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New Report Details Water Needs of Sabine Lake Estuary

PORT ARTHUR, Texas — A new report by state scientists documents the amount of freshwater inflows from the Sabine River watershed needed to sustain the Sabine Lake ecosystem, a vital resource that supports dozens of fish and wildlife species and is worth millions of dollars per year to the regional economy.

Texas Parks and Wildlife Department and the Texas Water Development Board recently completed the report "Freshwater Inflow Recommendation for the Sabine Lake Estuary of Texas and Louisiana."

The report recommends 9.6 million acre-feet as the amount of flow for the Sabine Lake system. (An acre-foot is the amount of water it takes to flood an acre a foot deep.) This recommended flow is actually far less than the average flow that the system receives every year based on historical records. Sabine Lake receives by far the largest inflows of any bay system in the state because of the relatively high rainfall throughout the eastern parts of Texas which flows into its drainage basin.

"Factors such as drought or flood constantly change the rules in natural systems such as these, and are actually a key part of their proper functioning," said Larry McKinney, Ph.D., and TPWD coastal fisheries director.

"Thus, the recommendation is provided only as a target rather than as a strict requirement which must be met every year. TPWD's main goal is for water to be managed so that recommended inflows are provided frequently enough to maintain the system's productivity while also providing for other human needs."

Located on the coastal border between Texas and Louisiana, Sabine Lake is actually a coastal bay which hosts a multitude of recreationally popular fish and wildlife species such as speckled trout, redfish, canvasback ducks and Canada geese.

In 2001, saltwater recreational anglers statewide spent approximately \$600 million in Texas, generating a total economic impact of about \$1.3 billion, according to the U.S. Fish and Wildlife Service.

The bay also supports a healthy commercial fishery for shrimp, menhaden and other species. In 2001, 4,180 pounds of finfish worth \$57,059 and 1,420,147 pounds of shellfish worth \$1,175,874 were landed in Sabine Lake.

Besides the lake itself, the expansive wetlands along the edges of much of it also rely on freshwater inflows and provide key habitat for many other species, such as crabs, muskrats, river otters, ibises and great blue herons.

In 1985 the Texas Legislature directed TPWD and TWDB to determine the beneficial freshwater inflow needs for major Texas estuaries. To that end, state scientists consider historical river flows, local rainfall, salinity (salt content in sea water), nutrients, and fisheries needs as well as other components in calculating the freshwater inflows that will sustain a healthy bay.

To request a copy of the report, contact Nathan Kuhn, a TPWD biologist and primary author of the report, at nathan.kuhn@tpwd.state.tx.us or (512) 912-7016.