



Texas Environmental Flows Dashboard Nueces River and Corpus Christi and Baffin Bays *as of Aug 2023*

Instream flows, number of measurement points: The expert science team recommended instream flow levels at 18 measurement points in the Nueces River Basin, 1 on Oso Creek, and 1 on San Fernando Creek above Baffin Bay. TCEQ adopted flow standards for almost all those measurement points. Unfortunately, TCEQ does not require the use of the protected flow regimes at those points to calculate protection levels to be applied at additional flow gages. As a result, even with numerous measurement points, compliance with flow protections for individual permits often is based on flow levels at very distant gages, sometimes on a different stream. That means a diversion that dries up a local stream may “comply” with flow standards if there is flow at the distant measurement point.

Instream flows, diversions down to subsistence levels: The expert science team recommended that diversions down to subsistence levels should be allowed only during the driest 10% of the time. The adopted flow standards allow diversions down to subsistence flow levels, subject to the 50% rule, anytime flow falls below the baseflow level. Because subsistence flows represent very low levels intended to be reached only rarely during droughts, aquatic species are at risk at those levels. Under the adopted standards when impoundment or diversion under older permits without flow protection causes flows to drop below the baseflow level, flow protections applicable for new permits also drop, just when more protection under new permits is most needed. The flow standards do apply a “50% rule” to limit the how quickly flows drop to subsistence levels: the permit holder can divert, or impound, only half of the flow between the subsistence level and the applicable baseflow level. So, if flow at the measurement point is 100 cfs and the subsistence level is 50 cfs, in theory, the permit holder only gets 25 cfs. However, the 50% rule really can only work if there is a nearby measurement point, which is rare.

Instream flow, levels of baseflows: The expert science team recommended three different levels of baseflows, representing dry, average, and wet conditions because different species do better with different flow levels. The adopted flow standards only protect one level of baseflows, which has seasonal flow levels matching the science team recommendations for average hydrological conditions.

Instream flows, levels of pulse flows: The expert science team recommended many levels of pulse flow protections (5 to 8) at the various measurement points. The adopted flow standards protect 2 to 3 levels of pulse flows that generally match the lowest pulse flow recommendations by the science team. However, even within those pulse flow levels, during many seasons the standards do not protect smaller pulses recommended for protection by the science team because TCEQ considered the pulse flow levels to be insufficiently different from baseflow levels.

Instream flows, strategy targets: Under the applicable statute (SB 3), flow standards, in addition to establishing criteria for new permits, are intended to establish target levels of river flows and freshwater

inflows to bays and estuaries to be met through the implementation of voluntary proactive strategies, such as purchases of water rights, to improve impaired flow levels. There are no strategy targets for instream flows in these flow standards.

Freshwater inflows, drought period criteria: The expert science team recommended low volumes of seasonal inflows for the Nueces Bay and Delta that should be met in most years—the recommended attainment frequencies range from 69% to 88% of future seasonal periods. Attainment frequencies define the percentage of time at least those volumes of inflows should occur. The adopted flow standards use the science team recommendations for attainment frequencies solely as targets for voluntary protection efforts. The standards applicable for new permits use far lower attainment frequencies than those the science team recommended as adequate to protect a sound ecological environment. The expert science team indicated that, because of existing low flow inflow levels, among other factors, the Nueces Bay and estuary does not represent a sound ecological environment. There are no drought-period minimum inflows.

Freshwater inflows, reopener mechanism: Senate Bill 3 directs that permits issued after Sept. 1, 2007, can be reopened to increase protection by a limited amount if flow standards later are amended to be more protective. TCEQ implementation does not provide a mechanism for reopening the freshwater inflow component of new permits.

Freshwater inflows, strategy targets: The standards do include broad attainment frequency targets to guide implementation of voluntary proactive strategies, such as purchases of existing water rights, to increase bay inflows. Because strategies to increase inflows likely will provide relatively small volumes of water, broad targets for attainment frequencies of large inflow volumes, although conceptually important, may have limited utility.

Overall: match with science team recommendations: The expert science teams were charged with developing recommendations adequate to protect a sound ecological environment. The instream flow component of the standards differs from many aspects of the science team recommendations, including frequency of diversions down to subsistence levels, fewer baseflow levels, and fewer protected pulse flows. The freshwater inflow component of the adopted standards, although matching the structure of science team recommendations, protects much lower attainment frequencies.