

Edwards Aquifer Authority 2016 Applied Research Work Plan

Section 6.3.4 of the Edwards Aquifer Habitat Conservation Plan (EAHCP) includes Applied Research as a “valuable” component of the Phase I package and states that the “Edwards Aquifer Authority (EAA) will contract for the research activities.” The main focus of the Applied Research is to evaluate the effects of low-flows on Covered Species and their habitats. As described in the HCP § 6.3.4.2, Applied Research for Phase I will focus on the fountain darter relative to Comal Springs (although research should be transferable to the San Marcos system) and the Comal Springs riffle beetle, as these are the two species with the greatest potential for impact relative to the Phase I package.

Long Term Objective: The experimentation done through the Applied Research program of the EAHCP will evaluate the effects of low-flows on Covered Species and their habitats. The information gathered through this program will be utilized in the ecological model and will subsequently be used to inform the Adaptive Management Process and identify strategies for improved mitigation in the spring cities’ model.

Assumptions: Completion of all 2015 approved Applied Research projects.

Methodology

Selection Process: In order to assure that Applied Research projects meet the long term objectives and to meet specific EAHCP needs, the EAA has initiated a process that allows members of the Implementing Committee, Stakeholder Committee, Science Committee, and EAHCP Staff to submit proposed studies for consideration.

The following link is to the Applied Research Selection Process:

http://www.eahcp.org/files/admin-records/NEPA-and-HCP/AR_Selection_pACKET.pdf

As a part of the process, at their April 7 and May 6, 2015 meetings, the Science Committee reviewed, prioritized, and approved the following research questions for the 2016 Applied Research program:

1. ~~What is the seasonal variation in the abundance and distribution of the Comal Springs Salamander in the Comal Springs aquatic ecosystem?~~
2. What is the trophic level status and functional feeding group categorization of Comal Springs riffle beetle larvae and adults in their natural habitat?
3. What are the long-term, elevated temperature and low Dissolved oxygen tolerances of Comal Springs riffle beetle Larvae and adults?
4. What is the life history of the Comal Springs riffle beetle, from egg to adult in the Comal Springs aquatic ecosystem?

The Edwards Aquifer Authority will develop an RFP based on the key elements with expected deliverables and experimental design criteria for each study approved by the Implementing

Committee. Where possible, all efforts will be made to match similar studies to allow for shared facility and expertise in an effort to promote fiscal stewardship.

These RFPs will each be issued through a competitive procurement process that will include publication in six print regional newspapers and direct distribution to a list of at least sixty potential qualified contractors.

Also, in 2016, due to exceptionally high flows in the San Marcos River in May and June 2015, Texas State University needed to delay its project sampling for its 2015 Applied Research project - Suspended sediment impacts on Texas Wild-rice growth characteristics and aquatic macroinvertebrates - to November 2015. As a result, Texas State University requested (Attached is Memorandum from Thomas Hardy, dated August 11, 2015) a no-cost time extension to allow them the time to process samples, analyze data, and prepare the draft and final reports. Because of this time extension for this 2015 project, the estimated 2016 budget increases by \$43,000 – which represents this project’s unspent 2015 Applied Research funding.

Study Implementation: All Covered Species collected and utilized for Applied Research may be shared with other Applied Research contractors, within United States Fish & Wildlife Service (FWS) and Texas Parks & Wildlife (TPWD) regulations. The FWS and/or TPWD may require that at the conclusion of the research projects, all Covered Species collected and utilized for Applied Research be delivered to the FWS or the TPWD for Refugia operations.

EAHCP staff will receive monthly status reports from selected contractors and will visit with selected contractors on-site to evaluate the progress and methodology compliance of Applied Research projects.

Research Facility/Freeman Aquatic Building: In 2015, the Edwards Aquifer Authority entered the second year of a five-year contract (three, one-year extensions remaining) with Texas State University (TEXAS STATE) to allow researchers to use the Freeman Aquatic Building (FAB) raceways, two concrete ponds and wet lab (with living streams and aquaria) to conduct EAHCP research. The TEXAS STATE facilities meet the needs of providing source water, quarantine capabilities, endangered species handling, and infrastructure/resource needs. The EAA pays the utility costs for use of the facilities.

In 2016, the FAB facilities will be available to potential EAHCP contractors, and terms of use will be included in contracts between EAA and researchers. Additionally, EAHCP staff will coordinate the projects for timing and availability of resource needed (tank, living stream, trough, raceway, or pond).

Budget:

Table 7.1 Applied Research Budget: \$450,000

2016 Estimated Budget \$493,000

Research Projects

Prioritized Applied Research Budget: \$468,000

Research contracts will be awarded until funds are utilized.

Research Facility Budget

The EAA pays the utility costs for use of the FAB.

\$25,000