

**SUBCHAPTER D: COLORADO AND LAVACA RIVERS, AND
MATAGORDA AND LAVACA BAYS**
**§§298.300, 298.305, 298.310, 298.315, 298.320, 298.325, 298.330, 298.335,
298.340**
Effective August 30, 2012

§298.300. Applicability and Purpose.

This subchapter contains the environmental flow standards for the Colorado and Lavaca Rivers, and Matagorda and Lavaca Bays. The provisions of this subchapter have 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 Colorado and Lavaca Rivers, and Matagorda and Lavaca Bays.

Adopted August 8, 2012

Effective August 30, 2012

§298.305. Definitions.

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

(1) Annual average inflow--the long-term average annual volume of freshwater inflows at the most downstream point in the Colorado River Basin.

(2) Annual strategy frequency--the frequencies at which specific levels of freshwater inflows occur and which are used for the sole purpose of providing additional freshwater inflows to Matagorda and Lavaca Bays through voluntary strategies.

(3) Average condition--for all measurement points, the hydrologic condition that would occur approximately 50% of the time.

(4) Dry condition--for all measurement points except those measurement points on the Colorado River below Lake Travis, the hydrologic condition that would occur approximately 20% of the time and represents periods when conditions are dry but not severe. For all measurement points on the Colorado River below Lake Travis, the hydrologic condition that would occur approximately 45% of the time and that is intended to represent periods when conditions are drier than average conditions but not severe.

(5) Fall--for the measurement points on the Colorado River and its tributaries above Lake Travis, the period of time September through October, inclusive, and for all other measurement points, the period of time September through November, inclusive.

(6) Fall inflow quantity--during any individual calendar year, the maximum freshwater inflow quantity, at the most downstream point in the Lavaca River Basin and at the most downstream point on Garcitas Creek in the Lavaca-Guadalupe Coastal Basin, occurring during any period of three consecutive months beginning in the months of August, September, or October.

(7) Fall season quantity--the maximum freshwater inflow quantity, at the most downstream point in the Colorado River Basin, occurring during any three consecutive months during the period from August through December, inclusive.

(8) Intervening inflow quantity--the quantity of freshwater inflows, at the most downstream point in the Lavaca River Basin and at the most downstream point on Garcitas Creek in the Lavaca-Guadalupe Coastal Basin, occurring during the remaining six months of the calendar year, that were not included in the Fall Inflow or Spring Inflow for that calendar year.

(9) Intervening season quantity--the quantity of freshwater inflows, at the most downstream point in the Colorado River Basin, occurring during the six months of the calendar year that are not counted towards the fall season quantity or the spring season quantity for that year.

(10) Inflow regime level--one of the annual freshwater inflow patterns, at the most downstream point in the Colorado River Basin for Matagorda Bay, that includes a spring season quantity, a fall season quantity, and an intervening season quantity as described in Figure: 30 TAC §298.330(a)(2) of this title (relating to Environmental Flow Standards), or at the most downstream point in the Lavaca River Basin and the most downstream point on Garcitas Creek in the Lavaca-Guadalupe Coastal Basin for Lavaca Bay, that includes a spring inflow quantity, a fall inflow quantity, and an intervening inflow quantity as described in Figure 30: TAC §298.330(c) of this title.

(11) Long-Term annual strategy quantity--the annual average volume of freshwater inflows, which is used for the sole purpose of providing additional freshwater inflows to Matagorda Bay through voluntary strategies.

(12) Modeled annual frequency--the frequency at which specific levels of freshwater inflows occur in the commission's water availability models for the Colorado

and Lavaca river basins and the Colorado-Lavaca and Lavaca-Guadalupe coastal basins at the time the first water right application subject to this subchapter is processed.

(13) Monthly threshold inflow--the total volume of freshwater inflows, at the most downstream point in the Colorado River Basin, in any calendar month.

(14) Severe condition--for all measurement points, the hydrologic condition that would occur approximately 5% of the time and that is intended to represent the driest periods.

(15) Spring--the period of time March through June, inclusive.

(16) Spring inflow quantity--during any individual calendar year, the maximum freshwater inflow quantity, at the most downstream point in the Lavaca River Basin and at the most downstream point on Garcitas Creek in the Lavaca-Guadalupe Coastal Basin, occurring during any period of three consecutive months beginning in the months of February, March, April, or May.

(17) Spring season quantity--during any individual calendar year, the maximum freshwater inflow quantity, at the most downstream point in the Colorado River Basin, occurring during any three consecutive months during the period from January through July, inclusive.

(18) Sound ecological environment--characterized by flow regimes that support existing biological communities in rivers, riparian, bay, and estuary habitats.

(19) Summer--the period of time July through August, inclusive.

(20) Wet condition--for all measurement points except those measurement points on the Colorado River below Lake Travis, the hydrologic condition that would occur approximately 25% of the time and that is intended to represent the wettest conditions.

(21) Winter--for the measurement points on the Colorado River above Lake Travis, the period of time November through February, inclusive, and for all other measurement points, the period of time December through February, inclusive.

Adopted August 8, 2012

Effective August 30, 2012

§298.310. Findings.

(a) The Colorado and Lavaca Rivers and their associated tributaries and Matagorda and Lavaca Bays and their associated estuaries are healthy and sound

ecological environments.

(b) For the Colorado and Lavaca 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 Matagorda and Lavaca Bays, the commission finds that the sound ecological environment of Matagorda and Lavaca 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 inflows occur, which are used for the sole purpose of providing additional freshwater inflows to Matagorda and Lavaca Bays through voluntary strategies.

(d) For East Matagorda Bay, the commission does not adopt environmental flow standards but finds that the sound ecological environment of East Matagorda Bay can be maintained by avoiding further reduction of freshwater inflows, to the extent those reductions can be avoided, and that strategies to provide additional freshwater inflows to East Matagorda Bay should be pursued.

Adopted August 8, 2012

Effective August 30, 2012

§298.315. 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

Adopted August 8, 2012

Effective August 30, 2012

§298.320. Calculation of Hydrologic Conditions.

(a) For new water right authorizations 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 each measurement point specified in this section, either cumulative streamflow for the previous 12 months, combined storage in major reservoirs, or reservoir elevation will determine the hydrologic condition, as described in subsections (b) - (d) of this section.

(b) For measurement points located on the Colorado River above Lake Travis and tributaries of the Colorado River, and in the Colorado-Lavaca and the Lavaca-Guadalupe Coastal Basins, cumulative streamflow for the preceding 12 months and the corresponding hydrologic conditions are:

Cumulative Streamflow for Calculating Hydrologic Conditions for Measurement Points on the Colorado River above Lake Travis and tributaries of the Colorado River, and in the Colorado-Lavaca and the Lavaca-Guadalupe Coastal Basins

BASIN	MEASUREMENT POINT	Cumulative Streamflow (acre-feet)			
		SEVERE	DRY	AVERAGE	WET
COLORADO	Colorado River above Silver	less than 4,090	4,090 - 16,600	16,600 - 57,490	greater than 57,490
COLORADO	Colorado River near Ballinger	less than 3,120	3,120 - 11,150	11,150 - 67,700	greater than 67,700
COLORADO	Elm Creek at Ballinger	less than 820	820 - 4,990	4,990 - 46,560	greater than 46,560
COLORADO	South Concho River at Christoval	less than 5,270	5,270 - 7,380	7,380 - 21,660	greater than 21,660
COLORADO	Concho River at Paint Rock	less than 7,110	7,110 - 17,000	17,000 - 49,900	greater than 49,900
COLORADO	Pecan Bayou near Mullin	less than 11,860	11,860 - 26,700	26,700 - 187,740	greater than 187,740

COLORADO	San Saba River at San Saba	less than 40,550	40,550 - 61,100	61,100 - 149,890	greater than 149,890
COLORADO	Colorado River near San Saba	less than 80,510	80,510 - 205,110	205,110 - 568,970	greater than 568,970
COLORADO	Llano River at Llano	less than 90,810	90,810 - 145,660	145,660 - 364,540	greater than 364,540
COLORADO	Pedernales River near Johnson City	less than 27,710	27,710 - 70,210	70,210 - 222,700	greater than 222,700
COLORADO	Onion Creek near Driftwood	less than 810	810 - 10,460	10,460 - 59,610	greater than 59,610
COLORADO- LAVACA	Tres Palacios Creek near Midfield	less than 31,940	31,940 - 62,920	62,920 - 158,630	greater than 158,630
LAVACA-GUADALUPE	Garcitas Creek near Inez	less than 1,880	1,880 - 10,790	10,790 - 62,460	greater than 62,460

(c) For measurement points located on the Colorado River below Lake Travis, the combined reservoir storage in Lakes Travis and Buchanan and the corresponding hydrologic conditions are:

Combined Reservoir Storage for Calculating Hydrologic Conditions for Measurement Points on the Colorado River below Lake Travis

		Combined Reservoir Storage in Lakes Travis and Buchanan (acre-feet)		
BASIN	MEASUREMENT POINTS	SEVERE	DRY	AVERAGE

COLORADO	Colorado River at Bastrop, Colorado River at Columbus, Colorado River at Wharton	less than 1,103,700	1,103,700 - 1,737,460	greater than 1,737,460
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(d) For measurement points located in the Lavaca River Basin, the reservoir elevation of Lake Texana and the corresponding hydrologic conditions are:

Reservoir Elevation for Calculating Hydrologic Conditions for Measurement Points in the Lavaca River Basin

BASIN	MEASUREMENT POINTS	Reservoir Elevation of Lake Texana (msl)			
		SEVERE	DRY	AVERAGE	WET
LAVACA	West Mustang Creek near Ganado, East Mustang Creek near Louise, Navidad River near Edna, Sandy Creek near Ganado, Lavaca River near Edna	less than 39.95	39.95 - 43.00	43.00 - 44.00	greater than 44.00

msl = mean sea level

(e) For purposes of water availability determinations, for measurement points on the Colorado River above Lake Travis and tributaries of the Colorado River, and in the Lavaca River Basin and the Colorado-Lavaca and Lavaca-Guadalupe Coastal Basins, hydrologic conditions used in the commission's water availability models shall be calculated such that severe conditions occur approximately 5% of the time, dry conditions occur approximately 20% of the time, average conditions occur approximately 50% of the time, and wet conditions occur approximately 25% of the time.

(f) For purposes of water availability determinations, for measurement points on the Colorado River below Lake Travis, hydrologic conditions used in the commission's water availability models shall be calculated such that severe conditions occur approximately 5% of the time, dry conditions occur approximately 45% of the time, and average conditions occur approximately 50% of the time.

(g) The hydrologic condition indicators set out in subsections (b) - (d) of this section govern the operations of permits subject to this subchapter during the initial

period, of not longer than ten years, until the environmental flow standards in this subchapter are reevaluated. Those indicators were calculated to achieve compliance with the percentages of time stated in subsections (e) and (f) of this section. The hydrologic condition indicators set out in subsections (b) - (d) of this section will be recalculated, no less frequently than once every ten years, in order to achieve, to the greatest extent possible, compliance with the percentages of time stated in subsections (e) and (f) of this section.

Adopted August 8, 2012

Effective August 30, 2012

§298.325. 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 at 21 separate measurement locations in §298.330 of this title (relating to Environmental Flow Standards).

(b) Subsistence flow. The applicable subsistence flow standard varies depending on the seasons as described in §298.305 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 under severe hydrologic conditions, unless the flow at the measurement point is above the applicable subsistence flow standard for that point. During severe hydrologic conditions, if the flow at the measurement point is above the subsistence flow standard but below the applicable dry condition base flow standard, then the water right holder may divert or store water 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 §298.305 of this title and the hydrologic condition described in §298.320 of this title (relating to Calculation of Hydrologic Conditions). 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 is subject to the base flow standard for the hydrologic condition prevailing at that time. For all measurement points except those on the Colorado River below Lake Travis, the water right will be subject to one of the following: a dry, an average, or a wet base flow standard. For all measurement points on the Colorado River below Lake Travis, the water right will be subject to either a dry or an average base flow standard. For all measurement points, the dry base flow standard applies during severe hydrologic conditions. 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 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 for that hydrologic condition.

(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 on the Colorado River below Lake Travis, two pulses per season, one pulse per 18 months, and one pulse per two years are to be passed (i.e., no storage or diversion by an applicable water right holder), if applicable, and as described in §298.330 of this title, if streamflows 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 until the daily average flow at the applicable measurement point equals at least the 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.

(2) For measurement points on the Colorado River above Lake Travis, tributaries of the Colorado River, and in the Lavaca River Basin and the Colorado-Lavaca and Lavaca-Guadalupe Coastal Basins, one or two pulses per season and one pulse per year are to be passed (i.e., no storage or diversion by an applicable water right holder), if applicable, and as described in §298.330 of this title, if streamflows 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 until either the applicable volume amount has passed the applicable measurement point or the duration time has passed since the high flow pulse trigger level occurred except during times that streamflow at the applicable measurement point exceeds the applicable high flow pulse trigger level.

(3) If the applicable high flow pulse trigger level does not occur in a season, then the water right holder need not stop storing or diverting water 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.

(5) High flow pulses are independent of the hydrologic conditions set out in §298.320 of this title.

(6) If a high flow pulse requirement for a one-per-season pulse is satisfied for a particular season, one of the two-per-season pulse requirements is also considered to be satisfied. When a pulse flow requirement for an annual pulse is satisfied in a particular season, the one-per-season pulse requirement and one of the two-per-season pulse requirements 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.

Adopted August 8, 2012

Effective August 30, 2012

§298.330. Environmental Flow Standards.

(a) A water right application in the Colorado River 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 figure 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:

(1) decrease the annual average freshwater inflow, at the most downstream point in the Colorado River Basin, below 60% of the long-term annual strategy quantity listed in Figure: 30 TAC §298.330(a)(2);

(2) decrease the modeled annual frequency of any inflow regime; or,

Bay and Estuary Freshwater Inflow Standards for Matagorda Bay Inflows from the Colorado River Basin

Inflow Regime	Monthly Minimum Quantity (af)	Spring Season Quantity (af)	Fall Season Quantity (af)	Intervening Season Quantity (af)	Long-Term Annual Strategy Quantity (af)	Annual Strategy Frequency
Monthly Threshold Inflow	15,000	N/A	N/A	N/A	N/A	100%
Level 1	N/A	114,000	81,000	105,000	N/A	90%

Level 2	N/A	168,700	119,900	155,400	N/A	75%
Level 3	N/A	246,200	175,000	226,800	N/A	60%
Level 4	N/A	433,200	307,800	399,000	N/A	35%
Annual Average	N/A	N/A	N/A	N/A	1,400,000	N/A

af = acre-feet

N/A = not applicable

(3) decrease the monthly inflow quantity to Matagorda Bay below 15,000 acre-feet per month.

(b) To the extent that strategies are implemented through a water right permit or amendment to help meet the freshwater inflow standards for Matagorda Bay, a water right application in the Colorado River 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 long-term annual strategy quantity, the modeled annual frequency, or the monthly threshold inflow for any inflow regime level listed in Figure: 30 TAC §298.330(a)(2) below the long term annual strategy quantity, modeled annual frequency, or the monthly threshold inflow that would occur in the commission's water availability model with the permitted strategy or strategies in place.

(c) A water right application in the Lavaca River basin, or Garcitas Creek located in the Lavaca-Guadalupe 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 cause or contribute to an impairment of the inflow regimes as described in the figure 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 prior authorizations subject to this subchapter, would decrease the modeled annual frequency of any inflow regime level.

Bay and Estuary Freshwater Inflow Standards for the Lavaca Bay System

Inflow Regime	Spring Inflow Quantity (af)	Fall Inflow Quantity (af)	Intervening Inflow Quantity (af)	Annual Strategy Frequency
Subsistence	13,500	9,600	6,900	96%
Base Dry	55,080	39,168	28,152	82%
Base Average	127,980	91,080	65,412	46%
Base Wet	223,650	158,976	114,264	28%

af=acre feet

(d) To the extent that strategies are implemented through a water right permit or amendment to help meet the freshwater inflow standards for Lavaca Bay, a water right application in the Lavaca River Basin, or on Garcitas Creek in the Lavaca-Guadalupe 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 annual frequency in the commission's water availability model for any inflow regime level described in Figure: 30 TAC §298.330(c) below the frequency that would occur with the permitted strategy or strategies in place.

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

(1) Colorado River above Silver, Texas, generally described as United States Geological Survey (USGS) gage 08123850, and more specifically described as Latitude 32 degrees, 03 minutes, 13 seconds; Longitude 100 degrees, 45 minutes, 42 seconds.

United States Geological Survey Gage 08123850, Colorado River above Silver

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	2 cfs	Trigger: 18 cfs Volume: 120 af Duration: 13 days	Trigger: 42 cfs Volume: 300 af Duration: 15 days	Trigger: 3,000 cfs Volume: 13,600 af Duration: 17 days
Winter	Dry	N/A	2 cfs			
Winter	Average	N/A	4 cfs			
Winter	Wet	N/A	7 cfs			
Spring	Severe	1 cfs	2 cfs	Trigger: 600 cfs Volume: 2,500 af Duration: 9 days	Trigger: 1,800 cfs Volume: 7,900 af Duration: 11 days	
Spring	Dry	N/A	2 cfs			
Spring	Average	N/A	5 cfs			
Spring	Wet	N/A	12 cfs			
Summer	Severe	1 cfs	1 cfs	Trigger: 100 cfs Volume: 350 af Duration: 6 days	Trigger: 330 cfs Volume: 1,400 af Duration: 9 days	
Summer	Dry	N/A	1 cfs			
Summer	Average	N/A	3 cfs			
Summer	Wet	N/A	8 cfs			

Fall	Severe	1 cfs	1 cfs	Trigger: 100 cfs Volume: 400 af Duration: 6 days	Trigger: 430 cfs Volume: 1,800 af Duration: 9 days	
Fall	Dry	N/A	1 cfs			
Fall	Average	N/A	4 cfs			
Fall	Wet	N/A	10 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(2) Colorado River near Ballinger, Texas, generally described as USGS gage 08126380, and more specifically described as Latitude 31 degrees, 42 minutes, 55 seconds; Longitude 100 degrees, 01 minutes, 34 seconds.

United States Geological Survey Gage 08126380, Colorado River near Ballinger

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	4 cfs	Trigger: 27 cfs Volume: 180 af Duration: 11 days	Trigger: 96 cfs Volume: 660 af Duration: 17 days	Trigger: 3,200 cfs Volume: 13,700 af Duration: 10 days
Winter	Dry	N/A	4 cfs			
Winter	Average	N/A	9 cfs			
Winter	Wet	N/A	14 cfs			
Spring	Severe	1 cfs	3 cfs	Trigger: 1,300 cfs Volume: 5,300 af Duration: 9 days	Trigger: 3,200 cfs Volume: 13,700 af Duration: 10 days	
Spring	Dry	N/A	3 cfs			
Spring	Average	N/A	9 cfs			
Spring	Wet	N/A	19 cfs			
Summer	Severe	1 cfs	2 cfs	Trigger: 130 cfs Volume: 490 af Duration: 6 days	Trigger: 630 cfs Volume: 2,600 af Duration: 9 days	
Summer	Dry	N/A	2 cfs			
Summer	Average	N/A	6 cfs			
Summer	Wet	N/A	14 cfs			
Fall	Severe	1 cfs	4 cfs	Trigger: 250 cfs Volume: 950	Trigger: 1,500 cfs Volume:	
Fall	Dry	N/A	4 cfs			

Fall	Average	N/A	9 cfs	af Duration: 8 days	5,700 af Duration: 10 days	
Fall	Wet	N/A	17 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(3) Colorado River near San Saba, Texas, generally described as USGS gage 08147000, and more specifically described as Latitude 31 degrees, 13 minutes, 04 seconds; Longitude 98 degrees, 33 minutes, 51 seconds.

United States Geological Survey Gage 08147000, Colorado River near San Saba

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	50 cfs	95 cfs	Trigger: 520 cfs Volume: 3,100 af Duration: 9 days	Trigger: 1,600 cfs Volume: 11,100 af Duration: 15 days	Trigger: 18,900 cfs Volume: 129,100 af Duration: 23 days
Winter	Dry	N/A	95 cfs			
Winter	Average	N/A	150 cfs			
Winter	Wet	N/A	210 cfs			
Spring	Severe	50 cfs	120 cfs	Trigger: 5,800 cfs Volume: 31,300 af Duration: 9 days	Trigger: 11,000 cfs Volume: 70,200 af Duration: 13 days	
Spring	Dry	N/A	120 cfs			
Spring	Average	N/A	190 cfs			
Spring	Wet	N/A	360 cfs			
Summer	Severe	30 cfs	72 cfs	Trigger: 510 cfs Volume: 1,900 af Duration: 4 days	Trigger: 1,400 cfs Volume: 6,500 af Duration: 7 days	
Summer	Dry	N/A	72 cfs			
Summer	Average	N/A	120 cfs			
Summer	Wet	N/A	210 cfs			
Fall	Severe	30 cfs	95 cfs	Trigger: 890 cfs Volume: 3,500 af Duration:	Trigger: 3,800 cfs Volume: 19,200 af Duration:	
Fall	Dry	N/A	95 cfs			
Fall	Average	N/A	150 cfs			

Fall	Wet	N/A	210 cfs	6 days	12 days	
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cfs = cubic feet per second
 af = acre-feet
 N/A = not applicable

(4) Elm Creek at Ballinger, Texas, generally described as USGS gage 08127000, and more specifically described as Latitude 31 degrees, 44 minutes, 57 seconds; Longitude 99 degrees, 56 minutes, 51 seconds.

United States Geological Survey Gage 08127000, Elm Creek at Ballinger

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	1 cfs	Trigger: 10 cfs Volume: 71 af Duration: 10 days	Trigger: 40 cfs Volume: 270 af Duration: 1 day	Trigger: 1,900 cfs Volume: 7,200 af Duration: 18 days
Winter	Dry	N/A	1 cfs			
Winter	Average	N/A	1 cfs			
Winter	Wet	N/A	4 cfs			
Spring	Severe	1 cfs	1 cfs	Trigger: 380 cfs Volume: 1,400 af Duration: 10 days	Trigger: 1,000 cfs Volume: 3,800 af Duration: 12 days	
Spring	Dry	N/A	1 cfs			
Spring	Average	N/A	1 cfs			
Spring	Wet	N/A	5 cfs			
Summer	Severe	1 cfs	1 cfs	Trigger: 6 cfs Volume: 25 af Duration: 6 days	Trigger: 74 cfs Volume: 300 af Duration: 9 days	
Summer	Dry	N/A	1 cfs			
Summer	Average	N/A	1 cfs			
Summer	Wet	N/A	1 cfs			
Fall	Severe	1 cfs	1 cfs	Trigger: 10 cfs Volume: 46 af Duration: 9 days	Trigger: 190 cfs Volume: 850 af Duration: 15 days	
Fall	Dry	N/A	1 cfs			
Fall	Average	N/A	1 cfs			
Fall	Wet	N/A	1 cfs			

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

(5) Concho River at Paint Rock, Texas, generally described as USGS gage 08136500, and more specifically described as Latitude 31 degrees, 30 minutes, 57 seconds; Longitude 99 degrees, 55 minutes, 09 seconds.

United States Geological Survey Gage 08136500, Concho River at Paint Rock

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	8 cfs	Trigger: 61 cfs Volume: 400 af Duration: 10 days	Trigger: 160 cfs Volume: 1,200 af Duration: 16 days	Trigger: 3,000 cfs Volume: 13,500 af Duration: 19 days
Winter	Dry	N/A	8 cfs			
Winter	Average	N/A	20 cfs			
Winter	Wet	N/A	36 cfs			
Spring	Severe	1 cfs	4 cfs	Trigger: 500 cfs Volume: 2,000 af Duration: 8 days	Trigger: 1,400 cfs Volume: 5,700 af Duration: 11 days	
Spring	Dry	N/A	4 cfs			
Spring	Average	N/A	14 cfs			
Spring	Wet	N/A	27 cfs			
Summer	Severe	1 cfs	1 cfs	Trigger: 32 cfs Volume: 140 af Duration: 6 days	Trigger: 110 cfs Volume: 520 af Duration: 8 days	
Summer	Dry	N/A	1 cfs			
Summer	Average	N/A	4 cfs			
Summer	Wet	N/A	12 cfs			
Fall	Severe	1 cfs	5 cfs	Trigger: 74 cfs Volume: 330 af Duration: 7 days	Trigger: 300 cfs Volume: 1,300 af Duration: 10 days	
Fall	Dry	N/A	5 cfs			
Fall	Average	N/A	16 cfs			
Fall	Wet	N/A	29 cfs			

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

(6) South Concho River at Christoval, Texas, generally described as USGS gage 08128000, and more specifically described as Latitude 31 degrees, 11 minutes, 13 seconds; Longitude 100 degrees, 30 minutes, 06 seconds.

United States Geological Survey Gage 08128000, South Concho River at Christoval

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	2 cfs	9 cfs	N/A	N/A	Trigger: 420 cfs Volume: 1,400 af Duration: 9 days
Winter	Dry	N/A	9 cfs			
Winter	Average	N/A	15 cfs			
Winter	Wet	N/A	22 cfs			
Spring	Severe	3 cfs	9 cfs	N/A	N/A	
Spring	Dry	N/A	9 cfs			
Spring	Average	N/A	15 cfs			
Spring	Wet	N/A	22 cfs			
Summer	Severe	2 cfs	7 cfs	N/A	N/A	
Summer	Dry	N/A	7 cfs			
Summer	Average	N/A	12 cfs			
Summer	Wet	N/A	22 cfs			
Fall	Severe	2 cfs	7 cfs	N/A	Trigger: 45 cfs Volume: 190 af Duration: 7 days	
Fall	Dry	N/A	7 cfs			
Fall	Average	N/A	12 cfs			
Fall	Wet	N/A	22 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(7) Pecan Bayou near Mullin, Texas, generally described as USGS gage 08143600, and more specifically described as Latitude 31 degrees, 31 minutes, 02 seconds; Longitude 98 degrees, 44 minutes, 25 seconds.

United States Geological Survey Gage 08143600, Pecan Bayou near Mullin

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	3 cfs	Trigger: 52 cfs Volume: 230 af Duration: 7 days	Trigger: 250 cfs Volume: 1,500 af Duration: 14 days	Trigger: 3,500 cfs Volume: 25,800 af Duration: 26 days
Winter	Dry	N/A	3 cfs			
Winter	Average	N/A	7 cfs			
Winter	Wet	N/A	12 cfs			
Spring	Severe	1 cfs	3 cfs	Trigger: 710 cfs Volume: 3,600 af Duration: 10 days	Trigger: 2,100 cfs Volume: 13,200 af Duration: 17 days	
Spring	Dry	N/A	3 cfs			
Spring	Average	N/A	9 cfs			
Spring	Wet	N/A	19 cfs			
Summer	Severe	1 cfs	2 cfs	Trigger: 21 cfs Volume: 73 af Duration: 4 days	Trigger: 100 cfs Volume: 440 af Duration: 7 days	
Summer	Dry	N/A	2 cfs			
Summer	Average	N/A	4 cfs			
Summer	Wet	N/A	8 cfs			
Fall	Severe	1 cfs	3 cfs	Trigger: 36 cfs Volume: 110 af Duration: 3 days	Trigger: 250 cfs Volume: 1,200 af Duration: 9 days	
Fall	Dry	N/A	3 cfs			
Fall	Average	N/A	7 cfs			
Fall	Wet	N/A	12 cfs			

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

(8) San Saba River at San Saba, Texas, generally described as USGS gage 08146000, and more specifically described as Latitude 31 degrees, 12 minutes, 47 seconds; Longitude 98 degrees, 43 minutes, 09 seconds.

United States Geological Survey Gage 08146000, San Saba River at San Saba

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	29 cfs	56 cfs	Trigger: 150 cfs Volume: 980 af Duration: 14 days	Trigger: 330 cfs Volume: 2,300 af Duration: 18 days	Trigger: 5,500 cfs Volume: 27,400 af Duration: 21 days
Winter	Dry	N/A	56 cfs			
Winter	Average	N/A	81 cfs			
Winter	Wet	N/A	110 cfs			
Spring	Severe	22 cfs	56 cfs	Trigger: 810 cfs Volume: 3,600 af Duration: 9 days	Trigger: 2,000 cfs Volume: 9,200 af Duration: 12 days	
Spring	Dry	N/A	56 cfs			
Spring	Average	N/A	81 cfs			
Spring	Wet	N/A	110 cfs			
Summer	Severe	3 cfs	32 cfs	N/A	Trigger: 210 cfs Volume: 1,100 af Duration: 9 days	
Summer	Dry	N/A	32 cfs			
Summer	Average	N/A	46 cfs			
Summer	Wet	N/A	62 cfs			
Fall	Severe	13 cfs	40 cfs	Trigger: 150 cfs Volume: 600 af Duration: 8 days	Trigger: 500 cfs Volume: 2,300 af Duration: 12 days	
Fall	Dry	N/A	40 cfs			
Fall	Average	N/A	64 cfs			
Fall	Wet	N/A	87 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(9) Llano River at Llano, Texas, generally described as USGS gage 08151500, and more specifically described as Latitude 30 degrees, 45 minutes, 04 seconds; Longitude 98 degrees, 40 minutes, 10 seconds.

United States Geological Survey Gage 08151500, Llano River at Llano

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse	Large Seasonal Pulse	Annual Pulse
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				(2 per season)	(1 per season)	
Winter	Severe	44 cfs	100 cfs	Trigger: 390 cfs Volume: 2,500 af Duration: 13 days	Trigger: 1,100 cfs Volume: 6,800 af Duration: 16 days	Trigger: 9,100 cfs Volume: 46,100 af Duration: 18 days
Winter	Dry	N/A	100 cfs			
Winter	Average	N/A	150 cfs			
Winter	Wet	N/A	190 cfs			
Spring	Severe	35 cfs	100 cfs	Trigger: 1,800 cfs Volume: 8,500 af Duration: 10 days	Trigger: 4,800 cfs Volume: 23,200 af Duration: 13 days	
Spring	Dry	N/A	100 cfs			
Spring	Average	N/A	150 cfs			
Spring	Wet	N/A	190 cfs			
Summer	Severe	3 cfs	67 cfs	N/A	Trigger: 560 cfs Volume: 2,600 af Duration: 9 days	
Summer	Dry	N/A	67 cfs			
Summer	Average	N/A	92 cfs			
Summer	Wet	N/A	130 cfs			
Fall	Severe	20 cfs	87 cfs	Trigger: 370 cfs Volume: 1,600 af Duration: 8 days	Trigger: 1,400 cfs Volume: 6,300 af Duration: 11 days	
Fall	Dry	N/A	87 cfs			
Fall	Average	N/A	120 cfs			
Fall	Wet	N/A	190 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(10) Pedernales River near Johnson City, Texas, generally described as USGS gage 08153500, and more specifically described as Latitude 30 degrees, 17 minutes, 30 seconds; Longitude 98 degrees, 23 minutes, 57 seconds.

United States Geological Survey Gage 08153500, Pedernales River near Johnson City

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
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Winter	Severe	7 cfs	23 cfs	Trigger: 270 cfs Volume: 1,300 af Duration: 9 days	Trigger: 860 cfs Volume: 4,700 af Duration: 15 days	Trigger: 6,980 cfs Volume: 28,320 af Duration: 15 days
Winter	Dry	N/A	23 cfs			
Winter	Average	N/A	45 cfs			
Winter	Wet	N/A	80 cfs			
Spring	Severe	4 cfs	29 cfs	Trigger: 1,700 cfs Volume: 6,300 af Duration: 8 days	Trigger: 3,700 cfs Volume: 14,400 af Duration: 10 days	
Spring	Dry	N/A	29 cfs			
Spring	Average	N/A	60 cfs			
Spring	Wet	N/A	110 cfs			
Summer	Severe	1 cfs	16 cfs	N/A	Trigger: 290 cfs Volume: 1,100 af Duration: 7 days	
Summer	Dry	N/A	16 cfs			
Summer	Average	N/A	29 cfs			
Summer	Wet	N/A	49 cfs			
Fall	Severe	1 cfs	16 cfs	Trigger: 160 cfs Volume: 620 af Duration: 6 days	Trigger: 860 cfs Volume: 3,000 af Duration: 8 days	
Fall	Dry	N/A	16 cfs			
Fall	Average	N/A	29 cfs			
Fall	Wet	N/A	49 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(11) Onion Creek near Driftwood, Texas, generally described as USGS gage 08158700, and more specifically described as Latitude 30 degrees, 04 minutes, 58 seconds; Longitude 98 degrees, 00 minutes, 27 seconds.

United States Geological Survey Gage 08158700, Onion Creek near Driftwood

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	2 cfs	N/A	Trigger: 170 cfs Volume:	Trigger: 1,200 cfs Volume:
Winter	Dry	N/A	2 cfs			

Winter	Average	N/A	6 cfs		1,900 af Duration: 20 days	8,700 af Duration: 34 days
Winter	Wet	N/A	26 cfs			
Spring	Severe	1 cfs	4 cfs	Trigger: 200 cfs Volume: 1,100 af Duration: 11 days	Trigger: 620 cfs Volume: 3,700 af Duration: 19 days	
Spring	Dry	N/A	4 cfs			
Spring	Average	N/A	12 cfs			
Spring	Wet	N/A	34 cfs			
Summer	Severe	1 cfs	1 cfs	N/A	N/A	
Summer	Dry	N/A	1 cfs			
Summer	Average	N/A	3 cfs			
Summer	Wet	N/A	7 cfs			
Fall	Severe	1 cfs	1 cfs	Trigger: 18 cfs Volume: 70 af Duration: 5 days	Trigger: 120 cfs Volume: 560 af Duration: 11 days	
Fall	Dry	N/A	1 cfs			
Fall	Average	N/A	3 cfs			
Fall	Wet	N/A	7 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(12) Colorado River at Bastrop, Texas, generally described as USGS gage 08159200, and more specifically described as Latitude 30 degrees, 06 minutes, 16 seconds; Longitude 97 degrees, 19 minutes, 09 seconds.

(A) United States Geological Survey Gage 08159200, Colorado River at Bastrop.

United States Geological Survey Gage 08159200, Colorado River at Bastrop

Season	Month	Hydrologic Condition	Subsistence	Base	Seasonal Pulse (2 per season)
Winter	December	Severe	186 cfs	311 cfs	Magnitude: 3,000 cfs Duration: 4 days
	December	Dry	N/A	311 cfs	
	December	Average	N/A	450 cfs	

	January	Severe	208 cfs	313 cfs	
	January	Dry	N/A	313 cfs	
	January	Average	N/A	433 cfs	
	February	Severe	274	317 cfs	
	February	Dry	N/A	317 cfs	
	February	Average	N/A	497 cfs	
Spring	March	Severe	274 cfs	274 cfs	Magnitude: 3,000 cfs Duration: 4 days
	March	Dry	N/A	274 cfs	
	March	Average	N/A	497 cfs	
	April	Severe	184 cfs	287 cfs	
	April	Dry	N/A	287 cfs	
	April	Average	N/A	635 cfs	
	May	Severe	275 cfs	579 cfs	
	May	Dry	N/A	579 cfs	
	May	Average	N/A	824 cfs	
	June	Severe	202 cfs	418 cfs	
	June	Dry	N/A	418 cfs	
	June	Average	N/A	733 cfs	
Summer	July	Severe	137 cfs	347 cfs	Magnitude: 3,000 cfs Duration: 4 days
	July	Dry	N/A	347 cfs	
	July	Average	N/A	610 cfs	
	August	Severe	123 cfs	194 cfs	
	August	Dry	N/A	194 cfs	
	August	Average	N/A	381 cfs	
Fall	September	Severe	123 cfs	236 cfs	Magnitude: 3,000 cfs Duration: 4 days
	September	Dry	N/A	236 cfs	
	September	Average	N/A	423 cfs	
	October	Severe	127 cfs	245 cfs	
	October	Dry	N/A	245 cfs	
	October	Average	N/A	433 cfs	
	November	Severe	180 cfs	283 cfs	
	November	Dry	N/A	283 cfs	
	November	Average	N/A	424 cfs	

cfs = cubic feet per second

N/A = not applicable

(B) United States Geological Survey Gage 08159200, Colorado River at Bastrop.

United States Geological Survey Gage 08159200, Colorado River at Bastrop

Pulse Frequency	Pulse Magnitude	Pulse Duration
1 per 18 months	8,000 cfs	2 days

cfs = cubic feet per second

(13) Colorado River at Columbus, Texas, generally described as USGS gage 08161000, and more specifically described as Latitude 29 degrees, 42 minutes, 22 seconds; Longitude 96 degrees, 32 minutes, 12 seconds.

(A) United States Geological Survey Gage 08161000, Colorado River at Columbus.

United States Geological Survey Gage 08161000, Colorado River at Columbus

Season	Month	Hydrologic Condition	Subsistence	Base	Seasonal Pulse (2 per season)
Winter	December	Severe	301 cfs	464 cfs	Magnitude: 3,000 cfs Duration: 4 days
	December	Dry	N/A	464 cfs	
	December	Average	N/A	737 cfs	
	January	Severe	340 cfs	487 cfs	
	January	Dry	N/A	487 cfs	
	January	Average	N/A	828 cfs	
	February	Severe	375	590 cfs	
	February	Dry	N/A	590 cfs	
Spring	February	Average	N/A	895 cfs	Magnitude: 3,000 cfs Duration: 4 days
	March	Severe	375 cfs	525 cfs	
	March	Dry	N/A	525 cfs	
	March	Average	N/A	1,020 cfs	
	April	Severe	299 cfs	554 cfs	
April	Dry	N/A	554 cfs		

	April	Average	N/A	977 cfs	
	May	Severe	425 cfs	966 cfs	
	May	Dry	N/A	966 cfs	
	May	Average	N/A	1,316 cfs	
	June	Severe	534 cfs	967 cfs	
	June	Dry	N/A	967 cfs	
	June	Average	N/A	1,440 cfs	
Summer	July	Severe	342 cfs	570 cfs	Magnitude: 3,000 cfs Duration: 4 days
	July	Dry	N/A	570 cfs	
	July	Average	N/A	895 cfs	
	August	Severe	190 cfs	310 cfs	
	August	Dry	N/A	310 cfs	
	August	Average	N/A	516 cfs	
Fall	September	Severe	279 cfs	405 cfs	Magnitude: 3,000 cfs Duration: 4 days
	September	Dry	N/A	405 cfs	
	September	Average	N/A	610 cfs	
	October	Severe	190 cfs	356 cfs	
	October	Dry	N/A	356 cfs	
	October	Average	N/A	741 cfs	
	November	Severe	202 cfs	480 cfs	
	November	Dry	N/A	480 cfs	
	November	Average	N/A	755 cfs	

cfs = cubic feet per second
 N/A = not applicable

(B) United States Geological Survey Gage 08161000, Colorado River at Columbus.

United States Geological Survey Gage 08161000, Colorado River at Columbus

Pulse Frequency	Pulse Magnitude	Pulse Duration
1 per 18 months	8,000 cfs	2 days
1 per 2 years	27,000 cfs	2 days

cfs = cubic feet per second

(14) Colorado River at Wharton, Texas, generally described as USGS gage 08162000, and more specifically described as Latitude 29 degrees, 18 minutes, 32 seconds; Longitude 96 degrees, 06 minutes, 13 seconds.

(A) United States Geological Survey Gage 08162000, Colorado River at Wharton.

United States Geological Survey Gage 08162000, Colorado River at Wharton

Season	Month	Hydrologic Condition	Subsistence	Base	Seasonal Pulse (2 per season)
Winter	December	Severe	202 cfs	470 cfs	Magnitude: 3,000 cfs Duration: 4 days
	December	Dry	N/A	470 cfs	
	December	Average	N/A	746 cfs	
	January	Severe	315 cfs	492 cfs	
	January	Dry	N/A	492 cfs	
	January	Average	N/A	838 cfs	
	February	Severe	303	597 cfs	
	February	Dry	N/A	597 cfs	
	February	Average	N/A	906 cfs	
Spring	March	Severe	204 cfs	531 cfs	Magnitude: 3,000 cfs Duration: 4 days
	March	Dry	N/A	531 cfs	
	March	Average	N/A	1,036 cfs	
	April	Severe	270 cfs	561 cfs	
	April	Dry	N/A	561 cfs	
	April	Average	N/A	1,011 cfs	
	May	Severe	304 cfs	985 cfs	
	May	Dry	N/A	985 cfs	
	May	Average	N/A	1,397 cfs	
	June	Severe	371 cfs	984 cfs	
	June	Dry	N/A	984 cfs	
	June	Average	N/A	1,512 cfs	
Summer	July	Severe	212 cfs	577 cfs	Magnitude: 3,000 cfs Duration: 4 days
	July	Dry	N/A	577 cfs	
	July	Average	N/A	906 cfs	
	August	Severe	107 cfs	314 cfs	

	August	Dry	N/A	314 cfs	
	August	Average	N/A	522 cfs	
Fall	September	Severe	188 cfs	410 cfs	Magnitude: 3,000 cfs Duration: 4 days
	September	Dry	N/A	410 cfs	
	September	Average	N/A	617 cfs	
	October	Severe	147 cfs	360 cfs	
	October	Dry	N/A	360 cfs	
	October	Average	N/A	749 cfs	
	November	Severe	173 cfs	486 cfs	
	November	Dry	N/A	486 cfs	
	November	Average	N/A	764 cfs	

cfs = cubic feet per second

N/A = not applicable

(B) United States Geological Survey Gage 08162000, Colorado River at Wharton.

United States Geological Survey Gage 08162000, Colorado River at Wharton

Pulse Frequency	Pulse Magnitude	Pulse Duration
1 per 18 months	8,000 cfs	2 days
1 per 2 years	27,000 cfs	2 days

cfs = cubic feet per second

(15) Lavaca River near Edna, Texas, generally described as USGS gage 08164000, and more specifically described as Latitude 28 degrees, 57 minutes, 35 seconds; Longitude 96 degrees, 41 minutes, 10 seconds.

United States Geological Survey Gage 08164000, Lavaca River near Edna

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	8.5 cfs	30 cfs	Trigger:	Trigger:	Trigger:

Winter	Dry	N/A	30 cfs	2,000 cfs Volume: 8,000 af Duration: 6 days	4,500 cfs Volume: 18,400 af Duration: 7 days	4,500 cfs Volume: 18,400 af Duration: 7 days
Winter	Average	N/A	55 cfs			
Winter	Wet	N/A	94 cfs			
Spring	Severe	10 cfs	30 cfs	Trigger: 4,500 cfs Volume: 18,400 af Duration: 7 days	Trigger: 4,500 cfs Volume: 18,400 af Duration: 7 days	
Spring	Dry	N/A	30 cfs			
Spring	Average	N/A	55 cfs			
Spring	Wet	N/A	94 cfs			
Summer	Severe	1.3 cfs	20 cfs	Trigger: 88 cfs Volume: 370 af Duration: 4 days	Trigger: 420 cfs Volume: 1,800 af Duration: 6 days	
Summer	Dry	N/A	20 cfs			
Summer	Average	N/A	48 cfs			
Summer	Wet	N/A	33 cfs			
Fall	Severe	1.2 cfs	20 cfs	Trigger: 1,600 cfs Volume: 6,100 af Duration: 5 days	Trigger: 4,500 cfs Volume: 18,000 af Duration: 6 days	
Fall	Dry	N/A	20 cfs			
Fall	Average	N/A	33 cfs			
Fall	Wet	N/A	58 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(16) Navidad River at Strane Park near Edna, Texas, generally described as USGS gage 08164390, and more specifically described as Latitude 29 degrees, 03 minutes, 55 seconds; Longitude 96 degrees, 40 minutes, 26 seconds.

United States Geological Survey Gage 08164390, Navidad River at Strane Park near Edna

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	14 cfs	Trigger: 2,000 cfs Volume:	Trigger: 2,500 cfs Volume:	Trigger: 2,500 cfs Volume:
Winter	Dry	N/A	14 cfs			

Winter	Average	N/A	35 cfs	9,000 af Duration: 6 days	11,250 af Duration: 7 days	11,250 af Duration: 7 days
Winter	Wet	N/A	71 cfs			
Spring	Severe	2.8 cfs	18 cfs	Trigger: 2,500 cfs Volume: 11,250 af Duration: 7 days	Trigger: 2,500 cfs Volume: 11,250 af Duration: 7 days	
Spring	Dry	N/A	18 cfs			
Spring	Average	N/A	35 cfs			
Spring	Wet	N/A	71 cfs			
Summer	Severe	1.2 cfs	24 cfs	Trigger: 200 cfs Volume: 1,000 af Duration: 5 days	Trigger: 610 cfs Volume: 3,400 af Duration: 6 days	
Summer	Dry	N/A	24 cfs			
Summer	Average	N/A	47 cfs			
Summer	Wet	N/A	84 cfs			
Fall	Severe	2.2 cfs	17 cfs	Trigger: 2,000 cfs Volume: 8,700 af Duration: 6 days	Trigger: 2,500 cfs Volume: 11,250 af Duration: 7 days	
Fall	Dry	N/A	17 cfs			
Fall	Average	N/A	35 cfs			
Fall	Wet	N/A	71 cfs			

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(17) Sandy Creek near Ganado, Texas, generally described as USGS gage 08164450, and more specifically described as Latitude 29 degrees, 09 minutes, 36 seconds; Longitude 96 degrees, 32 minutes, 46 seconds.

United States Geological Survey Gage 08164450, Sandy Creek near Ganado

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	5 cfs	Trigger: 800 cfs Volume: 4,000 af Duration:	Trigger: 1,800 cfs Volume: 10,000 af Duration:	Trigger: 2,200 cfs Volume: 12,200 af Duration:
Winter	Dry	N/A	5 cfs			
Winter	Average	N/A	14 cfs			

Winter	Wet	N/A	30 cfs	6 days	8 days	10 days
Spring	Severe	1 cfs	5 cfs	Trigger: 1,400 cfs Volume: 7,300 af Duration: 6 days	Trigger: 2,200 cfs Volume: 12,200 af Duration: 10 days	
Spring	Dry	N/A	5 cfs			
Spring	Average	N/A	14 cfs			
Spring	Wet	N/A	30 cfs			
Summer	Severe	1 cfs	9 cfs	Trigger: 91 cfs Volume: 500 af Duration: 4 days	Trigger: 260 cfs Volume: 1,600 af Duration: 7 days	
Summer	Dry	N/A	9 cfs			
Summer	Average	N/A	21 cfs			
Summer	Wet	N/A	39 cfs			
Fall	Severe	1 cfs	9 cfs	Trigger: 630 cfs Volume: 3,100 af Duration: 6 days	Trigger: 1,800 cfs Volume: 9,200 af Duration: 7 days	
Fall	Dry	N/A	9 cfs			
Fall	Average	N/A	21 cfs			
Fall	Wet	N/A	39 cfs			

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

(18) East Mustang Creek near Louise, Texas, generally described as USGS gage 08164504, and more specifically described as Latitude 29 degrees, 04 minutes, 14 seconds; Longitude 96 degrees, 25 minutes, 01 seconds.

United States Geological Survey Gage 08164504, East Mustang Creek near Louise

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	1 cfs	Trigger: 150 cfs Volume: 680 af Duration: 5 days	Trigger: 340 cfs Volume: 1,700 af Duration: 8 days	Trigger: 1,000 cfs Volume: 6,000 af Duration: 10 days
Winter	Dry	N/A	1 cfs			
Winter	Average	N/A	2 cfs			
Winter	Wet	N/A	6 cfs			
Spring	Severe	1 cfs	1 cfs	Trigger:	Trigger:	

Spring	Dry	N/A	1 cfs	280 cfs Volume: 1,400 af Duration: 7 days	550 cfs Volume: 3,000 af Duration: 9 days
Spring	Average	N/A	3 cfs		
Spring	Wet	N/A	6 cfs		
Summer	Severe	1 cfs	2 cfs	Trigger: 20 cfs Volume: 100 af Duration: 5 days	Trigger: 60 cfs Volume: 310 af Duration: 6 days
Summer	Dry	N/A	2 cfs		
Summer	Average	N/A	5 cfs		
Summer	Wet	N/A	8 cfs		
Fall	Severe	1 cfs	1 cfs	Trigger: 150 cfs Volume: 650 af Duration: 6 days	Trigger: 430 cfs Volume: 2,100 af Duration: 7 days
Fall	Dry	N/A	1 cfs		
Fall	Average	N/A	3 cfs		
Fall	Wet	N/A	8 cfs		

cfs = cubic feet per second

af = acre-feet

N/A = not applicable

(19) West Mustang Creek near Ganado, Texas, generally described as USGS gage 08164503, and more specifically described as Latitude 29 degrees, 04 minutes, 18.69 seconds; Longitude 96 degrees, 28 minutes, 04.90 seconds.

United States Geological Survey Gage 08164503, West Mustang Creek near Ganado

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	4 cfs	Trigger: 470 cfs Volume: 2,400 af Duration: 6 days	Trigger: 1,000 cfs Volume: 5,600 af Duration: 8 days	Trigger: 1,000 cfs Volume: 5,600 af Duration: 8 days
Winter	Dry	N/A	4 cfs			
Winter	Average	N/A	9 cfs			
Winter	Wet	N/A	20 cfs			
Spring	Severe	1 cfs	5 cfs	Trigger: 810 cfs Volume:	Trigger: 1,000 cfs Volume:	
Spring	Dry	N/A	5 cfs			

Spring	Average	N/A	11 cfs	4,400 af Duration: 6 days	5,600 af Duration: 8 days	
Spring	Wet	N/A	20 cfs			
Summer	Severe	1 cfs	10 cfs	Trigger: 75 cfs Volume: 420 af Duration: 4 days	Trigger: 190 cfs Volume: 1,200 af Duration: 6 days	
Summer	Dry	N/A	10 cfs			
Summer	Average	N/A	18 cfs			
Summer	Wet	N/A	32 cfs			
Fall	Severe	1 cfs	6 cfs	Trigger: 470 cfs Volume: 2,200 af Duration: 6 days	Trigger: 1,000 cfs Volume: 5,600 af Duration: 8 days	
Fall	Dry	N/A	6 cfs			
Fall	Average	N/A	14 cfs			
Fall	Wet	N/A	26 cfs			

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

(20) Garcitas Creek near Inez, Texas, generally described as USGS gage 08164600, and more specifically described as Latitude 28 degrees, 53 minutes, 28 seconds; Longitude 96 degrees, 49 minutes, 08 seconds.

United States Geological Survey Gage 08164600, Garcitas Creek near Inez

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	1 cfs	2 cfs	Trigger: 110 cfs Volume: 520 af Duration: 8 days	Trigger: 380 cfs Volume: 1,500 af Duration: 10 days	Trigger: 380 cfs Volume: 1,500 af Duration: 10 days
Winter	Dry	N/A	2 cfs			
Winter	Average	N/A	4 cfs			
Winter	Wet	N/A	7 cfs			
Spring	Severe	1 cfs	2 cfs	Trigger: 380 cfs Volume: 1,500 af Duration:	Trigger: 380 cfs Volume: 1,500 af Duration:	
Spring	Dry	N/A	2 cfs			
Spring	Average	N/A	4 cfs			

Spring	Wet	N/A	7 cfs	10 days	10 days	
Summer	Severe	1 cfs	1 cfs	Trigger: 8 cfs Volume: 28 af Duration: 4 days	Trigger: 36 cfs Volume: 150 af Duration: 8 days	
Summer	Dry	N/A	1 cfs			
Summer	Average	N/A	2 cfs			
Summer	Wet	N/A	3 cfs			
Fall	Severe	1 cfs	1 cfs	Trigger: 110 cfs Volume: 420 af Duration: 8 days	Trigger: 380 cfs Volume: 1,500 af Duration: 10 days	
Fall	Dry	N/A	1 cfs			
Fall	Average	N/A	2 cfs			
Fall	Wet	N/A	5 cfs			

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

(21) Tres Palacios River near Midfield, Texas, generally described as USGS gage 08162600, and more specifically described as Latitude 28 degrees, 55 minutes, 40 seconds; Longitude 96 degrees, 10 minutes, 15 seconds.

United States Geological Survey Gage 08162600, Tres Palacios River near Midfield

Season	Hydrologic Condition	Subsistence	Base	Small Seasonal Pulse (2 per season)	Large Seasonal Pulse (1 per season)	Annual Pulse
Winter	Severe	2 cfs	9 cfs	Trigger: 650 cfs Volume: 2,500 af Duration: 6 days	Trigger: 1,300 cfs Volume: 4,900 af Duration: 6 days	Trigger: 2,000 cfs Volume: 9,000 af Duration: 8 days
Winter	Dry	N/A	9 cfs			
Winter	Average	N/A	13 cfs			
Winter	Wet	N/A	18 cfs			
Spring	Severe	2.5 cfs	9 cfs	Trigger: 1,200 cfs Volume: 4,400 af Duration: 6 days	Trigger: 1,900 cfs Volume: 7,100 af Duration: 6 days	
Spring	Dry	N/A	9 cfs			
Spring	Average	N/A	13 cfs			
Spring	Wet	N/A	22 cfs			
Summer	Severe	1 cfs	7 cfs	Trigger:	Trigger:	

Summer	Dry	N/A	7 cfs	75 cfs Volume: 360 af Duration: 5 days	280 cfs Volume: 1,300 af Duration: 6 days	
Summer	Average	N/A	13 cfs			
Summer	Wet	N/A	22 cfs			
Fall	Severe	1 cfs	7 cfs	Trigger: 800 cfs Volume: 3,200 af Duration: 6 days	Trigger: 1,900 cfs Volume: 7,700 af Duration: 7 days	
Fall	Dry	N/A	7 cfs			
Fall	Average	N/A	13 cfs			
Fall	Wet	N/A	18 cfs			

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

Adopted August 8, 2012

Effective August 30, 2012

§298.335. Water Right Permit Conditions.

(a) For water right permits with an authorization to store or divert water from the Colorado River above Lake Travis, tributaries of the Colorado River, the Lavaca River Basin, and the Colorado-Lavaca and Lavaca-Guadalupe Coastal Basins, except for water right permits located below Lake Travis on the Colorado River, 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.

(b) For water right permits with an authorization to divert at a rate greater than 500 cubic feet per second (cfs) or to store more than 2,500 acre-feet in an on-channel reservoir, on the Colorado River below Lake Travis, 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 all pulse flow requirements up to the one year pulse flow requirement except as specified in subsections (c) and (d) of this section.

(c) For water right permits with an authorization to divert at a rate greater than 800 cfs or to store more than 2,500 acre-feet in an on-channel reservoir, on the Colorado River below Lake Travis, 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 prevent impairment of the one per 18-month pulse flow requirement. Impairment of the one per 18 month pulse flow requirement would occur if the permit, in combination with other

permits subject to this subchapter, that are issued after the effective date of this subchapter, would reduce the frequency of occurrence or the average volume of the one per 18-month pulse by more than 10% based on the period of record of the water availability model in effect at the time the first permit subject to this subchapter is considered.

(d) For water right permits with an authorization to divert at a rate greater than 2,700 cfs or to store more than 2,500 acre-feet in an on-channel reservoir, on the Colorado River below Lake Travis, 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 one per two-year pulse flow requirement.

(e) For water right permits with an authorization to divert at a rate less than 500 cfs or to store less than 2,500 acre-feet in an on-channel reservoir, on the Colorado River below Lake Travis, 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 high flow pulses.

Adopted August 8, 2012

Effective August 30, 2012

§298.340. Schedule for Revision of Standards.

The environmental flow standards or environmental flow set-asides adopted in this subchapter for the Colorado and Lavaca River Basins, the Colorado-Lavaca and Lavaca-Guadalupe Coastal Basins, and Matagorda and Lavaca Bays 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 Colorado and Lavaca Basin and Bay Area Stakeholder Committee submits a work plan approved by the Environmental Flows 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 Colorado and Lavaca River Basins, the Colorado-Lavaca and Lavaca-Guadalupe Coastal Basins, and Matagorda and Lavaca Bays.

Adopted August 8, 2012

Effective August 30, 2012