

TO: Board Members

THROUGH: Kevin Patteson, Executive Administrator
Robert E. Mace, Deputy Executive Administrator, Water Science & Conservation
Les Trobman, General Counsel

FROM: Mark Wentzel, Team Lead, Instream Flows

DATE: August 12, 2015

SUBJECT: Fiscal Year 2016 Joint Funding Agreement with the U.S. Geological Survey for Water Resources Investigations

ACTION REQUESTED

Authorize the executive administrator to: (a) negotiate and execute a payable contract in a total amount not to exceed \$991,605 (\$627,870 from the Texas Water Development Board) for continuation of the Water Resources Investigations data collection program with the U.S. Geological Survey in Fiscal Year 2016; and (b) amend the contract in an amount not to exceed \$100,000 if additional funds become available.

BACKGROUND

Water data provides the foundation upon which Texas builds its water plans and manages its water resources. It has long been recognized that adequate water data is necessary in order to know how much water is available for use or how drought, flood, or additional use may affect current users and environmental resources. The very first U.S. Geological Survey streamgage in Texas was installed 126 years ago on the Rio Grande near El Paso. The State-Federal Cooperative Program for Water Resources Investigations started shortly thereafter with the first jointly funded gage being installed in 1915.

An analysis of stream flow gages by the U.S. Geological Survey entitled “Evaluation and Proposed Revision of the Streamflow-Gaging Network of Texas to Provide Regional Information” (Slade 1999) identified a Core Network consisting of 263 streamflow gages statewide. These gages meet one or more of four criteria considered critical to TWDB interests: (1) flow-condition assessment; (2) regionalization; (3) major flow monitoring; and (4) outflow from the state. In 2003, it was determined that it was not feasible to install a gage at one of the proposed sites, thus reducing the Core Network to 262. In fiscal year 2015, 234 Core Network streamgages were active. A similar number are expected to be active in fiscal year 2016.

<p>Our Mission</p> <p>To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas</p>	<p>Board Members</p> <p>Bech Bruun, Chairman Carlos Rubinstein, Member Kathleen Jackson, Member</p> <p>Kevin Patteson, Executive Administrator</p>
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There are 188 water supply reservoirs with conservation storage capacity greater than 5,000 acre-feet in Texas. To estimate water supply conditions throughout the state, TWDB monitors the contents of 114 of the largest of these reservoirs. Monitored reservoirs represent 96% of the total storage provided by the 188 major water supply reservoirs (capacity greater than 5,000 acre-feet) in the state. Results are reported in the Water Data for Texas web site (<http://waterdatafortexas.org>), the Water Conditions Report (updated monthly) and Drought Conditions Report (portions of which are updated daily). Both of these reports rely on accurate and timely data provided by lake level gages.

KEY ISSUES

Gaging services provided by the U.S. Geological Survey under the Water Resources Investigations program will cost an estimated \$991,605 in fiscal year 2016. The cost of these services is split between the U.S. Geological Survey and the TWDB, each paying for a negotiated portion of the total. In fiscal year 2016, TWDB's contribution to the Water Resources Investigations program, pending Board approval, will be \$627,870, while the U.S. Geological Survey share will be \$363,735. These funds will cover the costs of operation and maintenance of 53 streamflow and 35 lake level gages.

While significant, this is only a fraction of the gages required to adequately monitor the state's surface water resources as defined by the Core Network streamgages and major water supply reservoirs. Typical operation and maintenance costs for a year are \$6,360 for a lake level gage and \$15,450 for a stream flow gage. Depending on location and difficulty, costs for particular sites can be more. Based on typical per gage costs, the total cost of collecting surface water data required by TWDB to carry out its mission at current levels of proficiency (streamflow gages at 234 of 262 Core Network sites and lake level gages at 114 of 188 major water supply reservoirs) is about \$4.3 million dollars. TWDB could not bear the cost of gaging this number of sites alone.

However, other federal, state, and local programs cooperate with the U.S. Geological Survey's stream and lake gaging efforts in Texas. Based on number of gages supported, TWDB is the largest single cooperator in the state, but other cooperators include federal agencies, river authorities, water and drainage districts, and municipalities.

In addition, the U.S. Geological Survey's National Streamflow Information Program also pays the entire cost for some gages. In 2004, the National Streamflow Information Program provided less than \$400,000 for stream gaging in Texas. The program has grown since then and provided about \$1.87 million for 156 stream gages in the state during 2015. Over the years, 38 stream gages formerly funded by the Joint Funding Agreement between USGS and TWDB have been transferred to the National Streamflow Information Program. Those transfers have resulted in a net reduction of stream gaging costs to TWDB of more than \$300,000.

At present, the U.S. Geological Survey, through the National Streamflow Information Program and Joint Funding Agreements with cooperators (including TWDB) fund 532 stream flow and 145 lake level gages in the state. Objectives of other cooperators do not coincide exactly with those of TWDB, resulting in a number of Core Network gages remaining discontinued and major supply reservoirs remaining ungaged.

An incomplete network of streamflow and lake level gages has some impact on TWDB's ability to monitor the state's surface water resources. Some of that impact can be minimized, as is currently done, by using data from other streamgaging locations or inferring conditions based on a subset of lake level gages. Maintaining the current level of accuracy and proficiency in meeting TWDB's objectives will be achieved with the allocation of \$627,870 to the Joint Funding Agreement with U.S. Geological Survey for fiscal year 2016.

RECOMMENDATION

The Executive Administrator recommends approval of this item.

This recommendation has been reviewed by legal counsel and complies with applicable statutes and Board rules.

Les Trobman, General Counsel