

AGENDA ITEM MEMO

BOARD MEETING DATE: September 14, 2023

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: (a) execute a contract with the U.S. Geological Survey (USGS) in an amount not to exceed \$745,000 (including \$475,000 from the Texas Water Development Board) for coastal monitoring in fiscal years 2024 and 2025; and (b) amend the USGS contract in an amount not to exceed \$100,000 for additional unplanned activities.

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. Healthy estuaries provide critical habitat for fish and wildlife, generate significant economic value through commercial and recreational fishing and tourism activities, and deliver 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 coastwide network of monitoring stations to measure basic water quality parameters (e.g., salinity and temperature) at strategic locations within the state's estuaries. Through a joint funding agreement with the USGS in 2009, the TWDB expanded the network to monitor sediment

and nutrient loading into Texas bays from the lower reaches of major river systems. In 2022, the Texas General Land Office (TGLO) began contributing to the monitoring network to support their coastal management and resiliency objectives. By leveraging funding from cooperators, the TWDB is able to maintain a robust monitoring network to provide long-term datasets informative to a variety of coastal management, water planning, and flood preparedness and planning objectives.

KEY ISSUES

To provide data for water resources monitoring and planning, the Executive Administrator proposes to execute a contract with the USGS for coastal monitoring in fiscal years 2024 and 2025 to include operation and maintenance of scientific instrumentation to measure freshwater inflow, estuarine water quality, and suspended sediment in five bay systems. This biennium, TWDB will install six scientific monitoring buoys and add meteorological sensors to provide co-located water and weather data, which the USGS will operate and maintain after installation. By adding meteorological sensors, the TWDB fills a data gap for monitoring and modeling flood conditions in the coastal zone. Of the 14 water quality stations currently maintained, six will be replaced with buoys and outfitted with meteorological sensors. Four new water quality stations will be added, and suspended sediment will be monitored at four additional sites.

Total cost for coastal monitoring in fiscal years 2024 and 2025 will be \$745,000. The TWDB will provide up to \$475,000 from general revenue and the Texas Infrastructure Resiliency Fund. The USGS and the TGLO will share the cost of maintaining this network by providing \$150,000 and \$120,000, respectively, for the biennium. An allocation of the costs is illustrated in the attachment.

Occasionally, one-time opportunities, such as increasing the frequency of monitoring during a flood or drought, assisting the TWDB with a special study or buoy deployment, adding other data types, or monitoring at other locations of interest, arise. For such occasions, the USGS contract will allow for an amendment to add up to \$100,000 to support opportunities to advance coastal monitoring in Texas. Funds budgeted from the TWDB are sufficient to cover the cost of the TWDB's portion of this contract including the amount added by the amendment.

RECOMMENDATION

The Executive Administrator recommends approval to authorize executing a contract with the USGS for coastal monitoring, which furthers the objectives for statewide water resources data collection and dissemination.

Attachment: Summary of coastal monitoring activities for fiscal years 2024 – 2025.

Attachment

Summary of coastal monitoring activities for fiscal years 2024 - 2025.

		Data Type and Number of Stations			Funding			
Fiscal Year	Service	Estuarine Water Quality	Meteorology	Suspended Sediment	USGS	TWDB	TGLO	Total Cost
2024	Operations & Maintenance	14	6	4	\$75,000	\$237,500	\$60,000	\$372,500
2025	Operations & Maintenance	14	6	4	\$75,000	\$237,500	\$60,000	\$372,500
Subtotal by funding source					\$150,000	\$475,000	\$120,000	
Total								\$745,000