

AGENDA ITEM MEMO

BOARD MEETING DATE: September 23, 2021

TO: Board Members

THROUGH: Jeff Walker, Executive Administrator
Ashley Harden, General Counsel
Rebecca Trevino, Chief Financial Officer
John T. Dupnik, P.G., Deputy Executive Administrator, Water Science
and Conservation

FROM: Caimee A. Schoenbaechler, Manager, Coastal Science
Carla G. Guthrie, Ph.D., Director, Surface Water

SUBJECT: Coastal Monitoring with the U.S. Geological Survey

ACTION REQUESTED

Consider authorizing the Executive Administrator to negotiate and execute a contract with the U.S. Geological Survey in an amount not to exceed \$797,366 (including \$472,366 from the Texas Water Development Board) for coastal monitoring in Fiscal Years 2022 and 2023 and to negotiate a contract with the Texas General Land Office to receive up to \$175,000 to add to this project.

BACKGROUND

In response to legislative directives dating back to 1975 to support water planning, the Texas Water Development Board (TWDB) initiated and continues to maintain a data collection, modeling, and analytical study program to evaluate the freshwater inflow requirements necessary to maintain the health of the state's bays and estuaries which provide critical habitat for a vast array of fish and wildlife. Healthy estuaries provide significant economic value through commercial and recreational fishing and tourism activities as well as ecological services such as water filtration, nutrient cycling, shoreline stabilization, and storm surge protection.

Since 1986, the TWDB in partnership with other agencies has supported a coast-wide network of water quality instruments to measure basic water quality parameters (e.g., salinity and temperature) at strategic locations within the state's estuaries. The network

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provides valuable long-term water quality datasets for environmental flows and water supply planning. To better understand the role that freshwater inflow plays in supporting habitats and estuarine productivity, the TWDB and the U.S. Geological Survey, through a Joint Funding Agreement in 2009, began evaluating and monitoring sediment and nutrient loading into Texas bays from the lower reaches of major river systems. These data provide information about the timing and volume of inputs affecting estuarine productivity, and thus far indicate that large pulses of nutrients and sediments are transported to bays during peak inflow periods.

The Texas General Land Office also has a vested interest in collecting data on the state's coastal resources and is interested in contributing towards the expansion of water quality monitoring in Texas estuaries to support their coastal management and resiliency activities. By leveraging cooperative funding from both the Texas General Land Office and the U.S. Geological Survey, the TWDB will be able to maintain and expand a robust monitoring network to provide coastal data that is informative to a variety of objectives.

KEY ISSUES

The Executive Administrator proposes to negotiate and execute a contract with the U.S. Geological Survey for coastal monitoring in Fiscal Years 2022 and 2023. The contract will include operation and maintenance of existing instrumentation to measure freshwater inflow quantity, nutrients, and sediments, as well as estuarine water quality to provide data for water resources monitoring and planning. Total costs for coastal monitoring in Fiscal Years 2022 and 2023 will be \$797,366. The TWDB will provide general revenue up to an amount of \$472,366 for two years of operation and maintenance costs for eight water quality stations and monitoring of freshwater inflow, nutrients, and sediments at seven stations in five major river systems. The U.S. Geological Survey will share the cost of maintaining this network by providing \$150,000 for the biennium (Table 1).

The Executive Administrator also proposes to negotiate and execute a contract with the Texas General Land Office in Fiscal Years 2022 and 2023 to receive funding for up to an additional \$75,000 in Fiscal Year 2022 and \$100,000 in Fiscal Year 2023 to expand the coastal monitoring network by three or four additional water quality stations. This contract will provide a mechanism for the Texas General Land Office to pass funds through the TWDB to install, operate, and maintain their water quality sensors on existing Texas Coastal Ocean and Observation Network gaging stations.

RECOMMENDATION

The Executive Administrator recommends approval to authorize negotiating and executing a contract with the U.S. Geological Survey and with the Texas General Land Office for coastal monitoring, which furthers the objectives of Texas Water Code §16.012 for statewide water resources data collection and dissemination, §16.058 for collection of bay and estuary data, and Texas Natural Resources Code § 33.065 for collection of data on natural processes affecting the coast.

Table 1. Summary of proposed coastal monitoring costs for Fiscal Years 2022 and 2023

Fiscal Year	Objective	Number of stations	Funding			Total
			TWDB general revenue	U.S. Geological Survey cost share	Texas General Land Office share	
2022	Estuarine water quality	11	\$113,500	\$37,500	\$75,000	\$226,000
	Freshwater inflow, nutrients, sediments	7	\$122,683	\$37,500	\$0	\$160,183
2022 Fiscal Year Total						\$386,183
2023	Estuarine water quality	12	\$113,500	\$37,500	\$100,000	\$251,000
	Freshwater inflow, nutrients, sediments	7	\$122,683	\$37,500	\$0	\$160,183
2023 Fiscal Year Total						\$411,183
Biennial Total			\$472,366	\$150,000	\$175,000	\$797,366