



The Water Report™

Water Rights, Water Quality & Water Solutions in the West

In This Issue:

Edwards Aquifer ESA Recovery Program	1
AG to Municipal Transfers	9
Columbia River Toxics	21
Hydro Relicensing Decision	26
Water Briefs	28
Calendar	31
Upcoming Stories:	
Groundwater Replenishment	
Muni Needs & Stream Flows	
Stream Access Decision	
& More!	

RESOLVING ESA-WATER CONFLICTS

The Edwards Aquifer Recovery Implementation Program

by Robert L. Gulley, Edwards Aquifer Recovery Implementation Program (San Antonio, TX)
and
Todd H. Votteler, Guadalupe-Blanco River Authority (Sequin, TX)

INTRODUCTION

Mark Twain is frequently (perhaps incorrectly) attributed with the observation that “whiskey is for drinking and water is for fighting over.” At least part of that observation is clearly appropriate to south central Texas where, for over 50 years, use of the Edwards Aquifer has inspired regional antagonism and periodically open conflict in courts and the state legislature. A seemingly intractable dispute has raged between and among municipalities, industrial and agricultural users, as well as environmental interests and downstream surface right holders dependent on springflows, regarding whether pumping from the Aquifer should be regulated. In the early 1990s, the Endangered Species Act (ESA) brought state regulation to the Aquifer and ended unrestricted withdrawals.

The conflicts, however, have not ended. Today, competing water needs within the region continue to influence management of the resource, and a workable 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 2006-2007, the United States Fish and Wildlife Service (USFWS) and the Texas Legislature 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 (EARIP).

This paper briefly describes the Edwards Aquifer, the history of the disputes regarding the Aquifer, EARIP and its accomplishments, and EARIP’s plans for future work to solve what has been an intractable problem in the region. More detailed information about EARIP can be found at <http://irnr.tamu.edu/earip/>

THE EDWARDS AQUIFER

The Edwards Aquifer is a unique groundwater resource, extending 180 miles from Brackettville in Kinney County to Kyle in Hays County (see Map, page 2). It is the primary source of drinking water for over two million people in south central Texas and serves the domestic, agricultural, industrial, and recreational needs of the area. The Edwards Aquifer is the source of the two largest springs remaining in Texas — the San Marcos and the Comal. These springs feed the San Marcos and Comal Rivers which are tributaries to the Guadalupe River that provides fresh water inflow to the bays and estuaries.

The Edwards Aquifer is a karst aquifer flowing through highly porous limestone. Pertinent to this discussion, the Aquifer is divided for regulatory purposes into two pools — the Uvalde Pool, under Uvalde County, and the San Antonio pool under the remainder

ESA-Water

Listed Species

Low Flows

Rule of Capture

of the Aquifer. Aquifer levels vary with rainfall, recharge, and the rate of groundwater withdrawals. Withdrawals from the Aquifer have increased from approximately 100,000 acre-feet (AF) in 1934 to a peak of 542,400 AF in 1989. The total water demand for the Edwards Aquifer region is projected to increase over 34 percent over the next 30 years.

Eight species that depend directly on water in the Aquifer, or water discharged from Comal and San Marcos springs, are federally-listed as threatened or endangered. These species include: fountain darter, San Marcos salamander, San Marcos gambusia, Texas blind salamander, Peck's cave amphipod, Comal Springs dryopid beetle, Comal Springs riffle beetle, and Texas wild rice. The San Marcos gambusia has not been seen since 1982 and may be extinct. See USFWS, *San Marcos & Comal Springs & Associated Aquatic Ecosystems (Revised) Recovery Plan*, 1996, at 28-29. Listing petitions have been filed pursuant to section 4 of the ESA with respect to additional aquatic species that depend directly on water in, or discharged from, the Edwards Aquifer springs.

The primary threat to these 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 variable pumping, and temporal drawdown of the Aquifer. Other threats include invasive non-native species, recreational activities, predation, and direct or indirect habitat destruction or modification by humans and other factors that decrease water quality (USFWS, 1996).

During the Edward Aquifer's drought of record, Comal Springs ceased to flow for 144 days in 1956, and the fountain darter population in the Comal Springs system was extirpated. Fountain darters were successfully reintroduced into the Comal River in the mid-1970s from the San Marcos Springs.

HISTORY of EDWARDS AQUIFER DISPUTES

Use of groundwater in Texas is governed by the common law Rule of Capture. In *Houston & Texas Central Railway Co. v. East*, 81 S.W. 279 (1904), the Texas Supreme Court adopted the English common law rule that the owner of the land may pump unlimited quantities of water from under his land regardless of the impact that action may have on his neighbors' ability to obtain water on his own land. The Texas Supreme Court relied on the Rule of Capture to allow a major spring in West Texas to dry up due to groundwater pumping. *Pecos County Water Control and Improvement District No. 1 v. Williams*, 271 S.W.2d 503 (Tex. Civ. App.-El Paso 1954, writ ref'd n.r.e.).

The Water Report

(ISSN pending) is published monthly by Envirotech Publications, Inc. 260 North Polk Street, Eugene, OR 97402

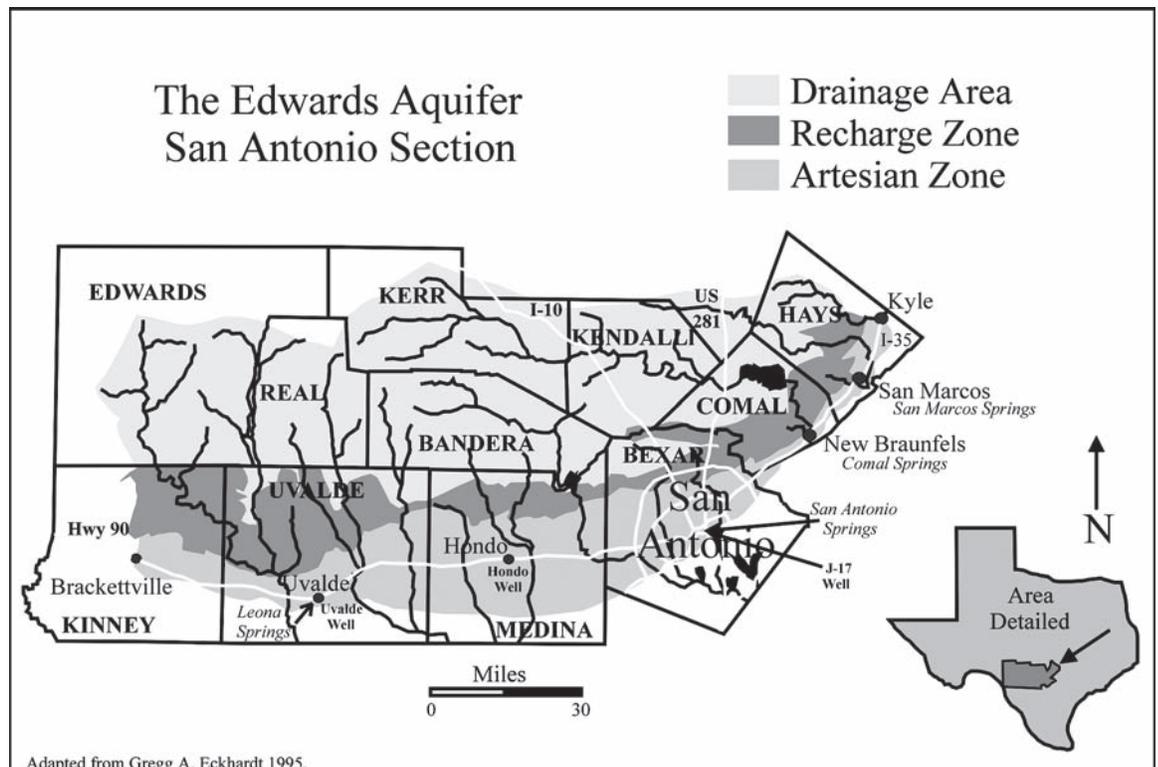
Editors: David Light
David Moon

Phone: 541/ 343-8504
Cellular: 541/ 517-5608
Fax: 541/ 683-8279
email: thewaterreport@hotmail.com
website: www.TheWaterReport.com

Subscription Rates: \$249 per year
Multiple subscription rates available.

Postmaster: Please send address corrections to The Water Report, 260 North Polk Street, Eugene, OR 97402

Copyright© 2008 Envirotech Publications, Incorporated



ESA-Water

In the 1950s, Texas began to move away from the common law and the Rule of Capture in favor of local management by groundwater conservation districts. Until 1993, withdrawal of groundwater from the Edwards Aquifer was largely unregulated. The Edwards Underground Water District (EUWD) was created in 1959. In 1991, EUWD pursuant to an express grant of authority prepared a Drought Management Plan. Otherwise, EUWD was unable to successfully regulate or manage withdrawals from the Aquifer.

In 1989, a suit was filed asking the court to declare that the water in the Aquifer is an underground river, and thus, under Texas law, owned by the State. *Guadalupe-Blanco River Authority v. Royal Crest Homes*, No. 89-038 (22nd Dist. Ct., Hays County, Tex. June 15, 1989). While this case was pending, in 1992, the Texas Water Commission determined that the Edwards Aquifer was an underground river and, thus, subject to State regulation. This determination was overturned by a state district court. *McFadden v. Texas Water Comm'n*, No. 92-05214 (Dist. Ct., Travis County, Tex. 1992).

ESA Lawsuit

Sierra Club v. Lujan

In 1991, the Sierra Club filed a lawsuit under the Endangered Species Act (ESA) that resulted in the creation of the Edwards Aquifer Authority (EAA) and the regulation of withdrawals from the Aquifer. *Sierra Club v. Lujan*, No. MO-91-CA-069, 1993 WL 151353 (W.D. Tex.) (subsequently *Sierra Club v. Babbitt*). On February 1, 1993, the federal district court held that USFWS's failure to develop and implement a recovery plan that identifies springflow levels at which "take" and "jeopardy" occurs for the species in Comal and San Marcos springs violated the ESA. The court ordered USFWS to determine within 45 days the springflows at which "take" and "jeopardy" occur for the fountain darter, the Texas blind salamander and other listed animal species, and the springflow levels at which Texas wild rice would be damaged or destroyed. The court also ordered USFWS to determine the minimum springflow required to avoid destruction or adverse modification of critical habitat defined for any listed species.

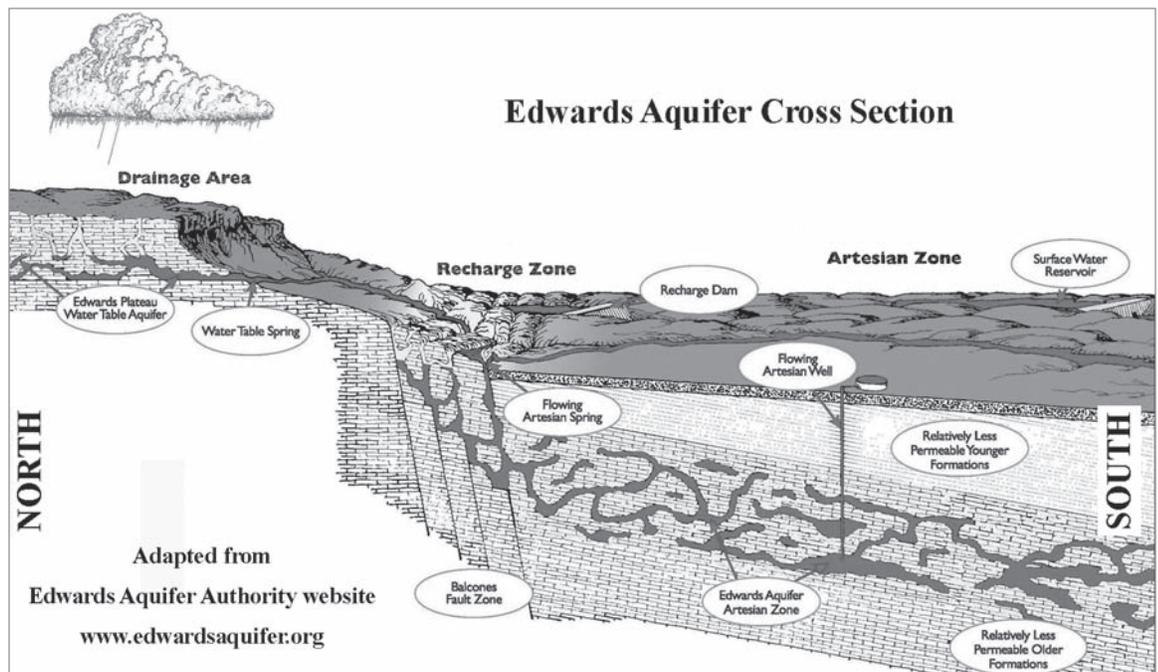
Springflow Impacts

Response of the US Fish and Wildlife Service to the Decision in *Sierra Club v. Lujan*

In response, on April 15, 1993, USFWS filed its "take" determinations, "Springflow Determinations Regarding 'Take' of Endangered and Threatened Species," with the federal district court. On June 15, 1993, USFWS filed with the court its "jeopardy" and "adverse modification" determinations, "Springflow Determinations Regarding Survival and Recovery and Critical Habitat of Endangered and Threatened Species."

USFWS Determinations

With respect to its determinations, USFWS acknowledged that the numbers reflected USFWS's best professional judgment and that, because insufficient data were available, it had taken a conservative approach in making these estimates. USFWS recognized that the court's order required it to make its estimates in the absence of a specific project or action. Accordingly, it had to make assumptions regarding the duration, timing, extent, and impacts of possible actions.





Comal Springs Riffle Beetle (*Heterelmis comalensis*)
 This beetle is a small aquatic, surface-dwelling species. Adults are about 1/8 inch long. Some riffle beetle species can fly, but the hind wings of *H. comalensis* are short and almost certainly non-functional, making the species incapable.



Texas Blind Salamander (*Typhlomolge rathbuni*)
 This sightless, cave-dwelling salamander reaches a mature length of about 13 centimeters (5 inches). Two small black eyespots mark the location of vestigial eyes.



Peck's Cave Amphipod (*Stygobromus pecki*)
 Like all members of the exclusively subterranean genus *Stygobromus*, this species is eyeless and unpigmented.



Fountain Darter (*Etheostoma fonticola*)
 The fountain darter is a reddish brown darter with an average length of 2.5 centimeters (1 inch).
Source: Edwards Aquifer Authority website: www.edwardsaquifer.net/species.html

USFWS estimated that “take” and “jeopardy” or “adverse modification” of critical habitat would occur when springflows fell below the levels shown in the following table.

TAKE - JEOPARY - ADVERSE MODIFICATION LEVELS
 Springflow Levels expressed in cubic feet per second (cfs)

	Take	Jeopardy	Adverse Modification of Critical Habitat
Fountain Darter in Comal Springs	200	150	N/A
Fountain Darter in San Marcos Springs	100	100	100
San Marcos Gambusia	100	100	100
San Marcos Salamander	60	60	60
Texas Blind Salamander	50	50	N/A
Damage and Destruction			
Texas Wild Rice	100	100	100

USFWS estimated that flow levels could be reduced to 150 cfs without resulting in “take” of fountain darter if effective control of the giant ramshorn snail could be accomplished. With effective ramshorn snail control and the ability to control the timing and duration of low springflows, USFWS also found that flow levels could be reduced to 60 cfs for short time periods during certain times of the year without jeopardizing the continued existence of the fountain darter.

Section 9 of the ESA does not prohibit the “take” of plants. USFWS estimated that sufficient damage and destruction of Texas wild rice would occur at 100 cfs to cause “jeopardy.” USFWS estimated that short-term reductions in flow levels below 100 cfs might avoid jeopardy for Texas wild rice, if exotic species could be effectively controlled, an aquifer management plan implemented to control timing and duration of lower flows, and the status of the species improved throughout its historic range.

USFWS has agreed to reevaluate its 1993 determinations in the context of EARIP’s proposed action.

Response of the Texas Legislature to the Decision in *Sierra Club v. Lujan*

The federal district court in *Sierra Club v. Lujan* also made clear that it would entertain motions for further injunctive relief if the Texas Legislature did not develop a regulatory system to limit withdrawals from the Edwards Aquifer to protect listed species. In May 1993, the Texas Legislature passed Senate Bill 1477 creating the EAA. It authorized the EAA to issue permits and regulate groundwater withdrawals. Senate Bill 1477 directed EAA to cap the permits that could be issued at 450,000 AF annually, but required EAA to limit withdrawals to 400,000 AF by December 31, 2007, by proportionally reducing issued permits or by purchasing and retiring issued permits. The cost of permit retirements to get from 450,000 AF to 400,000 AF was to be borne equally by Aquifer users and downstream water rights holders. Senate Bill 1477 further required EAA to adopt a Critical Period Management Plan to reduce pumping during droughts and to implement and enforce measures by December 31, 2012, to ensure “minimum continuous spring flows” to protect the listed species to the extent required by federal law.

The problem of limiting withdrawals from the Aquifer to protect listed species was not solved. While Senate Bill 1477 set specific pumping caps, it also required EAA to issue permits with minimum pumping rights based on historic use and guaranteed specific withdrawal rights for qualifying use. When the applications were submitted, EAA determined that the minimum permitted rights created by the Legislature totaled at least 549,000 AF, well above the 450,000 AF pumping cap. Further, EAA had not addressed the requirement to ensure minimal continuous flow that Senate Bill 1477 required be done by the end of 2012. The Legislature attempted to address these problems in 2005, but was not successful.

EDWARDS AQUIFER RECOVERY IMPLEMENTATION PROGRAM

Creation of EARIP

In late 2006, USFWS brought together stakeholders from throughout the region to participate in a “recovery implementation program” to develop a plan to contribute to the recovery of federally-listed species dependent on the Edwards Aquifer. Recovery implementation programs (RIPs) are voluntary, multi-stakeholder initiatives developed by USFWS that seek to balance water use and development with the recovery of federally-listed species. To achieve this balance, the stakeholders develop a comprehensive document that outlines the program goals, activities, timelines, measurements of success, and roles of the participants, and execute an agreement to implement the activities outlined in the program document.

With the deadline looming to reduce the permitted withdrawals to 400,000 AF and water costing in the thousands of dollars per acre-foot, the Texas Legislature once again tried to resolve the problem in 2007. In May 2007, the Texas Legislature raised the pumping cap to 572,000 AF and adjusted the critical period management requirements established by EAA in its regulations. At the same time, the Legislature directed EAA and certain other state and municipal water agencies to participate in EARIP and to prepare a USFWS-approved plan by 2012 for managing the Aquifer to preserve the listed species at Comal and San Marcos Springs. The Legislature directed that the plan must include recommendations regarding withdrawal adjustments during critical periods that ensure that federally-listed species associated with the Edwards Aquifer will be protected, including during the drought of record.

EARIP Attributes

Senate Bill 3 directs the Edwards Aquifer Authority to “cooperatively develop a recovery implementation program” through a facilitated, consensus-based process that involves input from the USFWS, other appropriate federal agencies and all interested stakeholders, including specified state agencies. The stakeholders in EARIP include State agencies, local water resource authorities, water purveyors, environmental groups, municipalities, public utilities, and other individuals and groups interested in the Aquifer and the species residing in the Aquifer. Approximately 60-to-80 persons routinely attend the monthly meetings of EARIP and its Steering Committee. Thirty-eight stakeholder groups or individuals have executed a Memorandum of Agreement with USFWS with respect to how the recovery implementation program process will be carried out. In addition, EARIP has adopted Program Operational Rules for the Steering Committee and stakeholders.

EARIP differs from other RIPs in several ways. The typical RIP involves federal land and/or federal agencies managing water, e.g., the operation of a dam. The federal agencies contribute significant funding to the RIP process. EARIP by contrast does not involve federal land or have federal agencies involved in management of the Aquifer. Although Senate Bill 3 directed “EAA and the other stakeholders” to provide money to finance the activities of EARIP, it did not provide funding for them to do so.

Another key difference between EARIP and other RIPs is the Texas Legislature’s involvement. Participation in EARIP is not entirely voluntary for some of the stakeholders. Senate Bill 3 required EAA and certain other state and municipal water agencies to participate in EARIP. Moreover, development of the program document in a typical RIP can take many years. The Texas Legislature, however, limited that time to less than five years. The Legislature also established specific tasks and deadlines for accomplishing these tasks.



San Marcos Gambusia (*Gambusia georgei*)
Most aquatic biologists feel this species is already extinct. It ranged in length from 2.5 to 4 centimeters (1 to 1.6 inches).



San Marcos Salamander (*Eurycea nana*)
This salamander is about 6 centimeters (2.4 inches) long. This voiceless salamander is also earless.



Texas Wild Rice (*Zizania texana*)
Texas wildrice is an aquatic grass with thin, flat, elongated leaves that are typically immersed and long-streaming in river currents. Leaves often grow as long as 57 inches.



Comal Springs Dryopid Beetle (*Stygoparnus comalensis*)
This beetle is the only known subterranean member of the beetle family Dryopidae. Adult Comal Springs dryopid beetles are about 1/8 inch long. They have vestigial (non-functional) eyes, are weakly pigmented, translucent, and thin-skinned.

Source: Edwards Aquifer Authority website:
www.edwardsaquifer.net/species.html

ESA-Water

SB 3 Requirements

EARIP Tasks

Mandates Met

EARIP Accomplishments

Senate Bill 3 requires that through the RIP process, the EAA, Texas Commission on Environmental Quality, the Texas Parks and Wildlife Department, the Texas Department of Agriculture, the Texas Water Development Board, and other stakeholders are to prepare a program document by September 1, 2012, that provides recommendations for withdrawal adjustments during critical periods to ensure that federally-listed species associated with the Edwards Aquifer and associated springs will be protected “at all times, including throughout a repeat drought of record.” The program document “may be in the form of a habitat conservation plan.” In addition, Senate Bill 3 established specific tasks and deadlines that EARIP must accomplish in developing the program document.

SPECIFIC EARIP TASKS INCLUDE:

- Create a Steering Committee by September 30, 2007
- Hire a program manager by October 31, 2007
- Enter into a Memorandum of Agreement not later than December 31, 2007
- Appoint an expert Science Subcommittee by December 31, 2007
- The Science Subcommittee must submit to the Steering Committee and stakeholders initial recommendations regarding issues identified in S.B. 3 by December 31, 2008
- Establish a Recharge Facility Subcommittee (no deadline)
- Enter into an implementing agreement to develop a program document by December 31, 2009
- Prepare a program document by September 1, 2012

THE FIRST SIX MANDATES HAVE BEEN MET IN THE TIMEFRAME REQUIRED BY THE LEGISLATION:

- Members of EARIP convened a Steering Committee composed of the twenty-one members designated by S.B. 3. That Committee has been enlarged by five members to provide even more diversity in the interests represented
- EARIP has hired a Program Manager
- Thirty-eight stakeholder groups or individuals have signed a Memorandum of Agreement with USFWS
- EARIP has appointed fifteen scientists to serve as the Science Subcommittee
- The Science Subcommittee has completed its initial recommendations to the Steering Committee and other stakeholders
- EARIP has set up its Recharge Facility Feasibility Subcommittee
- The stakeholders have accomplished all of these actions in the collaborative spirit that the Legislature expected of them

FUTURE WORK OF EARIP

EARIP now is beginning the process of developing a program document and implementing agreement. Because it is a “recovery implementation program” with the goal of aiding the recovery of the species, and because of the interest in obtaining “take” protection, the program document probably will take the form of a “Habitat Conservation Plan” (HCP) that satisfies the requirements of §10 of the Endangered Species Act and contributes to the recovery of the species. To obtain approval of the HCP, EARIP will have to prepare a draft Environmental Impact Statement (EIS) to satisfy the requirements of the National Environmental Policy Act.

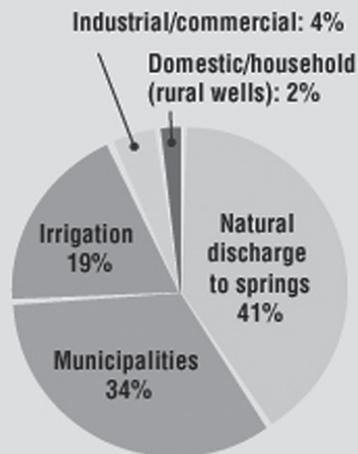
At a minimum, the HCP will cover the eight federally-listed species in the area of the springs. Because the HCP may include the construction of recharge facilities in the recharge zone and because the Comal and San Marcos Springs also supply a portion of the flow in the Guadalupe River Basin, including the bays and estuaries, stakeholders may decide to include as covered species other listed or candidate species in the area of the HCP, e.g., black-capped vireo, golden cheeked warbler, and the whooping crane.

EARIP intends to use a consensus-based, structured decision-making (SDM) process to identify a suite of actions that will form the basis of the HCP. The SDM process is a systematic way to approach complex decision problems, with emphasis on identifying and evaluating management or policy options (see [www. StructuredDecisionmaking.org](http://www.StructuredDecisionmaking.org)).

In the SDM process, EARIP will utilize the building blocks established by Senate Bill 3 — the Science and Recharge Facility Feasibility Subcommittees.

Uses of the Edwards Aquifer

In 2006, an estimated 766,500 acre feet of water was discharged or pumped from the aquifer.



Discharge statistics from Edwards Aquifer Authority

<p>ESA-Water</p> <p>Technical Expertise</p> <p>Initial Assessments</p> <p>Review Underway</p> <p>Withdrawal Limitations</p> <p>Review Planned</p> <p>Recharge Projects</p> <p>Program Document</p>	<p>The Science Subcommittee</p> <p>The Texas Legislature required EARIP to establish a Science Subcommittee comprised 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.” EARIP has appointed fifteen well-respected scientists from academia, state and federal agencies, water authorities and purveyors, and the private sector to serve as the Science Subcommittee. These Subcommittee members are volunteers who meet once a month. In conducting its work, the Science Subcommittee must “consider all reasonably available science” and “base its recommendations solely on the best science available.” The Subcommittee also must operate “on a consensus basis to the maximum extent possible.”</p> <p>The Legislature required the Science Subcommittee to prepare “initial recommendations” by December 31, 2008.</p> <p>INITIAL RECOMMENDATIONS WERE TO INCLUDE:</p> <ul style="list-style-type: none"> • The option of designating a separate San Marcos pool • The necessity to maintain minimum springflows, including a specific review of the necessity to maintain a flow to protect federally threatened and endangered species • Whether adjustments in the trigger levels for the San Marcos Springs flow for the San Antonio pool should be made <p>The Science Subcommittee finalized these initial recommendations on November 13, 2008 — ahead of the schedule set by Senate Bill 3. EARIP has arranged to have these recommendations peer reviewed by an independent panel of scientists. At the completion of this review, EARIP will have a critical piece of information to inform its future decision-making.</p> <p>Senate Bill 3 also directs the Science Subcommittee to analyze species requirements in relation to spring discharge rates and to make recommendations “for withdrawal reduction levels and stages for critical period management” to maintain target spring discharge and Aquifer levels. To inform the Science Subcommittee’s work on possible withdrawal limitations, EARIP has retained a team of scientists to evaluate the impacts of instream flows and other impacts such as recreation, flood events, and other factors on species in the Comal and San Marcos Springs systems. Each of the scientists on the team has worked extensively on the listed species in the springs. The team is led by Dr. Thomas Hardy from Utah State University. Dr. Hardy is the principal author on two studies on the impacts of instream flows on the fountain darter at Comal and San Marcos Springs and Texas wild rice at San Marcos Springs.</p> <p>In addition, EARIP has retained the United States Geological Survey (USGS) to participate in the Hardy study process to ensure that the results will serve both the needs of EARIP in preparing its program document and USFWS in reviewing it.</p> <p>Like its initial recommendations, the Science Subcommittee recommendations on withdrawal limitations during critical periods and the Hardy study will play an important part in the decision-making process of EARIP. EARIP intends to have independent peer review of these scientific studies to enhance their acceptability to stakeholders and others and to improve prospects for making agreed-upon decisions based on the results of the studies.</p> <p>The Recharge Facility Feasibility Subcommittee</p> <p>EARIP has set up its Recharge Facility Feasibility Subcommittee as directed by Senate Bill 3. This Subcommittee will make recommendations regarding how to calculate the amount of recharge to the Aquifer made available from recharge projects, what entities should build the projects, and how they should be funded. It is examining all of the options for enhancing recharge, including land management strategies. Members of the Recharge Facility Feasibility Subcommittee include 18 representatives from environmental groups, land stewardship groups, regional/river authorities, water purveyors, the Edwards recharge and contributing zones, and general stakeholders. In addition, three state agencies and four federal agencies participate in the Subcommittee.</p> <p style="text-align: center;">CONCLUSION</p> <p>EARIP is committed to submitting a completed program document and supporting documentation to USFWS in time for the agency to review and approve it by September 2012. The deadline is tight, but it adds structure to the process and has kept EARIP focused. EARIP is now beginning more difficult substantive work and decision-making. To date, the individual stakeholders have been willing to look past their immediate interests to keep the process functioning effectively. This commitment to the process should help in tackling the difficult, substantive problems that lie ahead.</p>
--	--

ESA-Water

EARIP Funding

The ability to pay for EARIP process is a significant problem for the participating stakeholders. Currently, we estimate that the total cost of the process including program operation costs, studies, peer review, and the development and producing the program document will be close to \$3 million. To date, stakeholders in EARIP raised over \$775,000 to cover program management expenses through 2009, peer review of the initial recommendations of the Science Subcommittee, and the cost of the Hardy study. EARIP has applied to USFWS for a \$6 Habitat Conservation Planning Assistance Grant to pay the cost of preparing the HCP and supporting documentation. EARIP expects to ask the Texas Legislature to also contribute to the cost of developing the HCP.

Another potential problem facing EARIP is the drought that the region is currently experiencing. It is difficult to predict what effect this will have on the EARIP process if the drought continues into the spring and Aquifer levels and springflows continue to decrease.

Notwithstanding these difficulties, the process is off to a good start and the commitment is there to make it work. The prospect of another round of litigation or a legislatively-imposed solution is generally not viewed as a good alternative. To be certain, EARIP has a long road to travel. But perhaps through EARIP both whiskey and water will soon be "for drinking" in south central Texas.

FOR ADDITIONAL INFORMATION: ROBERT GULLEY, 210/ 267-6575 x232 or email: RLGulley@ag.tamu.edu

Robert Gulley is the Program Manager for the Edwards Aquifer Recovery Implementation Program. Dr. Gulley has twenty-five years experience as an environmental attorney. Prior to becoming the Program Manager, he was a Senior Trial Attorney in the Wildlife and Marine Resources Section of the US Department of Justice, handling primarily matters related to the Endangered Species Act. Dr. Gulley has a BA and JD from the University of Texas and a PhD from the University of Minnesota. He taught in medical schools and worked as a scientist at the National Institutes of Health in Bethesda, Maryland. He is an author on over thirty-five scientific papers.

Todd H. Votteler is Executive Manager of Intergovernmental Relations and Policy for the Guadalupe-Blanco River Authority. He is also the Executive Director of the Guadalupe-Blanco River Trust. Votteler served as the Federal Special Master for the Endangered Species Act litigation, *Sierra Club v. San Antonio*. Previously, Votteler was the Federal Court Monitor's assistant during *Sierra Club v. Babbitt*. Votteler has a BS in Natural Resources from The University of the South, a MS in Natural Resources from The University of Michigan, and a PhD in Environmental Geography from Texas State University.

THE AUTHORS WILL BE PRESENTING AT THE 16TH ANNUAL ESA CONFERENCE IN SEATTLE, JANUARY 27-28



Raising the Bar of Continuing Legal Education

ACCREDITATION

Washington & Oregon CLE:
13.0 General Credits
(includes optional session)

Idaho CLE:
12.0 General Credits

Alaska CLE:
12.25 General Credits
(includes optional session)

Who Should Attend:

- Lawyers
- Government Regulators
- Consultants and Engineers
- Developers and Landowners
- Tribal Officials
- Environmental Representatives
- Those involved in the Complex Procedures Governing the Endangered Species Act



16th Annual Endangered Species Act

JAN. 27 & 28, 2009 ♦ WA STATE CONV. & TRADE CENTER ♦ SEATTLE, WA

With a new administration in Washington, increasing evidence of the effects of climate change and ever more pressure on our limited resources, there has never been a more exciting — and challenging — time to review and debate the Endangered Species Act.

Please join our stellar faculty of national experts on topics such as ESA Implications of a New Congress and Administration; Climate Change and ESA; ESA Water Conflicts; Section 7 and Conservation Banking; and many more.

Regardless of where you stand on the issues, this conference promises to provide in-depth information, lively debate and opportunities to hear a broad range of views on the Act and its impact on our future.

FIVE WAYS TO REGISTER:
 ONLINE: www.TheSeminarGroup.net
 FAX: 866-435-3444
 EMAIL: info@TheSeminarGroup.net
 PHONE: 206-463-4400 / 800-574-4852
 MAIL: PO Box 523, Vashon, WA 98070

16th Annual Endangered Species Act Conference ~ Seattle, WA
 Tuesday, January 27, 2009

<p>8:00 Optional Session: Introduction to the ESA James M. Lynch, Program Co-Chair <i>K & L Gates LLP</i></p> <p>9:00 Introduction and Overview - Day One Melanie J. Rowland, Program Co-Chair <i>N.O.A.A. Office of General Counsel</i> James M. Lynch, Program Co-Chair <i>K & L Gates LLP</i></p> <p>9:10 Keynote Address ~ Are We in a Current Mass Extinction? Peter D. Ward, PhD <i>University of Washington, Earth and Space Sciences</i></p> <p>9:40 Political Climate Change in "the Other Washington": ESA Implications of a New Congress and Administration John F. Kostyack <i>National Wildlife Federation</i> William W. Stelle, Jr. <i>K & L Gates LLP</i></p> <p>10:30 Break</p> <p>10:45 Litigation Update Patti Goldman <i>Earthjustice</i> Eric W. Nagle <i>Office of the Solicitor, U.S. Dept. of the Interior</i></p> <p>11:45 Lunch (on your own)</p> <p>1:00 Climate Change and Ecosystems: Science Update Gordon H. Orians, PhD, Professor Emeritus <i>Department of Biology, Univ. of Wash.</i></p> <p>1:30 Consideration of Climate Change in ESA Listing and Consultation • Analytical Framework Melanie J. Rowland • Polar Bear Listing; Section 7 Rule Changes James M. Lynch Kassie Siegel <i>Center for Biological Diversity</i></p> <p>3:00 Break</p> <p>3:15 Spotted Owls, Timber Harvest and the ESA: Twenty Years Later Peter Goldman <i>Washington Forest Law Center</i> Patricia Hickey O'Brien <i>Office of the Attorney General, State of Washington</i></p>	<p>4:00 Tribal Issues • Culverts Case: Update and Implications Alan C. Stay <i>Muckleshoot Indian Tribe</i> • Columbia River Settlement: Tribes' Perspective Timothy R. Weaver <i>Law Office of Timothy R. Weaver</i></p> <p>5:00 Questions and Answers Members of the Faculty</p> <p>5:15 Reception ~ <i>Sponsored by K&L Gates LLP</i></p> <p style="text-align: center;">Wednesday, January 28, 2009</p> <p>9:00 Introduction and Overview - Day Two Program Co-Chairs</p> <p>9:10 In our Backyard: Climate Change and Puget Sound Ecosystem Changes; Listed Salmon Lara Whitey Binder <i>UW Climate Impacts Group</i> Douglas R. Myers <i>People for Puget Sound</i></p> <p>10:15 Break</p> <p>10:30 ESA Water Conflicts: Two Views from the Trenches Robert Gulley, PhD <i>Edwards Aquifer Recovery Imple. Prog., Austin, TX</i> Douglas W. MacDougal <i>Schaube Williamson and Wyatt, Portland, OR</i> Todd Votteler, PhD <i>Exec. Mgr., Intergovernmental Rel. & Pol. Guadalupe-Blanco River Authority</i></p> <p>11:30 Lunch (on your own)</p> <p>12:45 Section 4 Update Distinct Population Segments; Wolf Delisting; "Significant Portion of the Range"; Critical Habitat Donna Darm <i>N.O.A.A Fisheries</i> Douglas Homnold <i>Earthjustice</i> Eric W. Nagle <i>U.S. Dept. of the Interior</i></p> <p>2:00 Break</p> <p>2:15 Section 7 and Conservation Banking Maggie B. Coon <i>The Nature Conservancy</i> Steven W. Landino <i>NMFS</i> Kemper McMaster <i>Wildlands, Inc.</i></p> <p>3:30 A Panel Discussion Melanie J. Rowland, Moderator Donna Darm Patti Goldman James M. Lynch Gordon H. Orians Alan C. Stay</p> <p>4:00 Questions and Answers Members of the Faculty</p>
--	--