SUBCHAPTER E: GUADALUPE, SAN ANTONIO, MISSION, AND ARANSAS RIVERS, AND MISSION, COPANO, ARANSAS, AND SAN ANTONIO BAYS §§298.350, 298.355, 298.360, 298.365, 298.370, 298.375, 298.380, 298.385, 298.390

Statutory Authority

The new sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers; TWC, §5.103, concerning Rules; and TWC, §5.105 concerning General Policy, which authorize the commission to adopt rules as necessary to carry out its power and duties under the TWC. The new sections are also adopted under TWC, §11.0235, concerning Policy Regarding Waters of the State; TWC, §11.147, concerning Effects of Permit on Bays and Estuaries and Instream Uses; and TWC, §11.1471, concerning Environmental Flow Standards and Set-Asides.

The adopted new sections implement TWC, §§11.0235, 11.147, and 11.1471.

§298.350. Applicability and Purpose.

This subchapter contains the environmental flow standards for the Guadalupe, San Antonio, Mission, and Aransas Rivers, their associated tributaries, and Mission, Copano, Aransas, and San Antonio Bays. The provisions of this subchapter control over

any provisions of Subchapter A of this chapter (relating to General Provisions) that are inconsistent with this subchapter relating to environmental flow standards and regulation in the Guadalupe, San Antonio, Mission, and Aransas Rivers, their associated tributaries, and Mission, Copano, Aransas, and San Antonio Bays.

§298.355. Definitions.

The following words or phrases have the following meanings in this subchapter unless the context clearly indicates otherwise:

(1) Average condition--for all measurement points for which a hydrologic condition is applicable, the hydrologic condition that would occur approximately 50% of the time and that is intended to represent periods that are neither dry nor wet.

(2) Dry condition--for all measurement points for which a hydrologic condition is applicable, the hydrologic condition that would occur approximately 25% of the time and that is intended to represent the driest periods.

(3) Fall--the period of time October through December, inclusive.

(4) Inflow regime level--a freshwater inflow pattern, at the most downstream point in the Guadalupe and San Antonio River Basins for San Antonio Bay, or at the most downstream points in the San Antonio-Nueces Coastal Basin for the Mission-Aransas Estuary, that includes quantities and frequencies.

(5) Modeled permitting frequency--the frequencies at which specific volumes of freshwater inflows occur in the commission's water availability models for the river basins included in this subchapter.

(6) Spring--for the measurement points listed in §298.330(c) of this title (relating to Environmental Flow Standards), the period of time April through June, inclusive.

(7) Sound ecological environment--maintains, to some reasonable level, the physical, chemical, and biological attributes and processes of the natural system.

(8) Strategy target frequency--the frequencies at which specific volumes of freshwater inflows occur, and which are used for the sole purpose of providing additional freshwater inflows to the bays and estuaries included in this subchapter through voluntary strategies.

(9) Summer--for the measurement points listed in §298.330(c) of this title (relating to Environmental Flow Standards), the period of time July through September, inclusive.

(10) Time period--for certain measurement points in the San Antonio River Basin, the period of time specifically listed in the column labeled "time-period" in Figures: 30 TAC §298.380(c)(12)(B), (13)(B), (14)(B), and (15)(B) of this title (relating to Environmental Flow Standards).

(11) Wet condition--for all measurement points for which a hydrologic condition is applicable, the hydrologic condition that would occur approximately 25% of the time and that is intended to represent the wettest period.

(12) Winter--the period of time January through March, inclusive.

§298.360. Findings.

(a) The Guadalupe, San Antonio, Mission, and Aransas Rivers, their associated tributaries, Mission, Copano, Aransas, and San Antonio Bays, and the associated estuaries are substantially sound ecological environments.

(b) For the Guadalupe, San Antonio, Mission, and Aransas Rivers, and their associated tributaries, the commission finds that these sound ecological environments can best be maintained by a set of flow standards that implement a schedule of flow quantities that contain subsistence flow, base flow, and high flow pulses at defined measurement points. Minimum flow levels for these components will vary by season and by year since the amount of precipitation and, therefore, whether a system is in subsistence or base flow conditions, will vary from year to year and within a year from season to season, and the number of pulses protected will also vary with the amount of precipitation.

(c) For Mission, Copano, Aransas, and San Antonio Bays, the commission finds that the sound ecological environment of these bays can best be maintained by a set of freshwater inflow standards that include variable freshwater inflow quantities and that incorporate inflow and frequency targets at which specific levels of freshwater inflow occur, which are used for the sole purpose of providing additional freshwater inflows to Mission, Copano, Aransas, and San Antonio Bays through voluntary strategies.

§298.365. Set-Asides and Standards Priority Date.

The priority date for the environmental flow standards and set-asides established by this subchapter is March 1, 2011. The priority date for the environmental flow

standards will be used in the water availability determination for a new appropriation or for an amendment to an existing water right that increases the amount of water authorized to be stored, taken, or diverted and has no other purpose.

§298.370. Calculation of Hydrologic Conditions.

(a) For new water right authorizations in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin which increase the amount of water authorized to be stored, taken, or diverted as described in §298.10 of this title (relating to Applicability), the determination of the hydrologic condition for a particular season shall be determined once per season. The conditions present on the last day of the month of the preceding season will determine the hydrologic condition for the following season for the applicable measurement point. For each measurement point specified in the applicable river or coastal basin, cumulative streamflow for the previous 12 months will determine the hydrologic condition.

(b) For purposes of permit special conditions related to hydrologic conditions, for water right applications in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin, which increase the amount of water to be stored, taken, or diverted, the hydrologic condition shall be calculated using the full period of record for the United States Geological Survey (USGS) gage at each measurement point such that dry

conditions occur approximately 25% of the time, average conditions occur approximately 50% of the time, and wet conditions occur approximately 25% of the time.

(c) For purposes of water availability determinations, for water right permit applications in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin, which increase the amount of water to be stored, taken, or diverted, hydrologic conditions used in the commission's water availability models shall be calculated such that dry conditions occur approximately 25% of the time, average conditions occur approximately 50% of the time, and wet conditions occur approximately 25% of the time, based on the period of record and simulated flows of the applicable water availability model.

§298.375. Schedule of Flow Quantities.

(a) Schedule of flow quantities. The environmental flow standards adopted by this subchapter constitute a schedule of flow quantities made up of subsistence flow, base flow, and high flow pulses. Environmental flow standards are established for 16 measurement points in §298.380 of this title (relating to Environmental Flow Standards) and this section.

(b) Subsistence flow. The applicable subsistence flow standard varies depending on the seasons as described in §298.355 of this title (relating to Definitions). For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right holder may not store or divert water, unless the flow at the measurement point is above the applicable subsistence flow standard for that point. For measurement points in the Guadalupe River Basin, if the flow at the applicable measurement point is above the subsistence flow standard but below the base flow standard, then the water right holder must allow the applicable subsistence flow, plus 50% of the difference between measured streamflow and the applicable subsistence flow, to pass its measurement point and any remaining flow may be diverted or stored, according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable subsistence flow standard. For measurement points in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin, during dry hydrologic conditions, if the flow at the applicable measurement point is above the subsistence flow standard but below the applicable dry base flow standard, then the water right holder must allow the applicable subsistence flow, plus 50% of the difference between measured streamflow and the applicable subsistence flow, to pass its measurement points and any remaining flow may be diverted or stored, according to its permit, subject to senior and superior water rights, as long as the flow at the measurement point does not fall below the applicable subsistence flow standard.

(c) Base flow. The applicable base flow level varies depending on the seasons as described in §298.355 of this title, and the hydrologic condition described in §298.370 of this title (relating to Calculation of Hydrologic Conditions) for river and coastal basins to which a hydrologic condition applies. For a water right holder in the San Antonio River Basin or the San Antonio-Nueces Coastal Basin, to which an environmental flow standard applies, at a measurement point that applies to the water right, the water right holder is subject to the base flow standard for the hydrologic condition prevailing at that time, i.e., the water right holder will be subject to one of the following: a dry, an average, or a wet base flow standard. For a water right holder in the Guadalupe River Basin, to which an environmental flow standard applies, at a measurement point that applies to a water right, the water right holder is subject to a base flow standard. For a water right holder to which an environmental flow standard applies, at a measurement point that applies to the water right, when the flow at the applicable measurement point is above the applicable base flow standard, but below any applicable high flow pulse trigger levels, the water right holder may store or divert water according to its permit, subject to senior and superior water rights, as long as the flow at the applicable measurement point does not fall below the applicable base flow standard.

(d) High flow pulses. High flow pulses are relatively short-duration, high flows within the watercourse that occur during or immediately following a storm event.

(1) For measurement points in the Guadalupe River Basin, one or two pulses per season are to be passed (i.e., no storage or diversion by an applicable water right holder), if applicable, and as described in §298.380 of this title, if the flows are above the applicable subsistence or base flow standard, and if the applicable high flow pulse trigger level is met at the applicable measurement point. The water right holder shall not divert or store water except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level and until either the applicable volume amount has passed the measurement point or the applicable duration time has passed since the high flow pulse trigger level occurred.

(2) For measurement points in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin, one, two, or three pulses per season are to be passed (i.e., no storage or diversion by an applicable water right holder), if applicable, and as described in §298.380 of this title, if the flows are above the applicable base flow standard, and if the applicable high flow pulse trigger level is met at the applicable measurement point. For the measurement points described in §298.380(c) (12) - (15) of this title, the water right holder shall not divert or store water until the daily average flow at the applicable measurement point equals at least the large high flow pulse trigger level on consecutive days equaling the duration time, except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse

trigger level. For all other measurement points in the San Antonio River Basin and the San Antonio-Nueces Coastal Basin and for small seasonal pulses at the measurement points described in §298.380(c) (12) - (15) of this title, the water right holder shall not divert or store water except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level and until either the applicable volume amount has passed the measurement point or the duration time has passed since the high flow pulse trigger level occurred.

(3) If the applicable high flow pulse flow trigger level does not occur in a season, then the water right holder need not stop storing or diverting to produce a high flow pulse. The water right holder is not required to release water lawfully stored to produce a high flow pulse.

(4) Each season is independent of the preceding and subsequent seasons with respect to high flow pulse frequency and each time-period is independent of each other time-period with respect to high flow pulse frequency.

(5) High flow pulses are independent of the hydrologic conditions set out in §298.370 of this title, for measurement points for which a hydrologic condition is applicable. For all other measurement points, high flow pulses are applicable under both subsistence and base flow conditions.

(6) For measurement points in the Guadalupe River Basin, the San Antonio River Basin and the San Antonio-Nueces Coastal Basin, except those described in §298.380(c)(12) - (15) of this title, if a pulse flow requirement for a large seasonal pulse is satisfied for a particular season, one of the smaller pulse requirements is also considered to be satisfied. For measurement points described in §298.380(c)(12) - (15) of this title, if a pulse flow requirement for a large seasonal pulse is satisfied, all smaller pulse requirements for the applicable season are also considered to be satisfied.

(e) Stored water. A water right owner that has stored water in accordance with the terms and conditions of its water right, including any applicable environmental flow requirement in effect at the time the water was stored, may divert, release, or use this water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion, release, or use of that stored water.

§298.380. Environmental Flow Standards.

(a) A water right application in the Guadalupe and San Antonio River Basins and the San Antonio-Nueces Coastal Basin, which increases the amount of water authorized to be stored, taken, or diverted as described in §298.10 of this title (relating to Applicability), shall not cause or contribute to an impairment of the inflow regimes as

described in the figures in this subsection. Impairment of the inflow regime shall be evaluated as part of the water availability determination for a new water right or amendment that is subject to this subchapter. For purposes of this subsection, impairment would occur if the application, when considered in combination with any authorizations subject to this subchapter, which were issued prior to this application, would impair the modeled permitting frequency of any inflow regime by more than the values set out in paragraphs (3)(A) - (C) and (4)(A) - (C) of this subsection.

(1) Impairment to the modeled permitting frequency shall be calculated individually for each inflow regime level in Figures: 30 TAC §298.380(a)(3) and Figure: 30 TAC §298.380(a)(4) for which a specific frequency is identified at the most downstream point in the water availability model, which represents inflows to San Antonio Bay.

(2) Impairment is calculated by addition or subtraction of the values set out in paragraphs (3)(A) - (C) and (4)(A) - (C) of this subsection, except that impairment of inflow regime Spring 4 and Spring 5 combined shall be calculated as set out in paragraph (3)(C) of this subsection.

(3) Bay and Estuary Freshwater Inflow Standards for the San Antonio Bay System for the Spring Season.

Figure: 30 TAC §298.380(a)(3)

Bay and Estuary Freshwater Inflow Standards for the San Antonio Bay System for the Spring Season

Inflow Regime	**Inflow Quantity (February) (af)**	**Inflow Quantity (March-May) (af)**	**Strategy Target Frequency**
Spring 1	N/A	550,000-925,000	at least 12% of the years
Spring 2	N/A	375,000-550,000	at least 12% of the years
Spring 3	N/A	275,000-375,000	N/A
Spring 4	greater than 75,000	150,000-275,000	N/A
Spring 5	less than 75,000	150,000-275,000	N/A
Spring 6	N/A	0-150,000	no more than 9% of the years
Spring 2 and Spring 3 combined	N/A	N/A	at least 17% of the years
Spring 4 and Spring 5 combined	N/A	N/A	less than 67% of the total

(A) The modeled permitting frequencies for inflow regimes Spring 1, Spring 2, and Spring 2 and Spring 3 combined, as described in Figure: 30 TAC §298.380(a)(3), and calculated as a percentage of total years, shall not be decreased by more than 5%.

(B) The modeled permitting frequencies for the inflow regime Spring 6, as described by Figure: 30 TAC §298.380(a)(3), and calculated as a percentage of total years, shall not be increased by more than 8%.

(C) The modeled permitting frequency for inflow regime Spring 4 and Spring 5 combined, as described in Figure: 30 TAC §298.380(a)(3), and calculated as a percentage of Spring 5 years to the total combined years, shall not be increased to more than 67% of the total years.

(4) Bay and Estuary Freshwater Inflow Standards for the San Antonio Bay System for the Summer Season.

Figure: 30 TAC §298.380(a)(4)

Bay and Estuary Freshwater Inflow Standards for the San Antonio Bay System for the Summer Season

Inflow Regime	**Inflow Quantity (June) (af)**	**Inflow Quantity (July-September) (af)**	**Strategy Target Frequency**
Summer 1	N/A	450,000-800,000	at least 12% of the years
Summer 2	N/A	275,000-450,000	at least 17% of the years
Summer 3	N/A	170,000-275,000	N/A
Summer 4	greater than 40,000	75,000-170,000	N/A
Summer 5	less than	75,000-	N/A

	40,000	170,000	
Summer 6	N/A	50,000-75,000	N/A
Summer 7	N/A	0-50,000	no more than 6% of the years
Summer 2 and Summer 3 combined	N/A	N/A	at least 30% of the years
Summer 4 and Summer 5 combined	N/A	N/A	Summer 5 no more than 17% of the total
Summer 6 and Summer 7 combined	N/A	N/A	no more than 9% of the years

af=acre feet

(A) The modeled permitting frequencies for inflow regimes Summer 1, Summer 2, and Summer 1 and Summer 2 combined, as described in Figure: 30 TAC §298.380(a)(4), and calculated as a percentage of total years, shall not be decreased by more than 5%.

(B) The modeled permitting frequencies for the inflow regime Summer 7, as described by Figure: 30 TAC §298.380(a)(4), and calculated as a percentage of total years, shall not be increased by more than 8%.

(C) The modeled permitting frequency for inflow regime Summer 4 and Summer 5 combined, as described in Figure: 30 TAC §298.380(a)(4), and calculated as

a percentage of Summer 5 years to total combined years, shall not be increased to more than 10%.

(5) Bay and Estuary Freshwater Inflow Standards for Mission and Aransas Bays for the Summer Season.

Figure: 30 TAC §298.380(a)(5)

Bay and Estuary Freshwater Inflow Standards for Mission and Aransas Bays for the Summer Season

Inflow Regime	Inflow Quantity (February) (af)	Inflow Quantity (March-May) (af)	Strategy Target Frequency
Summer 1	N/A	500,000-1,000,000	at least 2% of the years

af=acre feet

(b) To the extent that strategies are implemented through a water rights permit or amendment to help meet the freshwater inflow standards for San Antonio, Mission, Aransas, and Copano Bays, a water right application in the Guadalupe and San Antonio River Basins and the San Antonio-Nueces Coastal Basin, which increases the amount of water authorized to be stored, taken or diverted as described in §298.10 of this title, shall not reduce the modeled permitting frequency for any inflow regime level, listed in Figure: 30 TAC §298.380(a)(1), Figure: 30 TAC §298.380(a)(2), and Figure: 30 TAC §298.380(a)(3), below the level that would occur with the permitted strategy or

strategies in place.

(c) The following environmental flow standards are established for the following described measurement points:

(1) Guadalupe River at Comfort, Texas, generally described as United States Geological Survey (USGS) gage 08167000, and more particularly described as Latitude 29 degrees, 57 minutes, 86 seconds; Longitude 98 degrees, 53 minutes, 49.80 seconds.

Figure: 30 TAC §298.380(c)(1)

United States Geological Survey Gage 08167000, Guadalupe River at Comfort

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	31 cfs	110 cfs	Trigger: 140 cfs Volume: 1,030 af Duration: 11 days	Trigger: 350 cfs Volume: 3,390 af Duration: 20 days
Spring	18 cfs	100 cfs	Trigger: 400 cfs Volume: 2,980 af Duration: 17 days	Trigger: 1,190 cfs Volume: 8,950 af Duration: 26 days
Summer	2 cfs	75 cfs	Trigger: 160 cfs Volume: 1,130 af Duration: 12 days	Trigger: 570 cfs Volume: 4,110 af Duration: 19 days
Fall	25 cfs	110 cfs	Trigger: 160 cfs Volume: 1,110 af Duration: 13 days	Trigger: 500 cfs Volume: 4,060 af Duration: 24 days

cfs = cubic feet per second
af = acre-feet

(2) Guadalupe River near Spring Branch, Texas, generally described as USGS gage 08167500, and more particularly described as Latitude 29 degrees, 51 minutes, 37 seconds; Longitude 98 degrees, 23 minutes, 00 seconds.

Figure: 30 TAC §298.380(c)(2)

United States Geological Survey Gage 08167500, Guadalupe River near Spring Branch

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	18 cfs	160 cfs	Trigger: 210 cfs Volume: 1,520 af Duration: 11 days	Trigger: 570 cfs Volume: 5,150 af Duration: 19 days
Spring	18 cfs	160 cfs	Trigger: 870 cfs Volume: 6,500 af Duration: 19 days	Trigger: 2,310 cfs Volume: 17,500 af Duration: 26 days
Summer	18 cfs	110 cfs	Trigger: 240 cfs Volume: 1,520 af Duration: 11 days	Trigger: 870 cfs Volume: 5,970 af Duration: 19 days
Fall	18 cfs	150 cfs	Trigger: 230 cfs Volume: 1,660 af Duration: 12 days	Trigger: 1,000 cfs Volume: 8,060 af Duration: 23 days

cfs = cubic feet per second
af = acre-feet

(3) Blanco River at Wimberley, Texas, generally described as USGS gage 08171000, and more particularly described as Latitude 29 degrees, 59 minutes, 39 seconds; Longitude 98 degrees, 05 minutes, 19 seconds.

Figure: 30 TAC §298.380(c)(3)

United States Geological Survey Gage 08171000, Blanco River at Wimberley

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	10 cfs	52 cfs	Trigger: 54 cfs Volume: 360 af Duration: 10 days	Trigger: 380 cfs Volume: 3,840 af Duration: 28 days
Spring	13 cfs	64 cfs	Trigger: 360 cfs Volume: 2,370 af Duration: 18 days	Trigger: 960 cfs Volume: 6,540 af Duration: 26 days
Summer	8 cfs	56 cfs	Trigger: 74 cfs Volume: 410 af Duration: 9 days	Trigger: 190 cfs Volume: 1,130 af Duration: 13 days
Fall	10 cfs	64 cfs	Trigger: 82 cfs Volume: 500 af Duration: 10 days	Trigger: 440 cfs Volume: 3,220 af Duration: 21 days

cfs = cubic feet per second
af = acre-feet

(4) San Marcos River at Luling, Texas, generally described as USGS gage 08172000, and more particularly described as Latitude 29 degrees, 39 minutes, 58 seconds; Longitude 97 degrees, 39 minutes, 02 seconds.

Figure: 30 TAC §298.380(c)(4)

United States Geological Survey Gage 08172000, San Marcos River at Luling

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	89 cfs	210 cfs	Trigger: 340 cfs Volume: 1,800 af Duration: 8 days	Trigger: 1,330 cfs Volume: 11,400 af Duration: 23 days
Spring	89 cfs	220 cfs	Trigger: 1,140 cfs Volume: 6,800 af Duration: 14 days	Trigger: 1,999 cfs Volume: 18,000 af Duration: 21 days
Summer	73 cfs	220 cfs	Trigger: 240 cfs Volume: 1,090 af	Trigger: 500 cfs Volume: 2,670 af

			Duration: 6 days	Duration: 9 days
Fall	81 cfs	200 cfs	Trigger: 540 cfs Volume: 2,740 af Duration: 9 days	Trigger: 1,710 cfs Volume: 11,200 af Duration: 18 days

cfs = cubic feet per second
af = acre-feet

(5) Plum Creek near Luling, Texas generally described as USGS gage 08173000, and more particularly described as Latitude 29 degrees, 41 minutes, 58 seconds; Longitude 97 degrees, 36 minutes, 12 seconds.

Figure: 30 TAC §298.380(c)(5)

United States Geological Survey Gage 08173000, Plum Creek near Luling

Season	**Subsistence**	**Base**	**Small Seasonal Pulse (2 per season)**	**Large Seasonal Pulse (1 per season)**
Winter	3 cfs	12 cfs	Trigger: 350 cfs Volume: 1,800 af Duration: 17 days	Trigger: 1,470 cfs Volume: 6,870 af Duration: 23 days
Spring	2 cfs	10 cfs	Trigger: 720 cfs Volume: 3,300 af Duration: 17 days	Trigger: 2,100 cfs Volume: 8,860 af Duration: 21 days
Summer	1 cfs	5 cfs	Trigger: 48 cfs Volume: 230 af Duration: 10 days	Trigger: 230 cfs Volume: 1,080 af Duration: 15 days
Fall	1 cfs	8 cfs	Trigger: 150 cfs Volume: 720 af Duration: 13 days	Trigger: 750 cfs Volume: 3,280 af Duration: 17 days

cfs = cubic feet per second
af = acre-feet

(6) Guadalupe River at Gonzales, Texas, generally described as USGS gage 08173900, and more particularly described as Latitude 29 degrees, 29 minutes, 03 seconds; Longitude 97 degrees, 27 minutes, 00 seconds.

Figure: 30 TAC §298.380(c)(6)

United States Geological Survey Gage 08173900, Guadalupe River at Gonzales

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	210 cfs	796 cfs	Trigger: 1,150 cfs Volume: 9,640 af Duration: 13 days	Trigger: 4,140 cfs Volume: 48,300 af Duration: 29 days
Spring	210 cfs	791 cfs	Trigger: 3,250 cfs Volume: 26,900 af Duration: 17 days	Trigger: 4,154 cfs Volume: 50,000 af Duration: 24 days
Summer	210 cfs	727 cfs	Trigger: 950 cfs Volume: 7,060 af Duration: 10 days	Trigger: 1,760 cfs Volume: 14,800 af Duration: 14 days
Fall	180 cfs	746 cfs	Trigger: 1,410 cfs Volume: 11,400 af Duration: 13 days	Trigger: 4,154 cfs Volume: 41,200 af Duration: 23 days

cfs = cubic feet per second
af = acre-feet

(7) Sandies Creek near Westhoff, Texas, generally described as USGS gage 08175000, and more particularly described as Latitude 29 degrees, 12 minutes, 54 seconds; Longitude 97 degrees, 26 minutes, 57 seconds.

Figure: 30 TAC §298.380(c)(7)

United States Geological Survey Gage 08175000, Sandies Creek near Westhoff

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	4 cfs	12 cfs	Trigger: 300 cfs Volume: 1,880 af Duration: 16 days	Trigger: 770 cfs Volume: 4,840 af Duration: 21 days
Spring	1 cfs	9 cfs	Trigger: 440 cfs Volume: 2,710 af Duration: 18 days	Trigger: 770 cfs Volume: 4,840 af Duration: 21 days
Summer	1 cfs	4 cfs	Trigger: 59 cfs Volume: 330 af Duration: 11 days	Trigger: 250 cfs Volume: 1,430 af Duration: 16 days
Fall	2 cfs	9 cfs	Trigger: 150 cfs Volume: 960 af Duration: 14 days	Trigger: 570 cfs Volume: 3,650 af Duration: 18 days

cfs = cubic feet per second
af = acre-feet

(8) Guadalupe River at Cuero, Texas, generally described as USGS gage 08175800, and more particularly described as Latitude 29 degrees, 05 minutes, 25 seconds; Longitude 97 degrees, 19 minutes, 46 seconds.

Figure: 30 TAC §298.380(c)(8)

United States Geological Survey Gage 08175800, Guadalupe River at Cuero

Season	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	130 cfs	980 cfs	Trigger: 1,610 cfs Volume: 14,100 af Duration: 13 days	Trigger: 4,610 cfs Volume: 55,300 af Duration: 26 days
Spring	120 cfs	940 cfs	Trigger: 3,370 cfs Volume: 31,800 af Duration: 18 days	Trigger: 8,870 cfs Volume: 100,000 af Duration: 30 days
Summer	130 cfs	800 cfs	Trigger: 1,050 cfs Volume: 8,300 af Duration: 12 days	Trigger: 2,110 cfs Volume: 19,300 af Duration: 17 days

Fall	86 cfs	870 cfs	Trigger: 1,730 cfs Volume: 14,100 af Duration: 13 days	Trigger: 5,200 cfs Volume: 54,700 af Duration: 23 days

cfs = cubic feet per second
af = acre-feet

(9) Guadalupe River at Victoria, Texas, generally described as USGS gage 08176500, and more particularly described as Latitude 28 degrees, 47 minutes, 34 seconds; Longitude 97 degrees, 00 minutes, 46 seconds.

Figure: 30 TAC §298.380(c)(9)

United States Geological Survey Gage 08176500, Guadalupe River at Victoria

Season	**Subsistence**	**Base**	**Small Seasonal Pulse (2 per season)**	**Large Seasonal Pulse (1 per season)**
Winter	160 cfs	975 cfs	Trigger: 1,690 cfs Volume: 14,400 af Duration: 13 days	Trigger: 3,240 cfs Volume: 33,000 af Duration: 18 days
Spring	130 cfs	945 cfs	Trigger: 3,240 cfs Volume: 33,000 af Duration: 18 days	Trigger: 3,240 cfs Volume: 43,500 af Duration: 25 days
Summer	150 cfs	795 cfs	Trigger: 1,040 cfs Volume: 8,570 af Duration: 11 days	Trigger: 2,060 cfs Volume: 19,200 af Duration: 16 days
Fall	110 cfs	865 cfs	Trigger: 1,880 cfs Volume: 15,600 af Duration: 13 days	Trigger: 3,240 cfs Volume: 35,500 af Duration: 23 days

cfs = cubic feet per second
af = acre-feet

(10) Medina River at Bandera, Texas, generally described as USGS gage 08178880, and more particularly described as Latitude 29 degrees, 43 minutes, 25 seconds; Longitude 99 degrees, 04 minutes, 11 seconds.

Figure: 30 TAC §298.380(c)(10)

United States Geological Survey Gage 08178880, Medina River at Bandera

Season	**Hydrologic Condition**	**Subsistence**	**Base**	**Small Seasonal Pulse (2 per season)**	**Large Seasonal Pulse (1 per season)**
Winter	Dry	6 cfs	17 cfs	Trigger: 53 cfs Volume: 400 af Duration: 12 days	Trigger: 110 cfs Volume: 960 af Duration: 17 days
Winter	Average	N/A	32 cfs		
Winter	Wet	N/A	54 cfs		
Spring	Dry	7 cfs	10 cfs	Trigger: 110 cfs Volume: 900 af Duration: 17 days	Trigger: 480 cfs Volume: 4,190 af Duration: 28 days
Spring	Average	N/A	22 cfs		
Spring	Wet	N/A	48 cfs		
Summer	Dry	1 cfs	6 cfs	Trigger: 94 cfs Volume: 670 af Duration: 14 days	Trigger: 340 cfs Volume: 2,310 af Duration: 21 days
Summer	Average	N/A	16 cfs		
Summer	Wet	N/A	41 cfs		
Fall	Dry	2 cfs	16 cfs	Trigger: 68 cfs Volume: 500 af Duration: 14 days	Trigger: 220 cfs Volume: 1,930 af Duration: 24 days
Fall	Average	N/A	33 cfs		
Fall	Wet	N/A	49 cfs		

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(11) Medina River at San Antonio, Texas, generally described as USGS gage 08181500, and more particularly described as Latitude 29 degrees, 15 minutes, 50 seconds; Longitude 98 degrees, 29 minutes, 26 seconds.

Figure: 30 TAC §298.380(c)(11)

United States Geological Survey Gage 08181500, Medina River at San Antonio

Season	**Hydrologic Condition**	**Subsistence**	**Base**	**Small Seasonal Pulse (2 per season)**	**Large Seasonal Pulse (1 per season)**
Winter	Dry	14 cfs	20 cfs	Trigger: 120 cfs Volume: 970 af Duration: 15 days	Trigger: 350 cfs Volume: 3,570 af Duration: 27 days
Winter	Average	N/A	53 cfs		
Winter	Wet	N/A	71 cfs		
Spring	Dry	12 cfs	37 cfs	Trigger: 380 cfs Volume: 2,680 af Duration: 17 days	Trigger: 1,000 cfs Volume: 7,950 af Duration: 27 days
Spring	Average	N/A	62 cfs		
Spring	Wet	N/A	77 cfs		
Summer	Dry	8 cfs	33 cfs	Trigger: 140 cfs Volume: 860 af Duration: 12 days	Trigger: 440 cfs Volume: 3,050 af Duration: 21 days
Summer	Average	N/A	57 cfs		
Summer	Wet	N/A	72 cfs		
Fall	Dry	13 cfs	27 cfs	Trigger: 130 cfs Volume: 930 af Duration: 14 days	Trigger: 450 cfs Volume: 3,890 af Duration: 28 days
Fall	Average	N/A	60 cfs		
Fall	Wet	N/A	74 cfs		

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(12) San Antonio River near Elmendorf, Texas, generally described as USGS gage 08181800, and more particularly described as Latitude 29 degrees, 13 minutes, 19 seconds; Longitude 98 degrees, 21 minutes, 20 seconds.

(A) United States Geological Survey Gage 08181800, San Antonio River near Elmendorf: Subsistence Flows, Base Flows, and Small Seasonal Pulses.

Figure: 30 TAC §298.380(c)(12)(A)

United States Geological Survey Gage 08181800, San Antonio River near Elmendorf: Subsistence Flows, Base Flows, and Small Seasonal Pulses

Season	**Hydrologic Condition**	**Subsistence**	**Base**	**Small Seasonal Pulse (1 per season)**
Winter	Dry	60 cfs	115 cfs	Trigger: 830 cfs Volume: 6,210 af Duration: 14 days
Winter	Average	N/A	262 cfs	
Winter	Wet	N/A	328 cfs	
Spring	Dry	60 cfs	106 cfs	Trigger: 1,560 cfs Volume: 10,700 af Duration: 16 days
Spring	Average	N/A	237 cfs	
Spring	Wet	N/A	364 cfs	
Summer	Dry	60 cfs	87 cfs	Trigger: 1,110 cfs Volume: 6,460 af Duration: 12 days
Summer	Average	N/A	178 cfs	
Summer	Wet	N/A	341 cfs	
Fall	Dry	60 cfs	92 cfs	Trigger: 1,010 cfs

Fall	Average	N/A	223 cfs	Volume: 6,570 af Duration: 13 days
Fall	Wet	N/A	367 cfs	

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(B) United States Geological Survey Gage 08181800, San Antonio River near Elmendorf: Large Pulses.

Figure: 30 TAC §298.380(c)(12)(B)

United States Geological Survey Gage 08181800, San Antonio River near Elmendorf: Large Pulses

Time Period	**Frequency**	**Trigger**	**Duration**
April through June	3 per time period	3,000 cfs	2 days
May through June	2 per time period	4,000 cfs	2 days
July through November	2 per time period	4,000 cfs	2 days

cfs = cubic feet per second

(13) San Antonio River near Falls City, Texas, generally described as USGS gage 08183500, and more particularly described as Latitude 28 degrees, 57 minutes, 05 seconds; Longitude 98 degrees, 03 minutes, 50 seconds.

(A) United States Geological Survey Gage 08183500, San Antonio River near Falls City: Subsistence Flows, Base Flows, and Small Seasonal Pulses.

Figure: 30 TAC §298.380(c)(13)(A)

United States Geological Survey Gage 08183500, San Antonio River near Falls City: Subsistence Flows, Base Flows, and Small Seasonal Pulses

Season	**Hydrologic Condition**	**Subsistence**	**Base**	**Small Seasonal Pulse (1 per season)**
Winter	Dry	60 cfs	152 cfs	Trigger: 830 cfs Volume: 6,330 af Duration: 16 days
Winter	Average	N/A	292 cfs	
Winter	Wet	N/A	424 cfs	
Spring	Dry	60 cfs	137 cfs	Trigger: 1,670 cfs Volume: 12,300 af Duration: 19 days
Spring	Average	N/A	264 cfs	
Spring	Wet	N/A	467 cfs	
Summer	Dry	60 cfs	113 cfs	Trigger: 1,030 cfs Volume: 6,440 af Duration: 14 days
Summer	Average	N/A	199 cfs	
Summer	Wet	N/A	430 cfs	
Fall	Dry	60 cfs	117 cfs	Trigger: 850 cfs Volume: 5,690 af Duration: 14 days
Fall	Average	N/A	246 cfs	
Fall	Wet	N/A	479 cfs	

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(B) United States Geological Survey Gage 08183500, San Antonio River near Falls City: Large Pulses.

Figure: 30 TAC §298.380(c)(13)(B)

United States Geological Survey Gage 08183500, San Antonio River near Falls City: Large Pulses

Time Period	Frequency	Trigger	Duration
April through June	3 per time period	4,000 cfs	2 days
February through April	2 per time period	4,000 cfs	2 days
July through November	2 per time period	6,500 cfs	2 days

cfs = cubic feet per second

(14) Cibolo Creek near Falls City, Texas, generally described as USGS gage 08186000, and more particularly described as Latitude 29 degrees, 00 minutes, 50 seconds; Longitude 97 degrees, 55 minutes, 48 seconds.

(A) United States Geological Survey Gage 08186000, Cibolo Creek near Falls CitySubsistence Flows, Base Flows, and Small Seasonal Pulses.

Figure: 30 TAC §298.380(c)(14)(A)

United States Geological Survey Gage 08186000, Cibolo Creek near Falls City
Subsistence Flows, Base Flows, and Small Seasonal Pulses

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse
Winter	Dry	8 cfs	20 cfs	Trigger: 570 cfs Volume: 3,200 af Duration: 20 days Frequency: 1 per season
Winter	Average	N/A	28 cfs	
Winter	Wet	N/A	39 cfs	
Spring	Dry	8 cfs	16 cfs	N/A
Spring	Average	N/A	28 cfs	
Spring	Wet	N/A	44 cfs	

Summer	Dry	8 cfs	11 cfs	Trigger: 390 cfs Volume: 1,990 af Duration: 15 days Frequency: 1 per season
Summer	Average	N/A	20 cfs	
Summer	Wet	N/A	37 cfs	
Fall	Dry	8 cfs	13 cfs	Trigger: 190 cfs Volume: 1,000 af Duration: 13 days Frequency: 2 per season
Fall	Average	N/A	24 cfs	
Fall	Wet	N/A	40 cfs	

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(B) United States Geological Survey Gage 08186000, Cibolo Creek near Falls City: Large Pulses.

Figure: 30 TAC §298.380(c)(14)(B)

United States Geological Survey Gage 08186000, Cibolo Creek near Falls City: Large Pulses

Time Period	**Frequency**	**Trigger**	**Duration**
April through June	3 per time period	1,000 cfs	2 days
July through October	2 per time period	1,000 cfs	2 days
July through November	2 per time period	2,500 cfs	2 days

cfs = cubic feet per second

(15) San Antonio River at Goliad, Texas, generally described as USGS gage 08188500, and more particularly described as Latitude 28 degrees, 38 minutes, 57.43 seconds; Longitude 97 degrees, 23 minutes, 05.49 seconds.

(A) United States Geological Survey Gage 08188500, San Antonio River at Goliad: Subsistence Flows, Base Flows, and Small Seasonal Pulses.

Figure: 30 TAC §298.380(c)(15)(A)

United States Geological Survey Gage 08188500, San Antonio River at Goliad: Subsistence Flows, Base Flows, and Small Seasonal Pulses

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse
Winter	Dry	60 cfs	200 cfs	Trigger: 1,520 cfs Volume: 12,800 af Duration: 19 days Frequency: 1 per season
Winter	Average	N/A	329 cfs	
Winter	Wet	N/A	469 cfs	
Spring	Dry	60 cfs	174 cfs	Trigger: 1,570 cfs Volume: 11,300 af Duration: 16 days Frequency: 2 per season
Spring	Average	N/A	313 cfs	
Spring	Wet	N/A	502 cfs	
Summer	Dry	60 cfs	139 cfs	Trigger: 1,640 cfs Volume: 11,200 af Duration: 16 days Frequency: 1 per season
Summer	Average	N/A	237 cfs	
Summer	Wet	N/A	481 cfs	
Fall	Dry	60 cfs	167 cfs	Trigger: 2,320 cfs Volume: 17,600 af Duration: 19 days Frequency: 1 per season
Fall	Average	N/A	280 cfs	
Fall	Wet	N/A	584 cfs	

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

(B) United States Geological Survey Gage 08188500, San Antonio River at Goliad: Large Pulses.

Figure: 30 TAC §298.380(c)(15)(B)

United States Geological Survey Gage 08188500, San Antonio River at Goliad: Large Pulses

Time Period	Frequency	Trigger	Duration
April through June	3 per time period	4,000 cfs	2 days
February through April	2 per time period	4,000 cfs	2 days
July through November	2 per time period	8,000 cfs	2 days

cfs = cubic feet per second

(16) Mission River at Refugio, Texas, generally described as USGS gage 08189500, and more particularly described as Latitude 28 degrees, 17 minutes, 30 seconds; Longitude 97 degrees, 16 minutes, 44 seconds.

Figure: 30 TAC §298.380(c)(16)

United States Geological Survey Gage 08189500, Mission River at Refugio

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)
Winter	Dry	3 cfs	5 cfs	Trigger: 60 cfs Volume: 310 af Duration: 8 days	Trigger: 450 cfs Volume: 2,340 af Duration: 15 days
Winter	Average	N/A	9 cfs		
Winter	Wet	N/A	15 cfs		

Spring	Dry	2 cfs	5 cfs	Trigger: 320 cfs Volume: 1,440 af Duration: 10 days	Trigger: 1,560 cfs Volume: 7,910 af Duration: 18 days
Spring	Average	N/A	8 cfs		
Spring	Wet	N/A	14 cfs		
Summer	Dry	1 cfs	4 cfs	Trigger: 57 cfs Volume: 240 af Duration: 6 days	Trigger: 420 cfs Volume: 2,010 af Duration: 12 days
Summer	Average	N/A	7 cfs		
Summer	Wet	N/A	12 cfs		
Fall	Dry	2 cfs	5 cfs	Trigger: 45 cfs Volume: 200 af Duration: 6 days	Trigger: 410 cfs Volume: 2,090 af Duration: 14 days
Fall	Average	N/A	8 cfs		
Fall	Wet	N/A	15 cfs		

cfs = cubic feet per second
af = acre-feet
N/A = not applicable

§298.385. Water Right Permit Conditions.

(a) For water right permits with an authorization to store or divert water in the Guadalupe and San Antonio River Basins and the San Antonio-Nueces Coastal Basin, to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter.

(b) For water right permits with an authorization to divert water in the Guadalupe and San Antonio River Basins and the San Antonio-Nueces Coastal Basin at a rate less than 20% of the pulse trigger level requirements of an applicable high flow pulse at a measurement point, as described in §298.380(c) of this title (relating to Environmental Flow Standards), and to which the environmental flow standards apply, that are issued after the effective date of this subchapter, the water right permit or amendment shall contain flow restriction special conditions that are adequate to protect the environmental flow standards of this subchapter; however, no special conditions are necessary to preserve or pass that applicable high flow pulse.

§298.390. Schedule for Revision of Standards.

The environmental flow standards or environmental flow set-asides adopted in this subchapter for the Guadalupe, San Antonio, Mission, and Aransas Rivers, their associated tributaries, Mission, Copano, Aransas, and San Antonio Bays, and the associated estuaries may be revised by the commission through the rulemaking process. The final revised rules shall be effective no sooner than ten years from the effective date of this rule, unless the Guadalupe, San Antonio, Mission, and Aransas Basin and Bay Area Stakeholder Committee submits a work plan approved by the advisory group under Texas Water Code, §11.02362(p), that provides for a periodic review to occur more frequently. The rulemaking process shall include participation by a balanced

representation of stakeholders having interests in the Guadalupe, San Antonio, Mission, and Aransas Rivers, their associated tributaries, Mission, Copano, Aransas, and San Antonio Bays.