

**DRAFT**

# **Senate Bill 3 Permitting Guidelines**

**Water Availability Division**

**Texas Commission on Environmental Quality**

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## **1.0 Introduction**

In 2007, the 80th Legislature enacted House Bill 3 (HB 3), relating to the management of the water resources of the state, including the protection of instream flows and freshwater inflows; and Senate Bill 3 (SB 3), relating to the development, management, and preservation of the water resources of the state. Both of these bills amended Texas Water Code (TWC) §11.1471 to require the Texas Commission on Environmental Quality (commission or TCEQ) to adopt rules related to environmental flow standards. On April 20, 2011, the commission adopted rules for the Sabine and Neches Rivers and Sabine Lake and the Trinity and San Jacinto Rivers and Galveston Bay. On August 8, 2012, the commission adopted rules for the Colorado and Lavaca Rivers and Matagorda and Lavaca Bays and the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays. On February 12, 2013, the commission adopted rules for the Nueces River and Corpus Christi and Baffin Bays, Brazos River and its associated bay and estuary system, and the Rio Grande, the Rio Grande estuary, and the Lower Laguna Madre.

Prior to HB 3/SB 3, the commission had authority to protect environmental interests as it permitted new appropriations of surface water or processed amendments to existing water rights. See TWC § 11.150 requiring an analysis of impact on water quality and TWC § 11.152 requiring consideration of effects on fish and wildlife habitats. The commission used available resources, methodologies, and studies to make these determinations. Section 11.134 of the Texas Water Code requires TCEQ to consider “any applicable environmental flow standards established under Section 11.1471, and, if applicable, the assessments performed under sections 11.147 (d) and (e) and sections 11.150, 11.151, and 11.152.” For basins where standards have not been adopted (Red, Canadian, Sulphur, Cypress), applications for new appropriations of water are processed consistent with the requirements in TWC, §§ 11.150 – 11.152 and the TCEQ’s rules. However, HB 3/SB 3 changed the process for new appropriations of water in basins where environmental flow conditions have been adopted by the TCEQ. In such basins, the assessments in sections 11.147(b) – (e) and 11.150, 11.151, and 11.152 no longer apply for new appropriations of water. See TWC, § 11.147(e-3). In other words, the assessments have been replaced by the adopted environmental flow standards in basins where standards have been adopted.

TCEQ’s rules (30 Tex. Admin. Code § 298.10) provide that the adopted standards only apply to new appropriations of water. Section 298.10 further states that nothing in the rules restricts the TCEQ’s authority to impose special conditions on water right permits that are not new

appropriations, including special conditions to protect environmental flows, for interbasin transfers; on amendments, such as an amendment to move a diversion point; and on authorizations under TWC, §§11.042 and 11.046, to protect the environment or senior water rights. Therefore, the guidelines in this document are not intended to apply to applications that do not request a new appropriation of water. However, the numerical values in the adopted standards may be used in other permitting actions to provide consistency in water rights administration, as discussed in Section 9.0 of these guidelines.

Once environmental flow standards are adopted for a basin and bay system, the ED’s objective or goal will be to protect the standards, along with the interests of senior water right holders, in the water rights permitting process for new appropriations and amendments that increase the amount of water to be taken, stored, or diverted. The guidelines in this document describe generally how the ED intends to formulate recommendations for flow restriction special conditions for permits or amendments that request new appropriations of water. Additionally, the guidelines describe how the ED intends to address voluntary contributions and adjustments of permit conditions. However, the ED recognizes that water rights can be complex and this document cannot cover all of the fact situations that could arise for different applications. Program staff are available for pre-application meetings to discuss issues related to specific projects.

## 2.0 General Information About the Adopted Standards

The adopted environmental flow standards can be found in Chapter 298 of TCEQ’s rules. 30 TAC, Chapter 298. These rules include measurement points, definitions, applicability, specific flow values for flow components, and freshwater inflow standards, where applicable. Table 1. below shows the specific subchapter for each river basin and bay system:

**Table 1. Rules for specific basin and bay systems**

<b>Subchapter</b>	<b>Basin and Bay System</b>
A	General Provisions
B	Trinity and San Jacinto Rivers and Galveston Bay
C	Sabine and Neches Rivers and Sabine Lake Bay
D	Colorado and Lavaca Rivers and Matagorda and Lavaca Bays
E	Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays
F	Nueces River and Corpus Christi and Baffin Bays
G	Brazos River and its associated bay and estuary system
H	Rio Grande, the Rio Grande estuary, and the Lower Laguna Madre

### **3.0 Water Availability**

Staff evaluates applications for new appropriations of water using TCEQ's full authorization water availability model (WAM). In this model, all water rights are included at their full authorized amounts, reservoirs at their permitted capacities, and return flows are not included. The TCEQ WAMs will ultimately include all of the adopted environmental flow standards for rivers and streams for each of the measurement points in the rules. The adopted standards, including any pulse flow standards, will be added to the models as applications for new appropriations of water subject to those standards are processed.

In some basin and bay systems, certain applications are exempt from high flow pulse requirements.<sup>1</sup> However, during rulemaking, the commission reserved the right to protect the adopted standards by including those standards in its water availability models.<sup>2</sup> Including the complete set of adopted instream standards (subsistence flows, base flows, and high flow pulses) in the WAM will protect high flow pulse standards from being permitted to smaller applicants for new appropriations. This ensures that the water availability analysis for a new permit will consider any downstream flow standards even though those downstream flow standards would not be included in the special conditions for that permit. This provision was included in all of the adopted rules to ensure consistency with 30 TAC §298.20.<sup>3</sup>

Under TCEQ's rules, the adopted standards will be included in the WAMs with a priority date that is the date on which the science team for that basin and bay system submitted its recommendations.<sup>4</sup> This priority date has no other purpose. An application for a new appropriation will be assigned a modeled priority date junior to the adopted standards in priority order with respect to other applications from the same time period. The modeled priority date does not change the actual priority date of the application.

### **4.0 Applicability of Measurement Points**

Environmental flow standards at all measurement points in the adopted rules will be considered during the water availability analysis. The measurement points adopted in the rules are the only

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<sup>1</sup> 30 TAC §§ 298.230, 298.285, 298.335, 298.385, 298.435, 298.485, 298.535

<sup>2</sup> 36 TexReg 2911

<sup>3</sup> 36 TexReg 2913 and 2916, 37 TexReg 6631 and 6635, and 39 TexReg 1418, 1421, and 1424.

<sup>4</sup> 30 TAC §§ 298.20, 298.215, 298.265, 298.315, 298.365, 298.415, 298.465, and 298.515

measurement points an applicant is required to include in its application. Nevertheless, according to the adopted rules, the permit special conditions would not require compliance with the standards at these additional downstream measurement points because there is nothing in the adopted rules that would require this. For smaller applications with a single diversion point, the nearest measurement point is used in the flow restriction special condition in the permit. If the measurement point is downstream of the proposed diversion location, the permit special condition would require that flows at the measurement point gage be maintained at or above the applicable standard when diversions occur. Whereas, if the measurement point is upstream of the proposed diversion location, the permit special condition would require that flows at the measurement point gage be at or above the applicable standard *plus* the proposed diversion rate when diversions occur. This ensures that the flows will not go below the adopted flow standards.

For an application for a new appropriation of water from a river or stream in a coastal basin that does not include a measurement point, or in other limited circumstances, adopted standards may be translated from the nearest measurement point using the methods discussed below. In selecting a measurement point from which to translate adopted standards to a new location, staff could consider proximity, rainfall patterns, the number of measurement points in a basin, existing senior water rights, and hydrologic factors such as intervening tributary inflows.

## **5.0 Translating Environmental Flow Standards**

The goal of flow restriction special conditions in a permit will be to protect the standards (30 TAC §298.15). At the request of an applicant, staff could develop permit special conditions at a different gage in order to take into account basin specific conditions and/or to facilitate and simplify water management and accounting for specific permits. However, to the maximum extent reasonable and practicable, permit special conditions will be based on adopted standards at adopted measurement points.

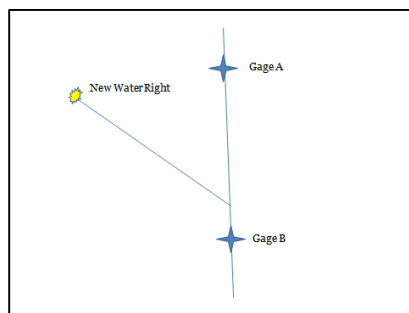
### **5.1 Subsistence and Base Flows**

If there is a need to prorate subsistence and base flow standards, these flow components will generally be prorated from standards at adopted measurement points using a drainage area ratio. Various methods could be used to translate subsistence and base flows, including

appropriate site specific information and other hydrologic methods such as IHA/HEFR or a flow factor.

*IHA/HEFR* – An applicant could process streamflow data from a nearby gage following the methods used by the applicable BBEST and submit its proposed base and subsistence flow values, and its calculations, to TCEQ with its application.

*Flow Factor Example*- TCEQ receives an application for a new appropriation located on a tributary stream (See Figure 1). In this example, the adopted standards for the basin include a measurement point at Gage A. Gage B is downstream but is not included as a measurement point in the adopted standards. First, staff would extract the naturalized flows for Gages A and B from the TCEQ WAM and calculate the total naturalized flow for the period of record for each season.



**Figure 1. New water right located on a tributary stream**

Staff would calculate the ratio of the naturalized flows at the applicant’s location to the incremental flow (flow factor). The adopted subsistence and base flow standards at Gage A would then be multiplied by the flow factor to develop the permit condition for the new water right. At some locations in some basins there are months in the period of record where naturalized flows at the upstream gage are greater than those at the downstream gage. This results in negative incremental flows in the models. In these cases, staff would consider the effect of negative incremental flows in developing the flow factor. If negative incremental flows are an issue at a particular location, staff may use a drainage area ratio to develop the flow factor.

## 5.2 Pulse flows

By rule, not all permits for new appropriations of water will include operational special conditions to protect pulse flows.<sup>5</sup> For new appropriations of water that are not subject to the pulse exemptions, the permit will include a special condition requiring compliance with the applicable pulse flows. If there is a need to translate pulse flows, site specific information, if available, could be used to inform the translation. Pulse flow standards could be translated using the following method:

- Pulse flow requirements, i.e. *trigger flow, volume, and duration*, will be scaled to generate the values for these parameters at a different gage to develop a permit specific special condition.
- The *trigger flows* at the measurement point in the rule will be scaled using either the ratio of the naturalized mean annual flows of the corresponding stream reaches on the NHDPlus Version 2 dataset or the ratio of the mean annual naturalized flows from the TCEQ WAM for the applicable river basin.
- The *durations* at the measurement point will be scaled using a duration exponent obtained from a power law relationship between pulse volumes and trigger flows in a given basin.
- The *pulse volumes* will be related such that the pulse ratio,  $QD/V$  (where  $Q$  = the trigger level,  $D$  = duration, and  $V$  = volume), is the same at the measured and target locations.

Specific technical details regarding the pulse flow translation methodology are available at <http://www.crwr.utexas.edu/reports/2013/rpt13-2.shtml>

## 6.0 Bay and Estuary Evaluation

Consistent with the adopted rules, staff would not implement the freshwater inflow standards as special conditions in new water rights subject to the adopted standards. Staff will instead consider whether a new application impairs freshwater inflow standards as part of the water availability determination for new appropriations of water. Staff will evaluate whether a new application impairs freshwater inflow standards based on the WAM TCEQ uses for new appropriations. The TCEQ's permitting WAM includes all senior water rights at their full authorized amounts, reservoirs at their full permitted capacities, and does not include return flows. Staff will determine whether a new application would impair freshwater inflow standards

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<sup>5</sup> 30 TAC §§ 298.230, 298.285, 298.335, 298.385, 298.435, 298.485, 298.535



based on the basin and bay specific criteria in the adopted rules.<sup>6</sup>

Staff processes permit applications for new appropriations in priority date order. If staff recommends that a permit be granted, the new permit will be included in the TCEQ WAM used to determine water availability for new appropriations and compliance with freshwater inflow standards for all subsequent permit applications. The WAM used to process applications will be available to applicants and others who request the model and will be posted on TCEQ's website. In addition, the spreadsheet calculators will be added to TCEQ's Water Availability Modeling website when TCEQ processes an application for a new appropriation of water for a river basin.

### **6.1 Galveston Bay**

Staff will determine compliance with the volumes and frequencies in the rule.<sup>7</sup> Staff will run the WAM, with the proposed application included, during preliminary review of an application. If the model results indicate that the frequency requirements in the rule are met, staff will continue processing the application. If the model results indicate that the frequency requirements are not met, the applicant will be notified, as soon as practicable, prior to the completion of technical review and provided with an opportunity to modify the application. Ultimately, if the application does not meet the frequency requirements in the adopted standards, staff would likely recommend denial of the application. In the event that frequency requirements are not met prior to processing the first application for a new appropriation of water, staff will consider whether any application submitted has the potential to worsen these existing conditions. If the application increases the extent of non-compliance, the application, unless modified to avoid that result, could be denied. For purposes of determining whether the frequency requirements are met, staff will round the calculated frequency requirement to a whole number.

### **6.2 Matagorda, Lavaca, and San Antonio Bays**

Consideration of freshwater inflow standards for these bay systems will generally follow the process outlined above for Galveston Bay. Impairment of the inflow regime will be determined using baseline values and modeled frequencies calculated using the TCEQ WAM in effect at the time the first application subject to the adopted standards is processed.<sup>8</sup> The adopted standards

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<sup>6</sup> 30 TAC §§ 298.225, 298.330, 298.380, and 298.430

<sup>7</sup> 30 TAC §298.225(a)

<sup>8</sup> 30 TAC §298.330(a) – (d) for Matagorda and Lavaca Bays and 30 TAC §298.380(a) – (b) for San Antonio and Mission Bays

in these bay systems also provide for consideration of voluntary permitted strategies. Voluntary permitted strategies are those strategies that are implemented through a water right permit or amendment to help meet the freshwater inflow standards. In the event that an amendment is granted to help meet freshwater inflow standards, a subsequent water right application for a new appropriation of water cannot reduce the quantity or frequency of freshwater inflows below those that would occur in the TCEQ WAM with the permitted strategy or strategies in place.

#### *6.2.1 Matagorda Bay*

An application for a new appropriation in the Colorado River Basin cannot 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, decrease the modeled annual frequency of any inflow regime, or decrease the monthly inflow quantity to Matagorda Bay below 15,000 acre-feet per month.

#### *6.2.2 Lavaca Bay*

An application for a new appropriation in the Lavaca River Basin or Garcitas Creek cannot decrease the modeled annual frequency of any inflow regime level.

#### *6.2.3 San Antonio Bay*

An application for a new appropriation in the Guadalupe and San Antonio River Basins cannot impair the modeled permitting frequency of any inflow regime by more than the values set out in the adopted rule. Impairment will be calculated individually for each inflow regime level for which a specific frequency is identified in the adopted rule and will be calculated at the most downstream point in the water availability model. Impairment will be calculated as set out in the rule. For example, the modeled permitting frequencies for inflow regimes Spring 1, Spring 2, and Spring 2 and Spring 3 combined, and calculated as a percentage of total years, shall not be decreased by more than 5%.

#### *6.2.4 Mission and Aransas Bay*

An application for a new appropriation of water in the San Antonio-Nueces Coastal Basin cannot impair the inflow regime for Mission and Aransas Bays below the amount set out in the rule. Impairment will be calculated at the most downstream point in the water availability model.

### **6.3 Nueces Bay and Delta**

An application for a new appropriation in the Guadalupe and San Antonio River Basins cannot impair the modeled permitting frequency of any inflow regime by more than the values set out in the adopted rule. Impairment will be calculated individually for each inflow regime level for which a specific frequency is identified in the adopted rule and will be calculated at the point in the water availability model that represents inflows to Nueces Bay and Delta. Impairment will be calculated as set out in the rule. For example, the modeled permitting frequencies for the target volumes in Level 1 shall not be decreased by more than 50%.

## **7.0 Guidelines for §298.25: Process for Adjusting Environmental Flow Conditions in Certain Permits.**

### **7.1 Administrative Procedure for Adjustments**

Subsections (a) through (g) of §298.25 describe the administrative process for permit adjustments. The adjustment process may start only on the petition of the ED. The adjustment would only apply to new appropriations and amendments that increased an appropriation that were issued after September 1, 2007. All new appropriations of water issued after September 1, 2007 include a provision that allows for adjustment of environmental flow conditions, if appropriate, to achieve compliance with adopted environmental flow standards.

The ED's petition will be similar to an original application for a water right permit, but the title will indicate that it is for an adjustment to an environmental flow special condition. Notice for these petitions for adjustment of special conditions will be by first class mail to all water right holders and navigation districts in the basin, and the notice will be posted to the TCEQ's web site at least 30 days prior to action on the petition. The commission can act on the petition without holding a contested case hearing. The commission may hold a public meeting and will consider any public comment timely submitted. Subsections (e) and (f) provide that motions for reconsideration of the commission's action may be filed within 30 days by any of the following: the commission, the executive director, the water right holder, Texas Parks and Wildlife, or affected persons. If the commission grants a motion to reconsider, the commission can refer the matter to the State Office of Administrative Hearings.

Staff may propose adjustments to permit conditions that are reasonably necessary to protect the adopted standards. Staff will only adjust the permit conditions but would not necessarily

include the standards in these permits. However, the permit conditions in these permits could be adjusted to include the standards if including the adopted standards in a new permit condition would result in an adjustment of less than 12.5% of the annualized amount of the existing permit condition. Staff intends to follow a similar review process if the standards are subsequently modified in a future rulemaking; however, the maximum amount of all adjustments to a permit would not exceed 12.5%. As discussed above in the Bay and Estuary Evaluation, staff would not implement the freshwater inflow standards as special conditions in new water rights subject to the adopted standards.

Subsection (i) provides that any adjustments consider priority dates and diversion locations of other water rights in the same river basin that are subject to adjustment. Factors that may be considered in determining whether affected permits and amendments would be adjusted are the number and spatial locations of permits that are subject to the adopted standards in a river basin, the priority dates of these permits, and the extent to which existing special conditions in the permits subject to adjustment are consistent with and protective of the adopted standards for that basin.

Compliance with freshwater inflow standards is evaluated during the water availability determination for new permits, as discussed further in this document. Water availability was already determined for permits granted after September 1, 2007 and before the standards were adopted. Staff does not intend to include special conditions for freshwater inflow standards in new permits; therefore, freshwater inflow special conditions will not be added to these permits. However, if freshwater inflow standards are changed in a subsequent rulemaking process, staff could consider those changes as they relate to the 12.5% adjustment, although application of the proposed instream flow standards would likely provide sufficient flow to the bays and estuaries.

## **7.2 Technical Procedure for Adjustments**

An adjustment may not exceed 12.5% of the annualized total of the amount required to be adjusted. See 30 TAC § 298.25(h) implementing TWC, §11.147 (e)(1). Any adjustments will only apply to new appropriations issued after September 1, 2007. Any new permit conditions must be consistent with the adopted environmental flow standards to the maximum extent practicable. 30 TAC § 298.25(h). The 12.5% adjustment will be calculated as 12.5% of the original permit condition.

Specifically, numeric conditions in a permit will be compared to the standards at the measurement point that would be applicable to that permit. In the case of locations that are not near a measurement point, an appropriate standard may be developed as described Section 5.0 above relating to Translating Environmental Flow Standards. This standard will be compared to the existing permit condition to determine an appropriate adjustment.

The 12.5% calculation for base flow environmental flow conditions expressed in cubic feet per second is calculated based on a simple 12.5% increase to the numerical value of the flow condition. As discussed above, staff will individually review permits requiring adjustment. The specific adjustment for an individual permit will be applied after appropriate consideration of environmental needs. The adjustment, in combination with all previous adjustments, cannot increase the annualized flow requirement above the sum of the original annualized flow requirement plus the original 12.5% adjustment. A simple example is shown in below:

	Winter	Spring	Summer	Fall	Annualized Requirement	Annualized Requirement Plus 12.5%
Permit Condition (cfs)	178	275	100	300	853	960
Adopted Standard (cfs)	300	450	200	350		
Adjusted Condition (cfs)	200	309	112.5	337.5	960	

For environmental flow conditions for high flow pulses that may have a peak flow component expressed in cubic feet per second, a duration expressed in days, and a total volume expressed in acre-feet, the adopted rule uses a 12.5% increase of the total volume of the condition annualized by totaling all the required pulses per year. Application of this adjustment will consider both environmental and water supply needs. The adjustment could be simply an increase to the existing pulse volumes. The 12.5% adjustment for pulse conditions would be calculated as follows:

<b>Season</b>	<b>Pulse</b>	<b>12.5% Adjustment*</b>	<b>Potential New Permit Condition</b>
Winter	1 per season Volume: 5,932 af	742 af	1 per season Volume: 6,674 af
Spring	2 per season Volume: 5,062 af	1266 af	2 per season Volume: 5,695 af
Summer	1 per season Volume: 671 af	84 af	1 per season Volume: 755 af
Fall	2 per season Volume: 2,189 af	547 af	2 per season Volume: 2,463 af
	Total Adjustment	2639 af	

- Note that there are two pulses per season in the Spring and Fall seasons in this example

Staff may consider alternatives to the simple adjustment of pulse conditions described above on a permit-specific basis.

### **7.3 Consideration of Voluntary Contributions**

Section 298.25(j) implements the provisions of TWC, § 11.147(e)(1) and (e)(2) that call for appropriate consideration of voluntary contributions to the Texas Water Trust, voluntary amendments to existing water rights to change the use or add a use for instream flows dedicated to environmental needs or bay and estuary inflows, and the appropriate credit for those contributions or amendments when determining adjustments to permits. The intent of this provision is to ensure that water dedicated to the environment that would receive full credit for the dedicated amount is available often enough to reliably provide protection to the environment. Water rights vary in reliability - or the amount of time that water is actually present in the watercourse. A contribution of reliable water or amendment for instream uses and bay and estuary freshwater inflows should be entitled to higher consideration and credit than a similar contribution or amendment of less reliable water. More reliable water, defined as water where the total volume is available in at least 75% of the years, is entitled to full credit. Water that is available in less than 75% of the years is entitled to a 50% credit. Determination of how often the water is available will be based on the full authorization version of the TCEQ's water availability models. These availability amounts do not represent how much water is physically present in the stream at a given time. They are intended to be used for purposes of performing a mathematical calculation of the amount of the credit.

The amount of water must be evenly distributed over the full year. For example, a water right holder seeking credit or consideration under the rule would not be able to specify that their 10,000 acre-foot donation should be considered as being made only in June, July, and August, unless the original water right only allowed diversions in those months. For water rights amended to add a use for instream flows dedicated to environmental needs or bay and estuary inflows, the water right holder retains the ability to use the water right for its original purposes. The rule gives the water right holder credit for 50% of the amount in the permit, so long as that amount is not used for its original purposes. The Executive Director can distribute the credit for a contribution of stored water to the Texas Water Trust in a different manner in order to provide maximum benefit to the environment. For example, stored water could be used to produce one or more pulse flows.

## **8.0 Example for a New Appropriation of Water**

For the following example, an applicant requests a new appropriation of 50,000 acre-feet of water from the main stem of the Trinity River at a point 10 miles above USGS Gage No. 08065000, Trinity River near Oakwood. The application was declared administratively complete on October 31, 2009.

An application for a new appropriation would have to meet the requirements in TWC § 11.134. This section only describes staff's review and analysis of the requirements in Section 11.134 (b)(2) and (b)(3)(D) and does not necessarily include all of the special conditions that may be included in a permit to comply with TWC § 11.134.

### **8.1 Environmental Review**

Staff would first identify the applicable measurement point and then recommend special conditions to ensure that diversions were limited to those times the adopted standards are met as follows:

1. Permittee may divert when streamflow exceeds the following values at USGS Gage No. 08065000 (Trinity River near Oakwood);

<b>Season</b>	<b>Subsistence Flow (cfs)</b>	<b>Base Flow (cfs)</b>	<b>High Flow Pulse</b>
Winter	120	340	Trigger: 3,000 cfs Volume: 18,000 af Duration: 5 days
Spring	160	450	Trigger: 7,000 cfs Volume: 130,000 af Duration: 11 days
Summer	75	250	Trigger: 2,500 cfs Volume: 23,000 cfs Duration: 5 days
Fall	100	260	

2. Permittee shall not divert water authorized if streamflow at USGS Gage No. 08065000 is below the applicable subsistence flow.
3. If streamflow at USGS Gage No. 08065000 is above the applicable subsistence flow but below the applicable base flow, Permittee may divert water unless streamflows fall below the applicable subsistence flow standard.
4. If streamflow at USGS Gage No. 08065000 is above the applicable base flow standard and below the applicable high flow pulse trigger level, Permittee may divert water, so long as the flow at the gage does not fall below the applicable base flow standard.
5. Two high flow pulses per season are to be passed if the applicable high flow pulse trigger level is met at USGS Gage No. 08065000.
6. With the exception of summer and fall, which are treated as a single season for purposes of pulse flow compliance, each season is independent of the preceding and subsequent seasons with respect to high flow pulse frequency.
7. If the applicable high flow pulse trigger level does not occur in a season, then Permittee need not stop diverting water to produce a high flow pulse.
8. If a qualifying pulse flow event is recorded at USGS Gage No. 08065000, then this pulse event satisfies the pulse requirement for that event within the respective season in that year.
9. A pulse flow is considered to be a qualifying event if the pulse flow trigger level is met and either the volume amount has passed USGS Gage No. 08065000 or the applicable duration time has passed since the pulse flow trigger level occurred.
10. Seasons are defined as Winter (December – February), Spring (March – May), Summer (June – August), and Fall (September – November).



## **8.2 Water Availability Analysis**

The adopted environmental flow standards for USGS Gage No. 08065000 (Trinity River near Oakwood) are included in the TCEQ's water availability model (WAM) for the Trinity River Basin. Staff would model the application using the Full Authorization simulation of the Trinity Basin WAM where water rights utilize their maximum authorized amounts and return flows are not included. Under 30 TAC §298.215, the priority date for the environmental flow standards in the Trinity WAM is December 1, 2009. For modeling purposes, staff would use a priority date of December 2, 2009. The modeled priority date does not change the priority date of the permit. Staff would add the application to the WAM and determine whether water availability for the application meets the requirements in 30 TAC § 297.42.

Next, staff would evaluate the application in accordance with 30 TAC § 298.225(a) to determine whether the new appropriation would reduce the long term frequency on a seasonal or annual basis at which the volumes of freshwater inflows described in that subsection occur. Staff would calculate the regulated flows at control point 8TRGB, which is the most downstream point in the Trinity WAM, with the application included in the model, and determine whether the regulated flow remaining at 8TRGB is sufficient to satisfy the requirements in the rule. In this basin, the lowest annual inflow quantity (1,357,133 acre-feet) was available only 70% of the time. If the remaining flows after the application do not change this percentage, staff would recommend granting the application with the following additional special conditions, if reservoir storage is included in the application:

1. Permittee is not required to release stored water to meet the environmental flow requirements in this permit.
2. If Permittee has stored water in accordance with the terms and conditions of this permit, including any applicable environmental flow requirements in effect at the time the water was stored, Permittee may divert and use that stored water, even if the applicable environmental flow requirement is not met at the time of the subsequent diversion and use of that stored water.

## **9.0 Other Issues**

TCEQ's adopted environmental flow standards only apply to new appropriations of water. TCEQ still intends to recommend permit special conditions, as appropriate, to protect environmental interests for other types of permit applications. The numerical values in the adopted standards may be used in these other permitting actions to provide consistency in water rights administration. For example, prior to the adopted standards, TCEQ staff used a default

methodology to determine its recommended streamflow restrictions. If staff continued to use this method, a senior water right holder that needed to move its diversion point could get a higher flow restriction than a more junior permit applicant who requested a new appropriation of water.

### **9.1 Applications under TWC § 11.042**

Under TWC § 11.042 (b) and (c), TCEQ must consider environmental impact and may include special conditions to protect the environment. Staff would evaluate stream conditions in the area of the application and then use the base or subsistence flow values in the rule as permit special conditions. The starting point would be the base flow values; however, if conditions support a lower value, and the application provides this type of evidence, the subsistence flow value could be used. TCEQ staff would not recommend pulse flows for a permit under TWC § 11.042 because these applications add water to the river and only take out the amount put in less losses.

### **9.2 Addition or move of a diversion point**

Section 11.122(b) of the TWC requires TCEQ to consider whether the requested change would cause an adverse impact on the environment. For these additions or moves of diversion points, staff would evaluate stream conditions in the area of the application and recommend either the subsistence or base flow values in the adopted rules, depending on how far away the new diversion point was and the volume of water to be moved.

### **9.3 New appropriations of water based on a contract**

The adopted standards apply to new appropriations of water. For applications for a new appropriation of water where the applicant has submitted evidence of a contract supporting water availability, staff would apply the applicable standards to the applications.