupe River[3]	PCR1	E	PS		50	50	400	6.0	6.5-9.0	126	86
1818	South Fork Guadalupe River	PCR1	E	PS		50	50	400	6.0	6.5-9.0	126	86

1 The indicator bacteria for freshwater is *E. coli* and for saltwater is Enterococci.
2 The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer.
3 The critical low-flow for Segments 1808, 1813, and 1817 is calculated according to §307.8(a)(2)(B) of this title.
4 The critical low-flow for Segments 1811 and 1814 is calculated according to §307.8(a)(2)(A) of this title.
5 Segment 1811 is assigned a temperature criterion of 78°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 Blieders Creek arm of Landa Lake upstream of the springs in the upper spring run reach).
6 Segment 1814 is assigned a temperature criterion of 78°F from the confluence with Sessom's Creek approximately 1.5 km (0.9 mi) upstream of Rio Vista Dam upstream to a point 0.7 km (0.4 mi) upstream of Loop 82 in San Marcos in Hays County (excludes the slough arm of Spring Lake).

San Antonio River Basin Designated Uses and Numeric Criteria

Segment No.	San Antonio River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
1901	Lower San Antonio River	PCR1	H			180	140	750	5.0	6.5-9.0	126	90
1902	Lower Cibolo Creek	PCR1	H			170	275	900	5.0	6.5-9.0	126	90
1903	Medina River Below Medina Diversion Lake	PCR1	H	PS[2]/AP[3]		120	120	700	5.0	6.5-9.0	126	90
1904	Medina Lake	PCR1	H	PS/AP[3]		80	75	350	5.0	6.5-9.0	126	88
1905	Medina River Above Medina Lake[4]	PCR1	E	PS		50	150	400	6.0	6.5-9.0	126	88
1906	Lower Leon Creek	PCR1	H	PS[5]		120	120	700	5.0	6.5-9.0	126	95
1907	Upper Leon Creek	PCR1	H	PS/AP[3]		55	240	550	5.0	6.5-9.0	126	95
1908	Upper Cibolo Creek	PCR1	H	PS/AP[3]		50	100	600	5.0	6.5-9.0	126	90
1909	Medina Diversion Lake	PCR1	H	PS/AP[3]		50	75	400	5.0	6.5-9.0	126	90
1910	Salado Creek	PCR1	H	PS/AP[3]		140	200	600	5.0	6.5-9.0	126	90
1911	Upper San Antonio River	PCR1	H			150	150	750	5.0	6.5-9.0	126	90
1912	Medio Creek	PCR1	I			150	150	750	4.0	6.5-9.0	126	95
1913	Mid Cibolo Creek	PCR1	L			150	150	750	3.0	6.5-9.0	126	90

1 The indicator bacteria for freshwater is *E. coli*.
2 The public water supply designation for Segment 1903 does not apply from the confluence of the San Antonio River in Bexar County upstream to a point 2.5 km (1.5 mi) upstream of the confluence of Leon Creek.
3 The aquifer protection use applies to the contributing, recharge, and transition zones of the Edwards Aquifer.

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

5 The public water supply designation for Segment 1906 does not apply from the confluence of the Medina River in Bexar County to a point 4.8 km (3.0 mi) upstream.

San Antonio-Nueces Coastal Basin Designated Uses and Numeric Criteria

Segment No.	San Antonio-Nueces Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2001	Mission River Tidal	PCR1	H						4.0	6.5-9.0	35	95
2002	Mission River Above Tidal	PCR1	H			850	100	2,000	5.0	6.5-9.0	126	95
2003	Aransas River Tidal	PCR1	H						4.0	6.5-9.0	35	95
2004	Aransas River Above Tidal	PCR1	H			450	100	1,700	5.0	6.5-9.0	126	95

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

Nueces River Basin Designated Uses and Numeric Criteria

Segment No.	Nueces River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2101	Nueces River Tidal	PCR1	H						4.0	6.5-9.0	35	95
2102	Nueces River Below Lake Corpus Christi	PCR1	H	PS		250	250	500	5.0	6.5-9.0	126	91
2103	Lake Corpus Christi	PCR1	H	PS		250	250	750	5.0	6.5-9.0	126	93
2104	Nueces River Above Frio River	PCR1	H	PS		700	300	1,500	5.0	6.5-9.0	126	90
2105	Nueces River Above Holland Dam	PCR1	H	PS		200	200	900	5.0	6.5-9.0	126	90
2106	Nueces/Lower Frio River	PCR1	H	PS		285[2]	145[2]	735[2]	5.0	6.5-9.0	126	90
2107	Lower Atascosa River	PCR1	H	PS		400	300	1,650	4.0	6.5-9.0	126	90
2108	San Miguel Creek	PCR1	H	PS		700	700	2,000	5.0	6.5-9.0	126	95
2109	Leona River[3]	PCR1	H	PS/AP[4]		650	500	2,000	5.0	6.5-9.0	126	90
2110	Lower Sabinal River	PCR1	H	PS		200	100	700	5.0	6.5-9.0	126	90
2111	Upper Sabinal River	PCR1	H	PS/AP[4]		50	75	500	5.0	6.5-9.0	126	90
2112	Upper Nueces River	PCR1	H	PS/AP[4]		50	50	400	5.0	6.5-9.0	126	90
2113	Upper Frio River[3]	PCR1	E	PS/AP[4]		50	50	400	6.0	6.5-9.0	126	90
2114	Hondo Creek	PCR1	H	PS/AP[4]		50	100	400	5.0	6.5-9.0	126	90
2115	Seco Creek	PCR1	H	PS/AP[4]		50	70	400	5.0	6.5-9.0	126	90
2116	Choke Canyon Reservoir	PCR1	H	PS		250	250	720	5.0	6.5-9.0	126	90
2117	Frio River Above Choke Canyon	PCR1	H	PS/AP[4]		620	380	1,700	5.0	6.5-9.0	126	90

Segment No.	Nueces River Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
	Reservoir											
2118	Upper Atascosa River	PCR1	I			350	700	1,550	4.0	6.5-9.0	126	90

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

2 A TDS criterion of 735 mg/L, a Cl^{-1} criterion of 285 mg/L, and a $SO4^{-2}$ criterion of 145 mg/L will apply for the Frio River portion of Segment 2106 from the confluence of the Nueces River upstream to Choke Canyon Dam. A TDS criterion of 950 mg/L, a Cl^{-1} criterion of 350 mg/L, and a $SO4^{-2}$ criterion of 165 mg/L will apply for the Nueces River portion of Segment 2106 from a point 100 meters upstream of US 59 in Live Oak County upstream to the confluence of the Frio River. A site-specific conversion factor of 0.58 was used to calculate the TDS criteria.

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

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

Nueces-Rio Grande Coastal Basin Designated Uses and Numeric Criteria

Segment No.	Nueces-Rio Grande Coastal Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2201	Arroyo Colorado Tidal	PCR1	H						4.0	6.5-9.0	35	95
2202	Arroyo Colorado Above Tidal	PCR1	I			1,200	1,000	4,000	4.0	6.5-9.0	126	95
2203	Petronila Creek Tidal	PCR1	H						4.0	6.5-9.0	35	95
2204	Petronila Creek Above Tidal[2]	PCR1	I			1,500	500	4,000	4.0	6.5-9.0	126	95

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

2 High concentrations of chloride, sulfate, and total dissolved solids in Segment 2204 are due to past brine discharges that 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 Designated Uses and Numeric Criteria

Segment No.	Rio Grande Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2301	Rio Grande Tidal	PCR1	E						5.0	6.5-9.0	35	95
2302	Rio Grande Below Falcon Reservoir	PCR1	H	PS		270	350	880	5.0	6.5-9.0	126	90
2303	International Falcon Reservoir	PCR1	H	PS		200	300	1,000	5.0	6.5-9.0	126	93
2304	Rio Grande Below Amistad Reservoir	PCR1	H	PS		200	300	1,000	5.0	6.5-9.0	126	95
2305	International Amistad Reservoir	PCR1	H	PS		150	270	800	5.0	6.5-9.0	126	88
2306	Rio Grande Above Amistad Reservoir	PCR1	H	PS		200	450	1,400	5.0	6.5-9.0	126	93
2307	Rio Grande Below Riverside Diversion Dam	PCR1	H	PS		300	550	1,500	5.0[2]	6.5-9.0	126	93
2308	Rio Grande Below International Dam	NCR	L			250	450	1,400	3.0	6.5-9.0	605	95
2309	Devils River[3]	PCR1	E	PS		50	50	300	6.0	6.5-9.0	126	90
2310	Lower Pecos River	PCR1	H	PS		1,700	1,000	4,000	5.0	6.5-9.0	126	92
2311	Upper Pecos River	PCR1	L			7,000	3,500	15,000	5.0[4]	6.5-9.0	33	92
2312	Red Bluff Reservoir	PCR1	H			3,200	2,200	9,400	5.0	6.5-9.0	33	90
2313	San Felipe Creek[3]	PCR1	H	PS		50	50	400	5.0	6.5-9.0	126	90
2314	Rio Grande Above International Dam	PCR1	H	PS		340	600	1,800	5.0	6.5-9.0	126	92
2315	Rio Grande Below Rio Conchos	PCR1	H			450	750	2,100	5.0	6.5-9.0	126	93

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

2311 and 2312 is Enterococci.

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 3.0 mg/L when headwater flow over the Riverside Diversion Dam is less than 35 cfs.

3 The critical low-flow for Segments 2309 and 2313 is calculated in accordance with §307.8(a)(2)(A) of this title.

4 A 24-hour minimum dissolved oxygen criterion of 1.0 mg/L applies to Segment 2311.

Bays and Estuaries Uses and Numeric Criteria

Segment No.	Bays and Estuaries Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2411	Sabine Pass	PCR1	E/O						5.0	6.5-9.0	35/14	95
2412	Sabine Lake	PCR1	H/O						4.0	6.5-9.0	35/14	95
2421	Upper Galveston Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2422	Trinity Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2423	East Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2424	West Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2425	Clear Lake	PCR1	H						4.0	6.5-9.0	35	95
2426	Tabbs Bay	PCR1	H						4.0	6.5-9.0	35	95
2427	San Jacinto Bay	PCR1	H						4.0	6.5-9.0	35	95
2428	Black Duck Bay	PCR1	H						4.0	6.5-9.0	35	95
2429	Scott Bay	PCR1	H						4.0	6.5-9.0	35	95
2430	Burnet Bay	PCR1	H						4.0	6.5-9.0	35	95
2431	Moses Lake	PCR1	H						4.0	6.5-9.0	35	95
2432	Chocolate Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2433	Bastrop Bay/Oyster Lake	PCR1	H/O						4.0	6.5-9.0	35/14	95
2434	Christmas Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2435	Drum Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95

Segment No.	Bays and Estuaries Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2436	Barbours Cut	PCR1	H						4.0	6.5-9.0	35	95
2437	Texas City Ship Channel	NCR	H						4.0	6.5-9.0	35	95
2438	Bayport Channel	NCR	H						4.0	6.5-9.0	35	95
2439	Lower Galveston Bay	PCR1	H/O						4.0	6.5-9.0	35/14	95
2441	East Matagorda Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2442	Cedar Lakes	PCR1	H/O						4.0	6.5-9.0	35/14	95
2451	Matagorda Bay/Powderhorn Lake	PCR1	E/O						5.0	6.5-9.0	35/14	95
2452	Tres Palacios/Turtle Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2453	Lavaca Bay/Chocolate Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2454	Cox Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2455	Keller Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2456	Carancahua Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2461	Espiritu Santo Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2462	San Antonio Bay/Hynes Bay/Guadalupe Bay/Mission Lake	PCR1	E/O						5.0	6.5-9.0	35/14	95
2463	Mesquite Bay/Carlos Bay/Ayres Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2471	Aransas Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2472	Copano Bay/Port Bay/Mission Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95

Segment No.	Bays and Estuaries Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2473	St. Charles Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2481	Corpus Christi Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2482	Nueces Bay[2]	PCR1	E/O						5.0	6.5-9.0	35/14	95
2483	Redfish Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2484	Corpus Christi Inner Harbor	NCR	I						3.0	6.5-9.0	35	95
2485	Oso Bay	PCR1	E/O						4.5[3]	6.5-9.0	35/14	95
2490	Upper Laguna Madre	PCR1	E/O						4.5[3]	6.5-9.0	35/14	95
2491	Lower Laguna Madre	PCR1	E/O						5.0	6.5-9.0	35/14	95
2492	Baffin Bay/Alazan Bay/Cayo del Grullo/Laguna Salada	PCR1	H/O						4.0	6.5-9.0	35/14	95
2493	South Bay	PCR1	E/O						5.0	6.5-9.0	35/14	95
2494	Brownsville Ship Channel	NCR	E						5.0	6.5-9.0	35	95

1 The indicator bacteria for recreational suitability in saltwater is Enterococci. The indicator bacteria for oyster water use is fecal coliform.

2 For assessment purposes only, the acute aquatic life criterion 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 criteria of 3.5 mg/L applies to Segments 2485 and 2490.

Gulf of Mexico Uses and Numeric Criteria

Segment No.	Gulf of Mexico Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl^{-1} (mg/L)	SO_4^{-2} (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria[1] #/100 mL	Temperature (degrees F)
2501	Gulf of Mexico	PCR1	E/O						5.0	6.5-9.0	35/14	95

1 The indicator bacteria for recreational suitability in saltwater is Enterococci. The indicator bacteria for oyster water use is fecal coliform.

(2) Appendix B - Sole-source Surface Drinking Water Supplies:

Figure: 30 TAC §307.10(2)

Appendix B - Sole-source Surface Drinking Water Supplies

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 July 27, 2012. Where a water body has been identified as a sole-source surface drinking water supply but is not included in this appendix yet, the same level of protection may be applied. 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 Name	County	Segment No.
Lake Texoma	Grayson	0203
Farmers Creek Reservoir (Lake Nocona)	Montague	0210
Lake Arrowhead	Clay	0212
Lake Kickapoo	Archer	0213
Greenbelt Lake	Donley	0223
Mackenzie Reservoir	Briscoe	0228
Wright Patman Lake	Cass	0302
Big Creek Lake	Delta	(0303)
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
Sabine River Above Caney Creek	Newton	0503

Water Body Name	County	Segment No.
Toledo Bend Reservoir	Sabine, Shelby	0504
Sabine River Above Toledo Bend Reservoir	Gregg, Harrison, Panola, Rusk	0505
Lake Tawakoni	Hunt, Rains, Van Zandt	0507
Lake Murvaul	Panola	0509
Lake Fork Reservoir	Wood	0512
Big Sandy Creek	Upshur	0514
Lower Neches Valley Authority Canal	Hardin, Jefferson	(0602)
Neches River Below B.A. Steinhagen Lake	Hardin, Jasper, Orange, Tyler	0602
Neches River Below Lake Palestine	Anderson	0604
Lake Palestine	Smith	0605
Trinity River Tidal	Chambers, Liberty	0801
Lake Livingston	Polk, San Jacinto	0803
Trinity River Above Lake Livingston	Anderson, Freestone, Henderson, Houston, Leon, Navarro	0804
Lake Worth	Tarrant	0807

Water Body Name	County	Segment No.
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
Cedar Creek Reservoir	Kaufman, Henderson	0818
Lavon Lake	Collin	0821
Elm Fork Trinity River Below Lewisville Lake	Dallas	0822
Lake Grapevine	Denton, Tarrant	0826
Lake Arlington	Tarrant	0828
Richland-Chambers Reservoir	Navarro	0836
Joe Pool Lake	Dallas	0838
Lake Houston	Harris	1002
Brazos River Below Navasota River	Austin, Brazoria, Fort Bend, Grimes, Waller, Washington	1202
Lake Granbury	Hood	1205

Water Body Name	County	Segment No.
Possum Kingdom Lake	Palo Pinto	1207
Navasota River Below Lake Limestone	Brazos, Grimes, Leon, Madison, Robertson	1209
Lake Mexia	Limestone	1210
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
Lake Graham/Lake Eddleman	Young	1231
Hubbard Creek Reservoir	Stephens	1233
Lake Cisco	Eastland	1234
Lake Stamford	Haskell	1235
White River Lake	Crosby	1240
Granger Lake	Williamson	1247

Water Body Name	County	Segment No.
Lake Georgetown	Williamson	1249
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
Pedernales River	Blanco	1414
South Llano River (part of Llano River)	Kimble	1415
Llano City Lake (part of Llano River)	Llano	1415
Brady Creek Reservoir	McCulloch	(1416)
Lake Brownwood	Brown	1418
Lake Coleman	Coleman	1419
Concho River	Concho, Tom Green	1421

Water Body Name	County	Segment No.
Lake Texana	Jackson	1604
Guadalupe River Below San Antonio River	Calhoun, Refugio	1802
Guadalupe River Below San Marcos River	Calhoun, De Witt, Gonzales, Victoria	1803
Lake Dunlap (part of Guadalupe River Below Comal River)	Comal, Guadalupe	1804
Lake Placid (part of Guadalupe River Below Comal River)	Guadalupe	1804
Lake Wood (part of Guadalupe River Below Comal River)	Guadalupe	1804
Canyon Lake	Comal	1805
Guadalupe River Above Canyon Lake	Comal, Kendall, Kerr	1806
Lower San Marcos River	Caldwell	1808
Guadalupe River Below Canyon Dam	Comal	1812
Upper Blanco River	Blanco, Hays, Kendall	1813

Water Body Name	County	Segment No.
Medina River Below Medina Diversion Lake	Bexar, Medina	1903
Boerne Lake (part of Upper Cibolo Creek)	Kendall	1908
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)

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 published by the 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 km (1.2 mi) 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 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 km (0.9 mi) downstream of the confluence of Cottonwood Creek in Baylor County, up to the normal pool elevation of 1052 feet (impounds Wichita River)

0216 Wichita River Below Lake Kemp - from a point 1.5 km (0.9 mi) 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 km (5.8 mi) 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 km (5.8 mi) downstream of the confluence of Crooked Creek in Baylor County to a point 8.5 km (5.3 mi) 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 km (3.7 mi) 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 km (2.5 mi) 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 km (9.3 mi) 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 km (0.9 mi) downstream of Bassett Creek in Bowie/Cass County, up to the normal pool elevation of 226.4 feet (impounds the Sulphur River)

0303 Sulphur/South Sulphur River - from a point 1.5 km (0.9 mi) 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 km (4.2 mi) upstream of FM 68 in Fannin County

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

0307 Jim L. Chapman Lake (formerly Cooper Lake) - from Jim L. Chapman Dam in Delta/Hopkins County to a point 1.0 km (0.7 mi) 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 km (7.6 mi) 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 km (7.6 mi) 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 km (0.6 mi) 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 km (0.6 mi) 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 km (0.6 mi) 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 km (0.7 mi) 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 km (3.0 mi) 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 km (2.9 mi) 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 km (1.6 mi) 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 km (0.5 mi) downstream of the confluence of Pine Island Bayou, in Orange County

0602 Neches River Below B. A. Steinhagen Lake - from the Neches River Saltwater Barrier, which is at a point 0.8 km (0.5 mi) downstream of the confluence of Pine Island Bayou, 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 km (4.2 mi) 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 km (4.2 mi) downstream of FM 279 in Henderson/Smith County to Rhine 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 the confluence with Willow Creek in Hardin/Jefferson 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 km (3.5 mi) upstream of Marion's Ferry on the Angelina River Arm in Angelina/Nacogdoches County and to a point 3.9 km (2.4 mi) downstream of Curry Creek on the Attoyac Bayou Arm in Nacogdoches/San Augustine County, up to the normal pool elevation of 164.4 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 km (0.6 mi) 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 km (2.4 mi) 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 km (3.5 miles) upstream of Marion's Ferry to the aqueduct crossing 1.0 km (0.6 mi) upstream of the confluence of Paper Mill Creek

0701 Taylor Bayou Above Tidal - from the salt water lock 7.7 km (4.8 mi) 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 km (4.8 mi) 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 saltwater barrier, which is 5.5 km (3.4 mi) downstream of IH10, in Chambers County to a point 3.1 km (1.9 mi) downstream of US 90 in Liberty County

0802 Trinity River Below Lake Livingston - from a point 3.1 km (1.9 mi) 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 km (1.1 mi) 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 km (1.1 mi) 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 km (2.5 mi) downstream of Eagle Mountain Dam in Tarrant County, up to the normal pool elevation of 594 feet (impounds West Fork Trinity River)

0808 West Fork Trinity River Below Eagle Mountain Reservoir - from a point 4.0 km (2.5 mi) 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 km (0.4 mi) 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 km (0.4 mi) 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 km (2.5 mi) 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 km (5.9 mi) 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 km (1.9 mi) upstream of FM 730 in Parker County, up to the normal pool elevation of 896 feet (impounds Clear Fork Trinity River)

0833 Clear Fork Trinity River Above Lake Weatherford - from a point 3.1 km (1.9 mi) upstream of FM 730 in Parker County to the confluence with Strickland Creek approximately 8 km (5 mi) upstream of FM 51 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 km (2.5 mi) 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 km (5.9 mi) 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 km (0.6 mi) downstream of Tri-City Beach Road in Chambers County to a point 2.2 km (1.4 mi) upstream of IH 10 in Chambers/Harris County

0902 Cedar Bayou Above Tidal - from a point 2.2 km (1.4 mi) upstream of IH 10 in Chambers/Harris County to a point 7.4 km (4.6 mi) 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 and Old River

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

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 km (2.5 mi) upstream of SH 30 in Grimes County

1016 Greens Bayou Above Tidal - from a point 0.7 km (0.4 mi) 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 km (1.9 mi) upstream of FM 1960 in Harris County

1101 Clear Creek Tidal - from the confluence with Clear Lake at a point 3.2 km (2.0 mi) 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 km (1.3 mi) downstream of SH 146 in Galveston County to a point 4.0 km (2.5 mi) downstream of FM 517 in Galveston County

1104 Dickinson Bayou Above Tidal - from a point 4.0 km (2.5 mi) 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 km (0.7 mi) downstream of the Intracoastal Waterway in Brazoria County to a point 8.6 km (5.3 mi) upstream of Business 288 at Lake Jackson in Brazoria County

1107 Chocolate Bayou Tidal - from the confluence with Chocolate Bay 1.4 km (0.9 mi) downstream of FM 2004 in Brazoria County to the salt water barrier (immediately downstream of the Chocolate Bayou Rice Canal) 5.2 km (3.2 mi) 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 km (3.2 mi) 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 a point 4.3 km (2.7 mi) upstream of Scanlan Road 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 km (0.5 mi) 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 De Cordova Bend Dam in Hood County

1205 Lake Granbury – from De Cordova 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 immediately upstream of the confluence of Plum Creek 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 km (0.32 mi) downstream from Caldwell Crossing 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 km (1.02 mi) upstream of the confluence of the Middle Bosque and South Bosque rivers and to a point on the South Bosque River, 1.35 km (0.84 mi) upstream of the confluence of the Middle Bosque and South Bosque rivers, up to the normal pool elevation of 462 feet (impounds the Bosque River)

1226 North Bosque River - from a point 0.51 km (0.32 mi) downstream of Caldwell Crossing 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 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 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 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 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 km (1.02 mi) from the confluence with the South Bosque River in McLennan County to the confluence of Cave Creek and Middle Bosque Creek in Coryell County and for the South Bosque River from a point 1.35 km (0.84 mi) from the confluence of the Middle Bosque River in McLennan County to FM 2671 in McLennan County

1247 Granger Lake - from Granger Dam in Williamson County to a point 1.9 km (1.2 mi) 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 km (1.2 mi) 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 km (4.1 mi) 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 km (4.1 mi) 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 km (1.4 mi) 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 km (1.4 mi) 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

1258 Middle Oyster Creek - from the confluence with the Brazos River to the Flat Bank diversion channel in Fort Bend County

1259 Leon River Above Belton Lake - from a point 100 meters (110 yards) upstream of FM 236 in Coryell County to the confluence with Plum Creek in Coryell County

1301 San Bernard River Tidal - from the confluence with the Intracoastal Waterway in Brazoria County to a point 3.2 km (2.0 mi) upstream of SH 35 in Brazoria County

1302 San Bernard River Above Tidal - from a point 3.2 km (2.0 mi) 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 km (1.2 mi) upstream of the confluence of Linnville Bayou in Matagorda County

1305 Caney Creek Above Tidal - from a point 1.9 km (1.2 mi) upstream of the confluence of Linnville Bayou in Matagorda County to the confluence of Water Hole Creek in Matagorda County

1401 Colorado River Tidal - from the confluence with Matagorda Bay due to a diversion channel in Matagorda County to a point 2.1 km (1.3 mi) downstream of the Missouri-Pacific Railroad in Matagorda County

1402 Colorado River Below La Grange - from a point 2.1 km (1.3 mi) 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 681.6 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 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 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 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 km (1.2 mi) 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 km (2.5 mi) 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 km (2.5 mi) 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 km (2.3 mi) downstream of 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 km (2.3 mi) downstream of the confluence of Mustang Creek on the Colorado River Arm in Runnels County and to a point 2.0 km (1.2 mi) 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 km (1.0 mi) upstream of the confluence of Wilson Creek in Matagorda County

1502 Tres Palacios Creek Above Tidal - from a point 1.6 km (1.0 mi) 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 km (5.3 mi) downstream of US 59 in Jackson County

1602 Lavaca River Above Tidal - from a point 8.6 km (5.3 mi) downstream of US 59 in Jackson County to the confluence of Campbell Branch west of Hallettsville 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 km (0.4 mi) 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 km (0.4 mi) 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 km (1.7 mi) 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 km (1.7 mi) 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 km (0.6 mi) 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 km (0.2 mi) 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 km (0.2 mi) 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 km (0.6 mi) upstream of the confluence of the Blanco River in Hays County to a point 0.7 km (0.4 mi) 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 km (4.0 mi) 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 km (0.7 mi) 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 km (11.3 mi) 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 km (3.0 mi) 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 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 km (5.6 mi) 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 km (0.9 mi) 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 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 km (0.6 mi) 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 km (4.6 mi) downstream of US 77 in Refugio County

2002 Mission River Above Tidal - from a point 7.4 km (4.6 mi) 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 km (1.0 mi) upstream of US 77 in Refugio/San Patricio County

2004 Aransas River Above Tidal - from a point 1.6 km (1.0 mi) 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 km (1.1 mi) upstream of US 77/IH 37 in Nueces/San Patricio County

2102 Nueces River Below Lake Corpus Christi - from Calallen Dam 1.7 km (1.1 mi) 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 Lower Atascosa River - from the confluence with the Frio River in Live Oak County to the confluence with Borrego Creek 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 km (2.6 mi) 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 km (2.6 mi) downstream of SH 16 in McMullen County to a point 100 meters (110 yards) upstream of US 90 in Uvalde County

2118 Upper Atascosa River - from the confluence with Borrego Creek to the confluence with Galvan Creek in Atascosa 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 km (0.6 mi) upstream of private road crossing near Laureles Ranch in Kleberg County

2204 Petronila Creek Above Tidal - from a point 1 km (0.6 mi) 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 km (6.7 mi) downstream of the International Bridge in Cameron County

2302 Rio Grande Below Falcon Reservoir - from a point 10.8 km (6.7 mi) 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 a point 0.66 km (0.41 mi) upstream of the confluence of the Arroyo El Lobo (Mexico) in Webb County, up to the normal pool elevation of 301.1 feet (impounds Rio Grande)

2304 Rio Grande Below Amistad Reservoir - from a point 0.66 km (0.41 mi) upstream of the confluence of the Arroyo El Lobo (Mexico) in Webb County to Amistad Dam in Val Verde County

2305 International Amistad Reservoir - from Amistad Dam in Val Verde County to a point 1.8 km (1.1 mi) downstream of the confluence of Ramsey Canyon on the Rio Grande Arm in Val Verde County and to a point 0.7 km (0.4 mi) downstream of the confluence of Painted Canyon on the Pecos River Arm in Val Verde County and to a point 0.6 km (0.4 mi) 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 km (1.1 mi) downstream of the confluence of Ramsey Canyon in Val Verde County to the confluence of Cow Canyon in Brewster 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 km (0.4 mi) 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 km (0.4 mi) 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 km (2.5 mi) 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

2315 Rio Grande Below Rio Conchos - from the confluence of Cow Canyon in Brewster County to the confluence of the Rio Conchos (Mexico) in Presidio 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 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 *

2490 Upper Laguna Madre * - upper portion of bay north of the Saltillo Flats

2491 Lower Laguna Madre * - lower portion of the bay south of the Saltillo Flats

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

* The segment boundaries are considered to be the mean high tide line.

(4) Appendix D - Site-specific Uses and Criteria for Unclassified Water Bodies:

Figure: 30 TAC §307.10(4)

Appendix D - Site-specific Uses and Criteria for Unclassified Water Bodies

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. The county listed is the primary location where the use designation is. The water body is a tributary within the drainage basin of the listed segment. The aquatic life use (ALU) designations and dissolved oxygen (DO) criterion are the same as defined in §307.4(h) 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 the aquatic life use designation pertains. Recreational uses as defined in §307.4(j) of this title are assigned to 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 the water body is located unless further site-specific information is obtained.

SEGMENT	COUNTY	WATER BODY	ALU	DO	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 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 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0202	Grayson	Corneliason Creek	L	3.0	Intermittent stream with perennial pools from the confluence with Mill Creek upstream 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 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0203	Grayson	Little Mineral Creek	I	4.0	Intermittent stream with perennial pools from the normal pool elevation of Lake Texoma 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 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 to 1.3 km south of US 82 southeast of the City of New Boston

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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[3]	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
0403	Marion, 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	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
0409	Upshur	Walnut Creek	H	5.0	Perennial stream from the confluence with Little Cypress Creek upstream to the confluence with Little Walnut Creek

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0410	Cass	Black Cypress Creek/Bayou	H	≤5.0[3]	Intermittent stream with perennial pools from the confluence with Kelly Creek upstream to FM 250 north of the City of Hughes Springs
0502	Orange	County Relief Ditch	L	3.0	Perennial ditch from the confluence with the Sabine River upstream to SH 87
0502	Newton	Caney Creek	H	5.0	Perennial stream from the Sabine River upstream to the confluence with Martin Branch
0502	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to FM 1844
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
0505	Gregg, Rusk	Rabbit Creek	I	4.0[4]	Perennial stream from the confluence with the Sabine River in Gregg County upstream 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[5]	Perennial stream from the confluence with the Sabine River upstream to SH 31

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 0.7 km above the Santa Fe Railroad crossing in the City of Easton
0506	Rains	Sandy Creek	H	5.0	Perennial stream from the confluence of Glade Creek upstream to the confluence of an unnamed tributary 0.3 km below SH 19

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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	Van Zandt	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	DESCRIPTION
0506	Van Zandt	Unnamed tributary of Grand Saline Creek	I	3.0[6]	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 to the confluence of Middle Caddo Creek northwest of Caddo Mills

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to the extent of tidal limits

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to the extent of tidal limits
0513	Newton, 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 to the Santa Fe Railroad crossing south of the City of Silsbee

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0603	Jasper	Sandy Creek	H	5.0	Perennial stream from the confluence with B. A. Steinhagen Lake upstream to 0.5 km below FM 766 east of the City of Jasper
0604	Anderson, Henderson	Caddo Creek	H	5.0	Perennial stream from the confluence with the Neches River below Lake Palestine in Anderson County 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0604	Jasper, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to FM 851 north of the City of Alto
0604	Cherokee	Larrison Creek	H	5.0	Perennial stream from US 69 southeast of the City of Alto upstream 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0604	Polk	Dabbs Creek	H	5.0	Perennial stream from the confluence of Caney Creek upstream to the confluence of Dabbs Branch approximately 4.5 km above FM 942
0605	Henderson	Little Duncan Branch	I	4.0	Perennial stream from the confluence with Big Duncan Branch upstream to the dam impounding Jackson Lake
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[7]	Perennial stream from the confluence with Prairie Creek upstream to a point 0.4 km downstream of FM 14 in the City of Tyler

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0606	Smith	Prairie Creek	H	5.0[8]	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	1.5[9]	Intermittent stream with perennial pools from the confluence with Pine Island Bayou upstream to the confluence with an unnamed tributary 4.0 km downstream of the crossing of the Southern Pacific Railroad

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
0607	Hardin	Pine Island Bayou	I	1.5[10]	Intermittent stream with perennial pools from the confluence with Willow Creek upstream to FM 787
0607	Jefferson, Liberty	Willow Creek	I	3.0[11]	Intermittent stream with perennial pools from the confluence with Pine Island Bayou in Jefferson County upstream to the confluence with Bull Tongue Creek in Liberty County
0608	Hardin	Cypress Creek	I	2.5[1]	Intermittent stream with perennial pools from the confluence with Village Creek upstream to the confluence of Bad Luck Creek

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0608	Tyler	Turkey Creek	H	5.0	Perennial stream from the confluence with Village Creek upstream to 1.6 km above US 69 north of the City of Woodville
0610	Sabine	Little Sandy Creek	I	4.0	Intermittent stream with perennial pools from the confluence with Pomponaugh Creek upstream to 0.5 km above FM 83 north of the City of Pineland
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0611	Cherokee, Smith	Mud Creek	H	5.0	Perennial stream from the confluence with the Angelina River in Cherokee County 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 La Nana	I	4.0	Perennial stream from the confluence with the Angelina River upstream 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 to 2.4 km upstream of the confluence, which is 0.8 km south of SH 64 west of the City of Joinerville

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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	Cherokee, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0701	Jefferson	Mayhan Gully	I	4.0	Perennial stream from the confluence with Green Pond Gully upstream 6.0 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 to US 69 near the City of Nederland
0702	Jefferson	Main Canal D, Canal A, Canal B, Canal C	I	3.0[12]	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 Day 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0803	Walker	Harmon Creek	H	5.0	Perennial stream from the confluence with the normal pool elevation of Lake Livingston 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 km downstream of FM 980
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
0809	Tarrant, Parker	Ash Creek	H	5.0	Intermittent stream with perennial pools from Eagle Mountain Lake in Tarrant County upstream to its confluence with Mill Branch in Parker County

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0815	Ellis	Waxahachie Creek	I	4.0	Perennial stream from the confluence with the normal pool elevation of Bardwell Reservoir 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	Kaufman, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0819	Rockwall	Buffalo Creek	L	3.0	Perennial stream from the confluence with the East Fork Trinity River upstream to 0.6 km above the confluence with Little Buffalo Creek
0820	Collin	Cottonwood Creek	L	3.0	Perennial stream from the confluence with Rowlett Creek upstream to SH 5 (near Greenville Road)
0820	Collin	Rowlett Creek	I	4.0	Perennial stream from the normal pool elevation 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 to FM 121 approximately five mi north of the City of Blue Ridge
0823	Collin, Grayson	Little Elm Creek	I	4.0	Perennial stream from FM 455 in Collin County upstream to 1.4 km above FM 121 in Grayson County near the City of Gunter

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to 2.1 km upstream of SH 156 in the City of Justin
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0831	Parker	Town Creek	I	3.0	Perennial stream from the confluence with Willow Creek to form the headwaters of South Fork Trinity River upstream to the confluence of an unnamed tributary 2.0 km (1.2 mi) upstream of US Highway 180
0836	Limestone, 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 of SH 171 near the City of Hubbard
0840	Cooke	Spring Creek	H	5.0	Perennial stream from the confluence with Pecan Creek upstream to the confluence with John's Branch

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
0901	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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-dominated) 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	DESCRIPTION
0902	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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-dominated) 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-dominated) 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	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1002	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1003	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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 an unnamed tributary approximately 0.4 km upstream of League Line Road in the City of Panorama Village

SEGMENT	COUNTY	WATER BODY	ALU	DO	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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-dominated) 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-dominated) 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	DESCRIPTION
1006	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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 to 0.8 km upstream of Wallisville Road

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1006	Harris	Carpenters Bayou	L	3.0	Perennial stream from 0.8 km upstream of Wallisville Road upstream to Sheldon Reservoir
1006	Harris	Halls Bayou	I	4.0	Perennial stream from the confluence with Greens Bayou upstream to US 59
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-dominated) 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	DESCRIPTION
1007	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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 to SH 6
1007	Harris	Keegans Bayou	L	3.0	Perennial stream from the confluence with Brays Bayou upstream to the Harris County line

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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-dominated) 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	DESCRIPTION
1008	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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 to 0.2 km below Kuykendahl Road
1008	Montgomery, Grimes	Mill Creek	I	4.0	Perennial stream from the normal pool elevation of Neidigk Lake in Montgomery County upstream to the confluence with Hurricane Creek and Kickapoo Creek in Grimes County

SEGMENT	COUNTY	WATER BODY	ALU	DO	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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-dominated) 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-dominated) 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	DESCRIPTION
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 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 K145-01-00, 0.29 km upstream of Spring Cypress Road north of US 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	DESCRIPTION
1009	Harris	Dry Gully	L	3.0	Perennial stream from a point 1.0 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-dominated) 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	DESCRIPTION
1010	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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-dominated) 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	DESCRIPTION
1013	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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 to the railroad tracks north of IH 610
1013	Harris	Little Whiteoak Bayou	L	3.0	Perennial stream from the railroad tracks north of IH 610 upstream to Yale Street

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1014	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1014	Harris, Fort Bend	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 km west of Barker-Cypress Road upstream to an unnamed tributary 1.05 km south of Clay Road
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 1.3 km (0.8 mi) west of Barker-Cypress Road

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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	Fort Bend, Waller	Willow Fork Buffalo Bayou	I	4.0	Intermittent stream with perennial pools from the confluence with Buffalo Bayou in Fort Bend County upstream to 1.0 km above US 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1016	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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 upstream to 1.5 km north of Atascocita Road

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1017	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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 to Gessner Road

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1017	Harris	Cole Creek	L	3.0	Perennial stream from the confluence with Whiteoak Bayou upstream to Flintlock Street
1017	Harris	Vogel Creek	L	3.0	Perennial stream from the confluence with Whiteoak Bayou upstream to a point 3.2 km upstream of the confluence with Whiteoak Bayou
1101	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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	DESCRIPTION
1101	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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-dominated) 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	DESCRIPTION
1102	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) freshwater Harris County Flood Control District ditches that have been channelized into trapezoidal channels, are earthen, and are not maintained by the district
1102	Galveston, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
1111	Brazoria	Flag Lake Drainage Canal	I	4.0	Perennial water body from the confluence with the Gulf Intercoastal Waterway upstream to the confluence with the Brazos River

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1113	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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
1113	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 upstream to 500 meters upstream of US 90

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1202	Washington	New Year Creek	I	4.0	Perennial stream from the confluence with Woodward Creek upstream to the confluence of Big Sandy Creek
1203	Bosque	Steele Creek	H	5.0	Perennial stream from the confluence with Whitney Lake upstream 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 to FM 208
1206	Parker, Hood, Erath	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1217	Burnet	North Fork Rocky Creek	I	4.0[2,13]	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
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 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 to the confluence of the Middle Fork Leon River

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1227	Johnson	Buffalo Creek	L	3.0	Intermittent stream with perennial pools from the confluence with the Nolan River upstream 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 which is near the confluence with an unnamed tributary at the Texas and Pacific Railroad crossing upstream to the dam forming Hagaman Lake

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
1242	Brazos	Still Creek	H	5.0	Perennial stream from the confluence with Thompsons Creek upstream to the confluence with Cottonwood Branch

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1242	Brazos	Thompsons Creek	H	5.0	Perennial stream from the confluence with the Brazos River upstream to the confluence with Still Creek
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	Milam, Falls	Pond Creek	L	3.0	Perennial stream from the confluence with the Brazos River in Milam County, upstream to the confluence with Live Oak Creek in Falls County

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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	Brazos, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 to 1.7 km upstream of Old Richmond Road
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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, Brazoria	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 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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
1402	Fayette	Cedar Creek Reservoir/Lake Fayette	H	5.0	Encompasses the entire reservoir up to the normal pool elevation of 390 feet

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1402	Fayette	Cedar Creek	H	5.0	Perennial stream from the confluence with the Colorado River upstream to the dam forming Cedar Creek Reservoir/Lake Fayette
1402	Colorado	Skull Creek	H	5.0[14]	Perennial stream from the confluence with the Colorado River Below La Grange, upstream approximately 48 km (30 mi) to its headwaters
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1412	Mitchell, Howard	Beals Creek	L	3.0	Intermittent stream with perennial pools from the confluence with the Colorado River in Mitchell County upstream 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1414	Gillespie	Barons Creek	H	5.0	Perennial stream from the confluence with the Pedernales River upstream 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 to the confluence of West Comanche Creek near the City of Mason

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1416	McCulloch	Brady Creek	I	4.0	Perennial stream and intermittent stream with perennial pools from the confluence with an 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
1420	Callahan	Kaiser Creek	L	3.0	Intermittent stream with perennial pools from the confluence with North Prong Pecan Bayou upstream to 0.5 km upstream of FM 2700 south of the City of Clyde

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1420	Brown, Callahan	Turkey Creek	H	5.0	From the confluence with Pecan Bayou in Brown County upstream to SH 36 in Callahan County
1426	Runnels	Elm Creek	H	5.0	Perennial stream from the confluence with the Colorado River upstream to the dam approximately 300 meters downstream of US 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 from the confluence with the Colorado River upstream to an unnamed tributary 0.39 km downstream of Edgemere Drive

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1428	Travis	Gilleland Creek	H	5.0	Intermittent stream with perennial pools from the confluence with an unnamed tributary 0.39 km downstream of Edgemere Drive upstream to the spring source (Ward Spring) northwest of the City of Pflugerville
1428	Bastrop	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1428	Bastrop, Travis	Dry Creek	L	3.0	Intermittent stream with perennial pools from 150 meters upstream of the confluence with Cottonwood Creek in Bastrop County upstream to just below the confluence with an unnamed tributary located approximately 2.73 km upstream of Wolf Lane in Travis County. Channel topography in this reach is a braided to anastomosing 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1428	Travis	Wilbarger Creek	H	5.0	Perennial stream from the confluence of an unnamed tributary approximately 2.3 km (1.4 mi) upstream of US 290 upstream to the confluence of an unnamed tributary 2.3 km (1.4 mi) upstream of Cameron Road
1428	Travis	Wilbarger Creek	H	5.0	Intermittent stream with perennial pools from the confluence of an unnamed tributary approximately 2.3 km (1.4 mi) upstream of Cameron Road upstream to the confluence of an unnamed tributary approximately 3.7 km (2.3 mi) downstream of FM 685
1428	Travis	Unnamed tributary of Wilbarger Creek	H	5.0	Perennial stream from the confluence with Wilbarger Creek approximately 2.3 km (1.4 mi) upstream of the Cameron Road crossing of Wilbarger Creek upstream to the confluence of two forks of the tributary downstream of Jesse Bohls Road

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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
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, Travis	Maha Creek	I	4.0	Intermittent stream with perennial pools from the confluence with Cedar Creek in Bastrop County upstream to the confluence with an unnamed tributary approximately 0.25 km upstream of US 183 in Travis County

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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 SH 35
1602	Lavaca, 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 Highway B77) bridge crossing in DeWitt County south of the City of Yoakum
1602	Lavaca	Rocky Creek	H	5.0	Perennial stream from the confluence with the Lavaca River upstream to 1.0 km above FM 533 west of the City of Shiner

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1602	Lavaca	Lavaca River	H	5.0[15]	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
1605	Lavaca, 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 in Fayette County

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
1806	Kerr	Camp Meeting Creek	H	5.0[16]	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[17]	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
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[2]	Intermittent stream with perennial pools from the confluence with Beitel Creek upstream to Nacogdoches Road
2108	Frio, 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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
2108	Medina	Fort Ewell Creek	I	4.0	Perennial stream from the confluence with Chacon Creek upstream to the confluence of the Natalia Canal approximately 0.8 km north of SH 132
2118	Atascosa	Atascosa River	L	3.0	Intermittent stream with perennial pools from the confluence with Galvan Creek upstream to the confluence with Palo Alto Creek
2118	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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
2201	Cameron, Hidalgo, Willacy	Drainage Ditches	L	3.0	Perennial freshwater drainage ditches that flow into the segment in the counties listed
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

SEGMENT	COUNTY	WATER BODY	ALU	DO	DESCRIPTION
2310	Terrell	Independence Creek	E	6.0	Perennial stream from the confluence with 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-dominated) 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-dominated) 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	DESCRIPTION
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-dominated) 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-dominated) 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	DESCRIPTION
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 to the confluence of an unnamed tributary from Highlands Reservoir
2426	Harris	Goose Creek	L	3.0	Perennial stream from the confluence with East Fork Goose Creek upstream to Baker Street
2427	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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	DESCRIPTION
2427	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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-dominated) 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-dominated) 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	DESCRIPTION
2429	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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-dominated) 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-dominated) 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	DESCRIPTION
2430	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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 166 upstream to the confluence with an unnamed tributary 0.3 km upstream of SH 35
2438	Harris	Concrete lined and maintained channelized ditches and streams	L	3.0	Perennial (including effluent-dominated) 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	DESCRIPTION
2438	Harris	Unmaintained channelized ditches and streams	I	4.0	Perennial (including effluent-dominated) 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 A minimum DO criterion of 3.0 mg/L applies to the described portion of the water body.
3 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. When 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. When the 24-hour average DO criterion is greater than 2.0 mg/L, the corresponding 24-hour minimum DO criterion should be 1.0 mg/L less than the calculated 24-hour average criterion. When the 24-hour average DO criterion is less than or equal to 2.0 mg/L, the corresponding 24-hour

minimum DO criterion should be 0.5 mg/L less than the calculated 24-hour average criterion. When 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 cfs
WS = watershed size in square km (up to 1000 km^2)

4 A site-specific low-flow of 5.95 cfs applies to achieve the 4.0 mg/L DO 24-hour average criterion at the critical summer-time temperatures of 29.7°C. A site-specific DO criterion of 3.0 mg/L as a 24-hour average applies from May to October when flows are ≥1.2 ft^3/s and < 5.95 cfs. The following site-specific multiple regression equation relating DO 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 cfs
T = temperature in degrees Celsius
DO = 24-hour average DO

5 A site-specific DO criterion of 3.0 mg/L as a 24-hour average applies for the months of June through October.
6 A site-specific DO criterion of 3.0 mg/L as a 24-hour average applies to the unnamed tributary due to low ambient levels of DO upstream of the City of Grand Saline discharge.
7 A site-specific DO criterion of 4.0 mg/L as a 24-hour average applies for the months of May through October.
8 A site-specific DO criterion of 3.0 mg/L as a 24-hour average applies for the months of May through October.
9 A site-specific 24-hour minimum DO criterion of 0.5 mg/L applies to the described portion of the water body.
10 A site-specific 24-hour minimum DO criterion of 1.0 mg/L applies to the described portion of the water body.

11 A site-specific 24-hour average DO criterion of 2.0 mg/L and a 24-hour minimum dissolved oxygen criterion of 1.5 mg/L apply for the months of June through September.
12 A site-specific DO criterion of 3.0 mg/L as a 24-hour average applies to the designated perennial canals.
13 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 apply when stream flows are below 1.5 cfs.
14 A site-specific 24-hour average DO criterion of 3.0 mg/L and a 24-hour minimum dissolved oxygen criterion of 2.0 mg/L apply from March 15th to October 15th.
15 Site-specific DO criteria of 3.0 mg/L as a 24-hour average and 2.0 mg/L as a minimum apply from March 15th through October 15th.
16 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.
17 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.

(5) Appendix E - Site-specific Toxic Criteria

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 this Appendix.

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0301	Remnant channel of Baker Slough from the edge of the mixing zone in Segment 0301 upstream to the permitted outfall in Cass County	01339-000	International Paper Co.	Aluminum[1, 4]	6.39	
0303	River Crest Reservoir	00945-000	Luminant Generation Co.	Copper[1, 3]	3.4	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0403	Johnson Creek Reservoir in Marion County	01331-000	SWEPCO	Copper[1, 3]	5.15	Hardness = 20 mg/L TSS = 4 mg/L
0404	Welsh Reservoir in Titus County	01811-000	SWEPCO	Aluminum[1, 3]	10	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0404	Big Cypress Creek in Camp, Titus, and Morris counties	00348-000	Lone Star Steel	Lead[2, 3]	Acute Criterion = 38.3 µg/L Chronic Criterion = 5.3 µg/L	Hardness = 40.1 mg/L Criteria listed in "Site-specific Adjustment Factor" column includes a correction factor of 0.924152

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0404	Unnamed tributary of Hart Creek from the edge of the mixing zone in Hart Creek upstream to the permitted outfall in Titus County	10575-004	City of Mount Pleasant	Copper[1, 4]	7.16	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0409	Sugar Creek from the edge of the mixing zone in Segment 0409 upstream to the permitted outfall in Upshur County	10457-001	City of Gilmer	Copper[1, 4]	6.83	
0501	Sabine River Tidal in Orange County	00475-000	E.I. DuPont de Nemours	Copper[1, 4]	1.9	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0505	Sabine River from the confluence with Brandy Branch approximately 1 mi (1.6 km) upstream from Highway 43 in Harrison County upstream to SH 149 in Gregg County	00471-000	Eastman Chemical Co.	Copper[1, 4]	6.7	Hardness = 40 mg/L

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0506	Mill Creek from CR 1106 upstream to the permitted outfall in Van Zandt County	10399-002	City of Canton	Copper[1, 4]	7.71	
0510	Mill Creek from the edge of the mixing zone in Segment 0510 upstream to the confluence with Adaway Creek in Rusk County	10187-002	City of Henderson	Copper[1, 4]	4.95	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0511	Unnamed tidal drainage ditch from the edge of the mixing zone in Segment 0511 upstream to the permitted outfall in Orange County	00670-000	Honeywell, Inc.	Copper[1, 4]	2.39	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0511	Unnamed tidal drainage ditch from the edge of the mixing zone in Segment 0511 upstream to the permitted outfall in Orange County	00454-000	Firestone Polymers	Copper[1, 4]	2.54	
0601	The entirety of the mixing zone for permitted Outfall 001 within the Neches River Tidal	00462-000	ExxonMobil	Zinc[1, 4]	2.89	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0603	Sandy Creek from the edge of the mixing zone in Segment 0603 upstream to the permitted outfall in Jasper County	10197-001	City of Jasper	Copper[1, 4]	4.67	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0604	Unnamed tributary of Bear Creek from the edge of the zone of initial dilution in Bear Creek upstream to the permitted outfall in Polk County	01902-000	International Paper – Corrigan	Aluminum[1, 4]	5.58	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0604	Buck Creek from the confluence with Clayton Creek upstream to the confluence with the unnamed tributary receiving the discharge from the permitted outfall in Angelina County	01268-000	Lufkin Industries	Copper[1, 4]	7.94	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0604	One-eye Creek from the edge of the mixing zone in Box Creek upstream to the permitted outfall in Cherokee County	10447-001	City of Rusk	Copper[1, 4]	4.3	Hardness = 40 mg/L
0611	Lake Stryker	00946-000	Luminant	Aluminum[1, 3]	3.7	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0611	Ragsdale Creek from the edge of the mixing zone in Keys Creek upstream to the permitted outfall in Cherokee County	10693-001	City of Jacksonville	Copper [1, 4]	4.6	Hardness = 48 mg/L

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0615	Papermill Creek from the edge of the zone of initial dilution in Segment 0615 upstream to the permitted outfall in Angelina County	00368-000	Abitibi Consolidated	Aluminum[1, 4]	8.39	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0805	Forney Branch from the edge of the mixing zone in White Rock Creek upstream to the permitted outfall in Dallas County	01251-000	Luminant Generation Co.	Copper[1, 4]	3.9	
0806	West Fork Trinity River in Tarrant County	00555-000	Luminant Generation Co.	Copper[1, 4]	2.5	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
0823	Cantrell Slough from the edge of the mixing zone in Segment 0823 upstream to permitted Outfall 001 in Denton County	14323-001	UTRWD	Copper[1, 4]	6.43	
1001	San Jacinto River Tidal in Harris County	NA	NA	Copper[1, 3]	1.8	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1005	Houston Ship Channel/San Jacinto River Tidal in Harris County	NA	NA	Copper[1, 3]	1.8	
1005	Phillips Ditch and Santa Anna Bayou: Phillips Ditch from the edge of the mixing zone in Santa Anna Bayou upstream to permitted Outfall 001 in Harris County	01539-000	Oxy Vinyls	Nickel[1, 4]	1.13	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1005	The Houston Ship Channel/San Jacinto River tidal from the edge of the mixing zone in Segment 2421 upstream to the confluence with Santa Anna Bayou in Harris County	02097-000	Oxy Vinyls	Copper[1, 4]	1.8	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1005	Phillips Ditch from the edge of the MZ in Santa Anna Bayou upstream to permitted Outfall 001 in Harris County	04119-000	Akzo Nobel Chemical	Aluminum[1, 4]	3.93	
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	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1006	Tucker Bayou from the edge of the mixing zone in Segment 1006 upstream to the permitted outfall in Harris County	01429-000	Safety-Kleen	Copper[1, 4]	2.3	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1006	Greens Bayou Tidal from the edge of the mixing zone in the Houston Ship Channel upstream to the confluence with Spring Gully in Harris County	01031-000	Texas Genco	Copper[1, 4]	2.4	TSS = 14.75 mg/L Dissolved Fraction Available = 87%
1007	Houston Ship Channel/Buffalo Bayou Tidal in Harris County	NA	NA	Copper[1, 3]	1.8	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1008	Panther Branch from the edge of the mixing zone in Lake Woodlands upstream to the permitted outfall in Montgomery County	12597-001	San Jacinto River Authority	Copper[1, 4]	6.45	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1009	Cypress Creek and Harris County Flood Control District Ditch K159-00-00 from the edge of the mixing zone in Cypress Creek upstream to the permitted outfall in Harris County	13296-002	Harris County MUD No. 358	Copper[1, 4]	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	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
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 in Segment 1014 upstream to the permitted outfall in Fort Bend County	13558-001	Cinco MUD No. 1	Copper[1, 4]	7.26	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1113	Horsepen Bayou in Harris County	10539-001	City of Clear Lake Water Authority	Copper[1, 4]	2.74	
1201	Segment 1201 in Brazoria County	00007-000	Dow Chemical	Copper[1, 4]	1.6	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1209	Unnamed ditch from the edge of the zone of initial dilution of the unnamed ditch in Gibbons Creek Reservoir upstream to the permitted Outfall 001 in Grimes County	02120-000	Texas Municipal Power Agency	Aluminum[1, 4]	6.81	
1236	Ft. Phantom Hill Reservoir in Jones County	01422-000	AEP North Texas	Aluminum[1, 3]	2.9	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
1242	Lake Creek Reservoir in McClennan County	00954-000	Luminant Generation Co.	Copper[1, 3]	2.4	
1412	Red Draw Reservoir in Howard County	01768-000	ALON USA	Selenium	Acute Criterion = 219 µg/L Chronic Criterion = 7.5 µg/L	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
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	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
2431	Moses Bayou from the edge of the mixing zone in Segment 2431 upstream to the drainage ditches receiving the discharge from the permitted outfall in Galveston County	01263-000	ISP Technologies	Copper[1, 4]	1.88	
2453	Saltwater portion of Lynn Bayou below the facility's outfall.	10251-001	City of Port Lavaca	Copper[1, 4]	1.57	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
2481	Kinney Bayou tidal/Jewel Fulton Canal from the edge of the mixing zone in Ingleside Cove upstream to the permitted outfall in San Patricio County	10422-001	City of Ingleside	Copper[1, 4]	2.0	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
2481	Kinney Bayou tidal/Jewel Fulton Canal from the edge of the mixing zone in Ingleside Cove upstream to the permitted outfall in San Patricio County	10422-001	City of Ingleside	Zinc[1, 4]	1.14	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
2485	La Volla Creek from the edge of the mixing zone in Oso Creek upstream to the permitted outfall in Nueces County	10401-003	City of Corpus Christi	Copper[1, 4]	2.07	

SEGMENT	SITE DESCRIPTION	TPDES	FACILITY	PARAMETER	SITE-SPECIFIC ADJUSTMENT FACTOR	ADDITIONAL SITE-SPECIFIC CONSIDERATIONS
2494	Vidia Ancha from the edge of the mixing zone in 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, 4]	2.52	

1 Results based on a water-effect ratio study.
2 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.
4 Site-specific criteria may only be used in the evaluation of permit limits for the facility listed under the "TPDES" and "Facility" columns.

(6) Appendix F - Site-specific Nutrient Criteria for Selected Reservoirs:

Figure: 30 TAC §307.10(6)

Appendix F: Site-specific Nutrient Criteria 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). Notes on the derivation of criteria are described below[1]. Criteria for chlorophyll *a* 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 the criteria. 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 in the following table are adjusted to minimum levels that could generally be historically quantified by laboratory chemical analyses. When a chlorophyll *a* criterion is below 5.00 μg/L, then the criterion is set at the minimum default criterion of 5.00 μg/L. The calculated values are shown in parentheses ( ).

Criteria for chlorophyll *a* are attained when they are not exceeded by the median of monitoring data results. Procedures to assess attainment with nutrient criteria are described in §307.9 (c)(2) and (e)(7) of this title (relating to Determination of Standards Attainment).

Segment No.	Reservoir Name	Site ID	Chlorophyll a Criteria (μg/L)
0208	Lake Crook	10137	7.38
0209	Pat Mayse Lake	10138	12.40
0213	Lake Kickapoo	10143	6.13
0217	Lake Kemp	10159	8.83
0223	Greenbelt Lake	10173	5.00 (4.59)
0405	Lake Cypress Springs	10312	17.54
0510	Lake Cherokee	10445	8.25
0603	B. A. Steinhagen Lake	10582	11.67
0610	Sam Rayburn Reservoir	14906	6.22
0613	Lake Tyler	10637	13.38
0613	Lake Tyler East	10638	10.88
0614	Lake Jacksonville	10639	5.60
0811	Bridgeport Reservoir	10970	5.32
0813	Houston County Lake	10973	11.10
0816	Lake Waxahachie	10980	19.77

Segment No.	Reservoir Name	Site ID	Chlorophyll a Criteria (µg/L)
0817	Navarro Mills Lake	10981	15.07
1207	Possum Kingdom Lake	11865	10.74
1216	Stillhouse Hollow Lake	11894	5.00 (2.07)
1220	Belton Lake	11921	6.38
1228	Lake Pat Cleburne	11974	19.04
1231	Lake Graham	11979	6.07
1233	Hubbard Creek Reservoir	12002	5.61
1234	Lake Cisco	12005	5.00 (4.64)
1235	Lake Stamford	12006	16.85
1240	White River Lake	12027	13.85
1249	Lake Georgetown	12111	5.00 (3.87)
1403	Lake Austin	12294	5.00 (3.58)
1404	Lake Travis	12302	5.00 (3.66)
1405	Marble Falls Lake	12319	10.48
1406	Lake Lyndon B. Johnson	12324	10.29
1408	Lake Buchanan	12344	9.82
1419	Lake Coleman	12398	6.07
1422	Lake Nasworthy	12418	16.91
(1426)	Oak Creek Reservoir	12180	6.93

Segment No.	Reservoir Name	Site ID	Chlorophyll a Criteria (µg/L)
1429	Lady Bird Lake (Town Lake)	12476	7.56
1433	O.H. Ivie Reservoir	12511	5.77
1805	Canyon Lake	12597	5.00 (4.11)
1904	Medina Lake	12826	5.00 (2.15)
2116	Choke Canyon Reservoir	13019	12.05

1 Criteria for chlorophyll a were calculated from historical sampling data and set at the upper 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 back as far as 1969) in order to acquire sufficient data for individual reservoirs. Values that were less than the minimum historical reporting limit were assigned a value of one-half the reporting limit. Data outside an interquartile range of 1.5 on a Tukey box plot were excluded as outliers. Statistical calculations of prediction intervals were based on a 0.01 confidence level, and 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
0810	Wise	Big Sandy Creek	SCR 1	630	*E. coli*	From the confluence with Waggoner Creek to FM 1810, west of Alvord, Wise County
0810	Wise	Garrett Creek	SCR 1	630	*E. coli*	From the confluence with Salt Creek to Wise County Road approximately 22.5 km upstream of SH114, Wise County
0810	Wise	Salt Creek	SCR 1	630	*E. coli*	From the confluence with Garrett Creek, Wise County, to a point eleven miles upstream

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 Blvd, 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
1210	Hill, Limestone	Navasota River Above Lake Mexia	SCR 1	630	*E. coli*	From the confluence with the headwaters of Lake Mexia in Limestone County to a point 2.0 km upstream of SH 31 in Hill County

SEGMENT	COUNTY	WATER BODY	USE	GEOMETRIC MEAN colonies/100 mL	INDICATOR BACTERIA	DESCRIPTION
1212	Burleson, Lee, Milam	East Yegua Creek	SCR 1	630	*E. coli*	From the confluence with Middle Yegua and Yegua Creeks southeast of Dime Box in Lee County to the upstream portion of the stream, south of Alcoa Lake in Milam County
1221	Comanche, Erath	Resley Creek	SCR 2	1030	*E. coli*	From the confluence of the Leon River east of Gustine in Comanche County to the upstream perennial portion of the stream north of Gustine in Comanche County

SEGMENT	COUNTY	WATER BODY	USE	GEOMETRIC MEAN colonies/100 mL	INDICATOR BACTERIA	DESCRIPTION
1221	Comanche	South Leon River	SCR 1	630	*E. coli*	From the confluence of the Leon River south of Gustine in Comanche County to the upstream perennial portion of the stream south of Comanche in Comanche County
1221	Comanche	Indian Creek	SCR 2	1030	*E. coli*	From confluence with Leon River, upstream to confluence with Armstrong Creek

SEGMENT	COUNTY	WATER BODY	USE	GEOMETRIC MEAN colonies/100 mL	INDICATOR BACTERIA	DESCRIPTION
1221	Comanche, Erath	Walnut Creek	SCR 2	1030	*E. coli*	From its confluence with Leon River upstream to its headwaters 3.8 km west of Dublin in Erath County
1245	Fort Bend	Bullhead Bayou	SCR 1	630	*E. coli*	From the confluence with Steep Bank Creek in First Colony, upstream to its headwaters in Pecan Grove in Fort Bend County
1245	Fort Bend	Unnamed tributary of Bullhead Bayou	SCR 1	630	*E. coli*	From the confluence with Bullhead Bayou, upstream to its headwaters