Colorado and Lavaca river basins and Matagorda and Lavaca bays

as of Aug 2023

Instream flows, number of measurement points: The expert science team provided recommendations for flow levels at 14 measurement points in the Colorado River Basin, 4 in the Lavaca River Basin and 2 in coastal basins. TCEQ adopted flow standards for all those measurement points. Unfortunately, TCEQ does not require the use of the flow regimes at those points to calculate protection levels to be applied at additional flow gages. As a result, even with those 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 adopted flow standards only allow diversions down to subsistence flow levels during hydrological conditions representing the driest 5% of the time. Because subsistence flows represent very low levels intended to be reached only rarely during drought periods, aquatic species are at risk at those flow levels. Limiting diversions in that way acknowledges that serious droughts happen naturally while attempting to limit the creation of artificial drought-level flows.

Instream flow, levels of baseflows: The expert science team recommended three different levels of baseflows, representing dry, average, and wet conditions, for most locations because different species do better with different flow levels. Based on existing studies, only two levels of baseflows were recommended for the Colorado River below Austin. The adopted flow standards match the expert science team recommendations.

Instream flows, levels of pulse flows: The expert science team recommended five different levels of pulse flow protections at most locations. The adopted flow standards generally protect the lowest three levels of those pulse flows with some downward adjustment in pulse volume for the highest of the the three levels. For water rights on the Colorado River downstream of Austin, some pulse flow requirements only apply to permits with large diversion rates or impoundment capacity.

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 minimum monthly inflow levels for Matagorda Bay and minimum seasonal inflows for Lavaca Bay with accompanying attainment frequencies. Attainment frequencies define how often levels can flow below

the recommendations. The adopted flow standards use the science team recommendations for attainment frequencies solely as targets for voluntary protection efforts. Flow standards applicable for new permits use lower attainment frequencies which reflect the full exercise of all existing water rights rather than science team recommendations for frequencies adequate to protect a sound ecological environment.

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 are amended to be more protective. TCEQ implementation does not provide for reopening the freshwater inflow component.

Freshwater inflows, strategy targets: There are broad attainment frequency targets to guide 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 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 matches expert science team recommendations except that most larger pulse flow recommendations were omitted or reduced in size. The freshwater inflow component of the standards, although similar in structure to science team recommendations, protects much lower attainment frequencies.