



Scope of Work

Capital Area Ground Water Conservation Commission (CAGWCC)

June 2018

MISSION OF CAGWCC

The mission of the Capital Area Ground Water Conservation Commission (CAGWCC) is to provide for the efficient administration, conservation, orderly development and supplementation of groundwater resources in the parishes of East Baton Rouge, East Feliciana, Pointe Coupee, West Baton Rouge and West Feliciana.

The CAGWCC will develop, promote, and implement management strategies to provide for the conservation, preservation, protection, recharging and prevention of waste of the groundwater resources, over which it has jurisdictional authority, for the benefit of the people that the Capital Area District serves.

Due to the interconnected nature of groundwater and surface water, with unique considerations in coastal Louisiana, it is important to build on and coordinate with previous water resources research efforts. These efforts focus on the connection to coastal waters, with respect to saltwater intrusion into groundwater resources and freshwater delivery to maintain health of coastal estuaries. This effort will build upon the Louisiana Water Resources Assessment for Sustainability and Energy Management, previously conducted by the Institute for the Louisiana Department of Natural Resources-Office of Conservation (DNR-OC) and the Louisiana Coastal Protection and Restoration Authority (CPRA).

ISSUE AND POTENTIAL NEED

The Capital Area Ground Water Conservation District was created by the Louisiana Legislature through Act 678 of 1974 due to concerns in the region including water level declines of as much as 400 feet, saltwater encroachment in several local aquifers, and land subsidence caused by over-pumping of groundwater. The District's governing commission began work in January 1975. Its job is to develop, promote and implement management strategies to provide for the conservation, protection, and sustainable use of local groundwater resources in the District.

Saltwater encroachment has continued to be an issue over the years in the Southern Hills Aquifer System. Therefore, the CAGWCC has invested in monitoring, modeling, and additional science to inform its decision-making in setting groundwater use priorities and production limits as well as facilitate aquifer conservation. In addition, members have already invested in projects to identify actions to meet objectives and reduce groundwater withdrawals (for example, expanding surface water use by utilizing water from the Mississippi River) and are in the process of planning for scavenger well(s) to be drilled along the local fault line to draw saltwater away from the freshwater wells.



However, there are questions as to whether the state of the science informing CAGWCC decisions is sufficient, scavenger well(s) will be effective enough to conserve the aquifer over the long-term, and whether other strategies, such as expanding use of the Mississippi River, or alternatives need to be considered as the Baton Rouge area grows and water resource needs increase.

The Water Institute of the Gulf is a non-profit, non-advocacy research institute headquartered in Baton Rouge, LA. The Institute has technical expertise in groundwater as well as experience in evaluating and developing science that specifically supports decision-makers. The Institute's *unbiased approach* to producing science in support of resource management and helping to resolve water-related issues makes it ideally situated to work with the CAGWCC.

PROPOSED PROJECT OBJECTIVES

Objective 1: Work with the CAGWCC and other technical stakeholders to identify and evaluate feasible, realistic, and cost-effective science-based alternatives which meet long-term water resource needs.

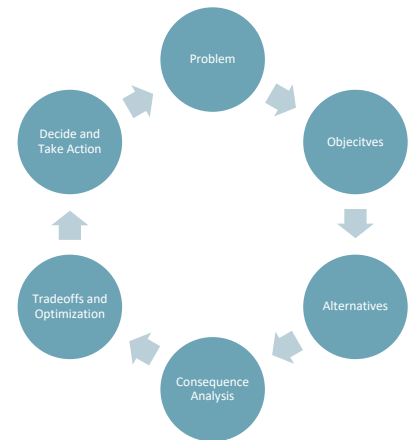
Objective 2: Evaluate the state of the science/information related to groundwater use and aquifer conservation needed to evaluate alternatives and inform decisions.

Objective 3: Work with the CAGWCC to identify management alternatives that are economically feasible and acceptable, and being developing a strategic plan for the long-term water supply for the District.

PROPOSED APPROACH

The Institute proposes to initiate a phased approach to meet project objectives following the PrOACT cycle. PrOACT is a useful framework for structuring decisions. This includes:

- Defining the Problem
- Determining the Objectives
- Identifying Alternatives
- Evaluating alternatives and forecasting the Consequences
- Evaluating the Trade-offs
- Making the decision and taking action



TASK 1: FACILITATED WORKSHOPS & SCIENTIFIC REVIEW

Task 1.1: Facilitated Workshops

The CAGWCC is the authority to manage the District's groundwater resources. As with any process, it's important to work closely with these decision-makers in a transparent manner which facilitates a process to identify a path forward. There are numerous stakeholders within the District regulated by the CAGWCC, but there is not yet consensus on a potential path forward. Therefore, the Institute would take a structured, facilitated approach (via meetings/workshops) in working with the CAGWCC (and other technical stakeholders as needed) to articulate/identify: (1) the potential problems/issues based on the mandates, laws,



preferences, and scope of current decisions of the CAGWCC, (2) the specific long-term fundamental *objectives* of the CAGWCC, and (3) the potential management *alternatives* (including the status quo and the potential use of alternative surface water sources) that the CAGWCC would consider. It's important to first work with the CAGWCC to appropriately frame the problem and define objectives before developing alternatives, as alternative-focused thinking could lead to the CAGWCC problems/issues being framed too narrowly to address and achieve CAGWCC objectives.

Deliverable: Working through a facilitated structured approach with the CAGWCC, framing and objective setting that lead to identification of alternatives (including the status quo and the potential use of alternative surface water sources) that address the long-term water resource needs will be clearly articulated (via a report to be utilized for evaluation in future phases of work; concurrent with this a complimentary assessment of the “state of the science” will be generated as part of Task 1.2 below).

Task 1.2: Scientific Review

Third party evaluation of the state of the science, information, and data related to ground water use and aquifer conservation. This step would include the Institute working with USGS experts engaged in monitoring and modeling, local experts with groundwater system knowledge (such as Dr. Frank Tsai) as well as other specialists, such as in natural resource economics or in human dimensions, that can evaluate the state of knowledge/science, risk and gaps/needs regarding the long-term management needs of the CAGWCC.

Deliverable: A report on the “state of the science”, identified gaps, and proposal for evaluating alternatives and filling gaps in future phases of work.

Time: 1 year

Cost: \$250,000