

## REQUEST FOR PROPOSAL

The Edwards Aquifer Recovery Implementation Program (“EARIP”) is a collaborative, consensus-based stakeholder process tasked with the development of a plan to protect the federally-listed species potentially affected by the management of the Edwards Aquifer and to contribute to these species’ recovery. The stakeholders in the process include State of Texas agencies, local water resource authorities, water purveyors, environmental groups, municipalities, public utilities, and other individuals and groups interested in the Edwards Aquifer and the species residing in the Edwards Aquifer or in the springs and river systems fed by the springs.

See Attachment 1. The EARIP is seeking proposals for independent peer review of recommendations made by its Science Subcommittee.

### BACKGROUND

#### Edwards Aquifer System

The Edwards Aquifer is a unique groundwater resource, extending 180 miles from Brackettville in Kinney County to Kyle in Hays County. It is the primary source of drinking water for over 2-million people in south central Texas and serves domestic, agricultural, industrial, and recreational needs of the area. The Edwards Aquifer is the source of two major springs - the San Marcos and Comal springs. These springs feed the San Marcos and Comal rivers, which are tributaries to the Guadalupe River.

Eight species that depend directly on water in, or discharged from, the Edwards Aquifer system are federally-listed as threatened or endangered. These species include: fountain darter (*Etheostoma fonticola*), San Marcos salamander (*Eurycea nana*), San Marcos gambusia (*Gambusia georgi*), Texas blind salamander (*Eurycea rathbuni*), Peck’s cave amphipod (*Stygobromus pecki*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterolemis comalensis*) and Texas wild rice (*Zizania texana*). The San Marcos gambusia has not been seen since 1983 and may be extinct.

The primary threat to the aquifer-dependent listed species is the intermittent loss of habitat from reduced springflows. Springflow loss is the combined result of naturally fluctuating rainfall patterns, regional intermittent pumping, and temporal drawdown of the aquifer. Other threats include invasive non-native species, recreational activities, predation, flood flows, and direct or indirect habitat destruction or modification by humans and other factors that decrease water quality (U.S. Fish and Wildlife Service 1996).

For more background information regarding the Edwards Aquifer. See <http://www.edwardsaquifer.org/pages/eaact.htm>

#### The Edwards Aquifer Recovery Implementation Program

In 1991, the Sierra Club filed a lawsuit under the Federal Endangered Species Act that ultimately

resulted in the creation of the Edwards Aquifer Authority (“EAA”). The Texas Legislature directed the EAA to regulate pumping from the aquifer, implement critical period management restrictions, and pursue measures to ensure minimum continuous springflows of the Comal and San Marcos springs are maintained to protect endangered and threatened species to the extent required by Federal law. Today, competing water needs within the region continue to influence management of the resource, and a workable comprehensive plan for the long-term protection for the federally-listed species has yet to be adopted among the region’s stakeholders.

As a result, in late 2006, the United States Fish and Wildlife Service (“FWS”) brought together stakeholders from throughout the region to participate in a unique collaborative process to develop a plan to contribute to the recovery of federally-listed species dependent on the Edwards Aquifer. This process is referred to as the Edwards Aquifer Recovery Implementation Program. In May 2007, the Texas Legislature directed the EAA and certain State agencies to participate in the EARIP and to prepare a FWS-approved plan by 2012 for protecting the Edwards Aquifer-dependent listed species at Comal and San Marcos springs. *See* Article 12 of Senate Bill 3, Act of May 28, 2007, 80<sup>th</sup> Leg., R.S., ch. 1430, §§ 12.01–12.12, 2007 Tex. Gen. Laws 5848, 5901, which is codified in the Act at Section 1.26A <http://earip.tamu.edu/Resources.aspx>. The Legislature directed that the plan must include recommendations regarding withdrawal adjustments during critical periods (*i.e.*, droughts) that ensure that federally-listed species associated with the Edwards Aquifer will be protected.

For more information regarding the EARIP *see* <http://earip.tamu.edu/>

### **Science Subcommittee**

The Texas Legislature required the EARIP to establish a Science Subcommittee of individuals “with technical expertise regarding the Edwards Aquifer system, the threatened and endangered species that inhabit that system, springflows, or the development of withdrawal limitations.” The Steering Committee appointed 15 scientists to serve on the Science Subcommittee. A list of the members and their affiliations is included in Attachment 2. Ms. Susan Aragon-Long from the United States Geological Survey manages the Subcommittee, and Dr. Robert Mace of the Texas Water Development Board serves as its Chair.

The Legislature directed that, among other things, the Science Subcommittee develop “withdrawal reduction levels and stages” for critical period management. Specifically the legislature provided:

The Edwards Aquifer area expert science subcommittee shall, among other things, analyze species requirements in relation to spring discharge rates and aquifer levels as a function of recharge and withdrawal levels. Based on that analysis and the elements required to be considered by the authority under Section 1.14 of this article, the expert science subcommittee shall, through a collaborative process designed to achieve consensus, develop recommendations for withdrawal reduction levels and stages for critical period management including, if appropriate, establishing separate and possibly different withdrawal reduction levels and stages for critical period management for

different pools of the aquifer needed to maintain target spring discharge and aquifer levels.

Section 1.26A(j). The EARIP refers to these recommendations as the “j” charges.

In developing these recommendations, the Legislature required the Science Subcommittee to consider all “reasonably available science” and to base its recommendations “solely on the best science available.” Section 1.26A(l). The Subcommittee is supposed to “operate on a consensus basis to the maximum extent possible.” *Id.*

More detailed information about the work of the Science Subcommittee on the “j” charges can be found at <http://earip.tamu.edu/Subcommittees.aspx>

## **REQUESTED PROPOSAL**

The EARIP is seeking a proposal for independent peer review of the Science Subcommittee recommendations regarding the “j” charges. The recommendations will be available on or before January 1, 2010. The recommendations will be in the form of a report that will be approximately 75 pages in length (not including appendices). The recommendations of the Science Subcommittee will be based largely on review of available literature, invited speakers, and discussions among the members. The work did not involve field work.

The Science Subcommittee used a numerical groundwater flow model of the Edwards Aquifer to develop its recommendations for withdrawal reductions and stages for critical period management. After deciding on a scenario it wanted to investigate, it requested the Edwards Aquifer Authority to run the scenario using the model developed by Lindgren *et al.* (2004) using MODFLOW-NR (Southwest Research Institute, 2007). General information about the model can be found at <http://earip.tamu.edu/MeetingArchive.aspx?MeetingType=Science>

The Science Subcommittee considered papers by Dr. Thomas Hardy and scientists from Texas Parks and Wildlife regarding modeling of the in-stream flow impacts on the Comal and San Marcos Springs systems. See <http://earip.tamu.edu/Science/Documents.aspx>. Dr. Hardy, working closely with scientists from Texas Parks and Wildlife, has been updating the results of those studies to include data collected since those reports were prepared. The Science Subcommittee has reviewed an initial report by Dr. Thomas Hardy regarding the update and met on several occasions with Dr. Hardy and others working on the update.

Dr. Hardy is currently doing field work and to collect current bathymetry, vegetative and canopy cover data and adding a diel water quality and temperature module to the model. Accordingly, we are not asking for a review of Dr. Hardy’s study at this time except to the extent that the reviewers identify other short-comings to Dr. Hardy’s initial report that may affect the recommendations.

The EARIP does not seek to use the peer review process to “redo” the work of the Subcommittee. The EARIP does expect that the reviewers will focus on the entirety of the referenced research and historic observations used to support the Subcommittee’s conclusions

and recommendations and the extent to which the existing data relied on by the Science Subcommittee supports recommendations on the “j” charges. Further, we seek input regarding whether the Science Subcommittee used the “reasonably available science” and based its recommendations “solely” on that science or best professional judgment based on that science, *e.g.*, the Subcommittee’s recommendations are free from policy considerations.

Your proposal should be based on the Scope of Work (Attachment 3) and include: (1) the names and background of the persons who actually will manage the peer review process and (2) any changes you would propose to the Scope of Work with a justification and rationale for any changes. In addition, please provide a schedule for completing the work using the following milestones:

- Select reviewers
- Develop instructions for reviewers
- Conferences with reviewers regarding the review and their responsibilities
- Draft report completed and provided to Science Subcommittee
- Discuss results with Science Subcommittee
- Final Review completed and submitted to EARIP Program Manager
- Administrative Record completed and submitted to EARIP Program Manager

You should assume in preparing the schedule that a contract is in place by January 1, 2010 and that the Science Subcommittee Recommendations on the “j” charges will be received by you on January 2, 2010.

Finally, Contractor will be compensated on a time and actual expense basis with a not to exceed amount. Please provide the hourly rates of all Contractor personnel and the estimated amount that Contractor will pay to each reviewer. State whether the rates include all overhead and profit and identify any anticipated expenses associated with the work. Provide an estimate of the cost of the project by task and include in that cost any expenses you anticipate will be incurred.

Texas AgriLife, a division of TexasA&M University, will serve as the contracting agent for the EARIP with respect to this project. The project will be managed by Robert L. Gulley, the Program Manager for the EARIP.

All proposals and inquiries should be directed to:

Robert L. Gulley  
Program Manager  
Edwards Aquifer Recovery Implementation Program  
Texas A&M University  
Institute of Renewable Natural Resources  
2632 Broadway, Suite 301 South  
San Antonio, Texas 78215  
(W) 210-222-0711  
(F) 210-222-0343  
[RLGulley@ag.tamu.edu](mailto:RLGulley@ag.tamu.edu)

Proposals should be received no later than December 15, 2009.

**PARTICIPANTS IN THE EDWARDS AQUIFER RECOVERY IMPLEMENTATION PROGRAM**

The following thirty-nine Stakeholders have executed the 2007 Memorandum of Agreement with the United States Fish and Wildlife Service regarding participation in the Edwards Aquifer Recovery Implementation Program:

Aquifer Guardians in Urban Areas	John M. Donahue, Ph.D.
Alamo Cement Company	Larry Hoffman
Bexar County	Mary Q. Kelly
Bexar Metropolitan Water District	Nueces River Authority
Carol G. Patterson	New Braunfels Utilities
City of Garden Ridge	Protect Lake Dunlap Association
City of New Braunfels	Regional Clean Air and Water Association
City of San Marcos	San Antonio River Authority
City of Victoria	San Antonio Water System
Comal County	San Marcos River Foundation
CPS Energy	South Central Texas Water Advisory Committee
Dow Chemical	South Texas Farm and Ranch Club
East Medina Special Utility District	Texas Bass Federation
Edwards Aquifer Authority	Texas Commission on Environmental Quality
Gilleland Farms	Texas Department of Agriculture
Greater Edwards Aquifer Alliance	Texas Living Waters Project
Greater San Antonio Chamber of Commerce	Texas Parks and Wildlife Department
Guadalupe Basin Coalition	Texas Water Development Board
Guadalupe-Blanco River Authority	Texas Wildlife Association
Guadalupe County Farm Bureau	

**The Edwards Aquifer Recovery Implementation Program  
Edwards Aquifer Area Expert Science Subcommittee**

*Chair*

Robert E. Mace, P.G., Ph.D.

*Members*

Susan Aragon-Long, U.S. Geological Survey (non-voting)

Rene Barker, P.G., Texas State University

Norman Boyd, Texas Parks and Wildlife Department

Thomas Brandt, Ph.D., U.S. Fish & Wildlife Service

Michael Gonzales, San Antonio River Authority

Ron Green, Ph.D., P.G., Southwest Research Institute

Charles Kreitler, Ph.D., P.G., LBG-Guyton Associates

Glenn Longley, Ph.D., Texas State University

Robert E. Mace, Ph.D., P.G., Texas Water Development Board

Doyle Mosier, Texas Parks and Wildlife Department

Mary Musick, P.G., retired, Texas Commission on Environmental Quality

Edmund L. Oborny, Jr., BIO-WEST, Inc.

Jackie Poole, Texas Parks and Wildlife Department

Sam Vaughn, P.E., HDR Engineering, Inc.

Shirley Wade, Texas Water Development Board

John Waugh, P.G., San Antonio Water System

**SCOPE OF WORK**

Contractor will review the Science Subcommittee’s recommendations and assemble a panel of at least six scientists. Three scientists will have expertise in modeling of in-stream flow impacts. The remaining members will include at least one aquatic biologist and two hydrologists (with at least one scientist with expertise in karst systems).

**TASK 1: Selection of Reviewers**

Contractor will follow its normal procedures for selecting highly-qualified reviewers to review the recommendations. Contractor will consult the In Stream Flow Counsel to assist it in identifying the experts. The contact for the current In-stream Flow Council is:

Tom Annear  
Water Management Coordinator  
Wyoming Game and Fish Department  
5400 Bishop Blvd.  
Cheyenne, WY 82006  
307-777-4555 (office)  
307-631-1296 (cell)  
307-777-4611 (fax)  
[Tom.Annear@wgf.state.wy.us](mailto:Tom.Annear@wgf.state.wy.us)

Contractor will develop a file for each scientist considered as a reviewer. The reasons for selecting (or not selecting) that scientist will be included in that file.

After considering the available pool of reviewers, Contractor will select those reviewers who best meet the criteria of scientific eminence and experience, and who the Contractor believes will exhibit the criteria of independence and impartiality. Contractor will interview the reviewers, record their responses, and ask them to sign statements attesting that they have no conflicts of interest (as per National Academy guidelines).

To ensure that the review is independent of the stakeholders and interested parties, neither the EARIP Stakeholders, its Science Subcommittee, its contractors, nor its Program Manager will be involved in the selection of the reviewers.

**TASK 2: Preparation of Reviewers**

The EARIP will provide the Science Subcommittee recommendations no later than January 2, 2010. After Consultant has selected reviewers, Contractor will provide reviewers with these documents and acquaint them with the availability other background information available at <http://earip.tamu.edu/Science/Documents.aspx>. Contractor will also conduct a conference call with the reviewers and the Chair of the Science Subcommittee before the review begins to

discuss the charge of the Science Subcommittee, and any general questions about the process for producing the recommendations. The Contractor shall also conduct a conference call before the review begins with the reviewers to discuss the scope of the review and to facilitate discussions ahead of the actual review. Consultant will work with individual reviewers to ensure that they understand the materials, the review requirements, and their individual tasks.

#### Task 3: Preparation of the Administrative Record

Contractor will maintain a clear record of all materials disseminated to the reviewers, the communications between the Contractor and the reviewers and among the reviewers, and individual reviewer's responses. These materials will be provided to the Program manager at the completion of the review process.

#### Task 4: Preparation of review

To obtain the individual opinions of reviewers, Contractor will require that each reviewer provide written responses to a series of review questions. Contractor will insure that the reviewers understand that the opinions are to be substantive not simply correcting the format, and typographical errors, and providing stylistic suggestions. Contractor will also allow reviewers to discuss among themselves their responses, the issues involved, and to modify their written responses in light of such discussions. Contractor will reflect any differences of opinion among the reviewers in the final report.

After a draft final report has been completed, Contractor will allow the Science Subcommittee to interact with the review panel under Contractor supervision, by asking questions, or by providing additional material as requested by the reviewers. This will be accomplished through a recorded conference call. At the close of the interactive process the panel will finalize the review.

#### *Task 5: Deliverables*

Draft and Final reviews of documents, including individual reviewer's opinions, and a full Administrative Record (to include all e-mails, drafts, ancillary materials)