

Term Project Proposal-Mapping the Environmental Flows Standards in Texas

Background

An environmental flow is an amount of water that should remain in a stream or river for the benefit of the environment of the river, bay, and estuary, while balancing human needs (TCEQ).

As required by Senate Bill 3 (passed by the 80th Texas Legislature in 2007), the Texas Commission on Environmental Quality has adopted environmental flow standards and rules for the Sabine-Neches, Trinity-San Jacinto, Brazos, Colorado-Lavaca, Guadalupe-San Antonio, Nueces, and Rio Grande river basins and their associated bays by 2013. These standards must be considered when developing the 2017 State Water Plan.

Goals

1. Visualizing the environmental flows needs in Texas by mapping the environmental flow standards at each measurement point established by TCEQ in the selected river basins.
2. Take Guadalupe-San Antonio river basin as an area of interest. Compare the stream flow data with the environmental flows needs within Guadalupe-San Antonio river basin. Estimate how much the environmental flows will take part in the total seasonal/annual flows and discuss how it will affect the surface water availability/supplies.

Data Sources

1. Environmental Flows Rules established by TCEQ:
http://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/eflows/rulemaking.html
2. USGS National Water Information System: <http://water.usgs.gov/usa/nwis>
3. CUAHSI Water Data Center: <https://wdc.cuahsi.org/>
4. NHDPlus: <http://www.horizon-systems.com/nhdplus/>
5. Water Availability Information in Texas:
http://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/wam.html