



DEVELOPING CONSERVATION PLAN FOR THE EDWARDS AQUIFER

Stakeholders reach consensus resolution to balance protection of endangered species and water use

What does it take to get a group of environmental activists, city water planners and farmers all to agree on a complicated plan to balance the needs of endangered species and water users? Persistence.

In December 2011, a stakeholder group in the Edwards Aquifer region of Texas achieved a milestone in a struggle that has lasted nearly six decades.

Working together, participants in the Edwards Aquifer Recovery Implementation Program (EARIP) developed a habitat conservation plan that will protect endangered species and still provide water for human use.

The Edwards Aquifer is a major groundwater system in south central Texas serving about 2 million people. It is also the source of the two largest springs remaining in Texas: the Comal and San Marcos springs. These springs are the only known habitats for eight federally listed threatened or endangered species.

“These springs are not only vital to several endangered species, but they also feed tributaries to the Guadalupe River that, in turn, provide fresh water inflows to bays and estuaries on the Gulf Coast,” said Dr. Robert Gulley, the former program coordinator for EARIP.

The primary threat to these species is the intermittent loss of habitat from reduced spring flows due to fluctuating rainfall patterns, regional intermittent pumping and drawing down of the aquifer.

In 1991, the Sierra Club, a grassroots environmental organization, sued the U.S. Fish and Wildlife Service (FWS) for allegedly failing to protect the federally listed species in the aquifer.

“Judge Lucius Bunton ruled in favor of the Sierra Club and directed the Texas Legislature to act immediately to protect the species,” said Dr. Todd Votteler, an employee for Judge Bunton at the time. Currently Votteler is executive manager of science, intergovernmental relations and policy for the Guadalupe-Blanco River Authority. He also served as a member of EARIP.

In response to the judgment, in 1993 the Texas Legislature passed Senate Bill 1477, which created the Edwards Aquifer Authority (EAA). The aquifer authority manages withdrawals from the aquifer and implements measures to protect the different species.

“Senate Bill 1477 required EAA to implement and enforce water management practices, procedures and methods to ensure that, by Dec. 31, 2012, the →

Comal and San Marcos springs are the only known habitats for eight federally listed threatened or endangered species. Photo courtesy of the Edwards Aquifer Authority.



continuous minimum spring flows of the Comal Springs and the San Marcos Springs are maintained to protect the endangered and threatened species to the extent required by federal law," Gulley said.

Beginning in 1999, the aquifer authority worked for five years to develop a habitat conservation plan. However, that plan did not satisfy minimum flow and withdrawal cap requirements as required by the senate bill.

In 2006, FWS formed the recovery implementation program. Recovery implementation programs are voluntary, multi-stakeholder initiatives that seek to balance water use and development with the recovery of federally listed species.

In 2007, the Texas Legislature, through Senate Bill 3, mandated that EAA and four state agencies participate in the EARIP. Participating agencies included the Texas Department of Agriculture, Texas Water Development Board, Texas Parks and Wildlife Department and Texas Commission on Environmental Quality. The Legislature also created a 21-person steering committee, which ensured the participation of river authorities.

Stakeholders in the collaborative, consensus-based EARIP included not only state and federal agencies, but also water utilities, cities, groundwater conservation districts, agricultural users, industrial users, environmental organizations, individuals,

river authorities, and downstream and coastal communities.

Gulley's role was to provide stakeholders with needed information about the issues and ensure they remained focused on the important issues. Gulley said that because of the chemistry among the group, everything fell into place.

"Dr. Gulley managed the process quite capably, and the EARIP and other participants in the room responded as a group to his management," said Con Mims, executive director of the Nueces River Authority and steering committee chair.

After four years of once- or twice-monthly meetings, each with more than 50 attendees, members drafted, developed and molded a habitat conservation plan that was approved by the EAA Board of Directors. In addition, a funding and management agreement to implement the plan was approved at the board's Dec. 28, 2011, meeting.

"The plan marks the first time that area stakeholders have reached a consensus resolution to the regional conflicts between species protection and Edwards Aquifer pumping that have existed for decades," Gulley said. "As a result, the region will now have certainty about its use of the aquifer, control of the aquifer and the aquifer will be managed at a regional level rather than by the federal government."

The U.S. Fish and Wildlife Service listed eight species that depend directly on water in, or discharged from, the Edwards Aquifer system as threatened or endangered:

- Fountain darter
- San Marcos salamander
- San Marcos gambusia
- Texas blind salamander
- Peck's cave amphipod
- Comal Springs dryopid beetle
- Comal Springs riffle beetle
- Texas wild rice



Texas blind salamander



Fountain darter

Photos courtesy of Edwards Aquifer Authority.

The implementation of the habitat conservation plan is divided into two phases that will take place over 15 years. The first phase includes implementation of habitat protection measures to increase the viability of the species at Comal and San Marcos springs, Gulley said. The second phase will implement any additional needed measures, including the continuation of phase one.

The two major projects in the plan are paying farmers who sign up for a voluntary irrigation suspension program and placing additional water in the San Antonio Water System Aquifer Storage and Recovery facility in the Carrizo Aquifer. Many other measures are included in the plan, such as habitat improvements in the Comal and San Marcos springs, municipal conservation programs and a Stage 5 pumping cutback as a last resort.

Further study over the next seven years will determine whether these measures are sufficient to protect the listed species, Gulley said. If they are not effective, additional methods will be studied.

The conservation plan and supporting documents were submitted to FWS for its approval. Gulley said that FWS requires 10 to 12 months to review documents and anticipates a decision regarding the plan will be made by January 2013.

“The approval of the habitat conservation plan will help protect the region from litigation under

the Endangered Species Act and will bring unprecedented certainty to Edwards’ groundwater rights for as long as the plan is in effect,” he said.

He added that implementing the plan will cost an estimated \$18.6 million a year and, as a result, increase aquifer management fees.

“The municipal and industrial users of the aquifer will bear almost all the cost of implementing the habitat conservation plan with the increase of aquifer management fees collected by EAA,” Gulley said.

“An implementation committee held their first meeting Jan. 30, 2012 to review and discuss responsibilities in implementing the conservation plan,” Mims said. “The EARIP, for all practical purposes, has completed its work and the implementation committee takes over from here.”

After many years as an environmental litigator, Gulley said he has come to believe that litigation does not necessarily solve anything and considers this achievement the high point of his career.

“Members of this stakeholder group recognized that this was the last real chance, the last opportunity they had to act without the federal government becoming further involved and mandating certain results,” he said.

For more information or to view the plan, visit eahcp.org. 



Comal Springs dryopid beetle



Peck's cave amphipod



Comal Springs riffle beetle