

TABLE OF CONTENTS

EXECUTIVE SUMMARY	v
A. Regulatory Effectiveness Measures.....	vi
1. Transfer Permit Rules	vi
2. Registration of Exempt Wells.....	vi
3. Critical Period Rules	vi
B. Research Effectiveness Measures	vii
1. Modeling	vii
2. Impact of the Edwards Aquifer on Downstream Interests in the Guadalupe, San Antonio and Nueces River Basins	vii
3. Water Balance in Uvalde Pool.....	vii
4. Continue research on flow patterns within the Edwards Aquifer	vii
C. Financial Effectiveness Measures.....	viii
1. Explore the Potential for Developing Partnerships to Improve Recharge	viii
2. United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs	viii
D. Planning Effectiveness Measures	viii
1. Edwards Aquifer Recovery implementation program (RIP)	viii
2. Continue in Regional Planning Efforts	ix
3. Developing in-house capability to do dye testing.....	ix
E. Administrative Effectiveness Measures.....	ix
1. Continue efforts for office consolidation and employee retention	ix
F. Development of Comprehensive Public Information Plan	ix
1. Comprehensive Public Information Plan	ix
2. Development of a SCTWAC Web Page.....	x
G. Key Issues	x
EFFECTIVENESS MEASURES FOR THE 2012 REPORT	x
A. Regulatory Effectiveness Measures.....	xi
1. Transfer Permit Rules	xi
2. Registration of Exempt Wells.....	xii
3. Water Quality Regulations.....	xii
B. Research Effectiveness Measures	xii
1. Modeling	xii
C. Planning Effectiveness Measures	xiii
1. Edward Aquifer Recovery implementation program (RIP).....	xiii
2. Continue in Regional Planning Efforts.....	xiii
D. Financial Effectiveness Measures.....	xiv
1. Continue Water Conservation and Range Management Grants	xiv
2. Access State and Federal Financial Assistance Programs	xiv
E. Administrative Effectiveness Measures.....	xv
1. Continue efforts for office consolidation and employee retention	xv
F. Development of a Comprehensive Public Information Plan	xv
1. Comprehensive Public Information Plan	xv
2. Inclusion of SCTWAC on the EAA Web Page	xv

1.0	INTRODUCTION	1
2.0	SOUTH CENTRAL TEXAS WATER ADVISORY COMMITTEE	3
2.1	Background	3
2.2	Membership of the South Central Water Advisory Committee.....	3
2.3	Statutory Requirements for the Assessment Report	6
2.3.1	Relationship of the Edwards Aquifer to the Boundaries of the Edwards Aquifer Authority	6
2.4	Relationship of the Edwards Aquifer Authority to the Guadalupe, Nueces, and San Antonio River Basins.....	7
2.4.1	Guadalupe River Basin	10
2.4.2	San Antonio River Basin	12
2.4.3	Nueces River Basin.....	14
3.0	EFFECTIVENESS MEASURES FOR THE 2010 REPORT	17
3.1	Regulatory Effectiveness Measures.....	17
3.1.1	Transfer Permit Rules	17
3.1.2	Registration of Exempt Wells.....	18
3.1.3	Critical Period Rules.....	18
3.2	Research Effectiveness Measures	18
3.2.1	Modeling.....	18
3.2.2	Impact of the Edwards Aquifer on Downstream interests in the Guadalupe, San Antonio and Nueces River Basins	18
3.2.3	Water Balance in the Uvalde Pool.....	19
3.2.4	Continue research on flow patterns within the Edwards Aquifer	19
3.3	Financial Effectiveness Measures.....	19
3.3.1	Explore the Potential for Developing Partnerships to Improve Recharge.....	19
3.3.2	United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs	19
3.4	Planning Effectiveness Measures	20
3.4.1	Recovery implementation program (RIP).....	20
3.4.2	Continue in Regional Planning Efforts.....	20
3.4.3	Developing in-house capability to do dye testing.....	21
3.5	Administrative Effectiveness Measures.....	21
3.5.1	Continue efforts for office consolidation and employee retention	21
3.6	Development of Comprehensive Public Information Plan	21
3.6.1	Comprehensive Public Information Plan.....	21
3.6.2	Development of a SCTWAC Web Page.....	21
4.0	STATUS OF MEETING 2008 EFFECTIVENESS MEASURES	22
4.1	Regulatory Effectiveness Measures.....	22
4.1.1	Transfer Permit Rules	22
4.1.2	Registration of Exempt Wells.....	22
4.1.3	Critical Period Rules	22
4.2	Research Effectiveness Measures	23
4.2.1	Modeling.....	23
4.2.2	Impact of the Edwards Aquifer on Downstream Interests in the Guadalupe, San Antonio and Nueces River Basins	23
4.2.3	Water Balance in Uvalde Pool.....	23

4.2.4	Continue research on flow patterns within the Edwards Aquifer.....	23
4.3	Financial Effectiveness Measures.....	24
4.3.1	Explore the Potential for Developing Partnerships to Improve Recharge.....	24
4.3.2	United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs	24
4.4	Planning Effectiveness Measures	24
4.4.1	Recovery implementation program (RIP).....	24
4.4.2	Continue in Regional Planning Efforts.....	25
4.4.3	Developing in-house capability to do dye testing.....	25
4.5	Administrative Effectiveness Measures.....	25
4.5.1	Continue efforts for office consolidation and employee retention	25
4.6	Development of Comprehensive Public Information Plan	25
4.6.1	Comprehensive Public Information Plan	25
4.6.2	Development of a SCTWAC Web Page.....	26
5.0	DISCUSSION OF KEY ISSUES	27
5.1	Edwards Aquifer Recovery Implementation Program (RIP).....	27
5.2	Critical Period Management	28
5.3	Water Transfers.....	29
5.4	Water Quality Regulation	30
5.5	Litigation.....	30
5.5.1	Edwards Aquifer Authority and the State of Texas vs. Burrell Day and Joel McDaniel.....	31
6.0	EFFECTIVENESS MEASURES FOR THE 2012 REPORT	32
6.1	Regulatory Effectiveness Measures.....	32
6.1.1	Transfer Permit Rules	32
6.1.2	Registration of Exempt Wells.....	33
6.1.3	Water Quality Regulations.....	33
6.2	Research Effectiveness Measures	33
6.2.1	Modeling.....	33
6.3	Planning Effectiveness Measures	34
6.3.1	Edward Aquifer Recovery implementation program (RIP).....	34
6.3.2	Continue in Regional Planning Efforts.....	34
6.4	Financial Effectiveness Measures.....	35
6.4.1	Continue Water Conservation and Range Management Grants	35
6.4.2	Access State and Federal Financial Assistance Programs	35
6.5	Administrative Effectiveness Measures.....	36
6.5.1	Continue efforts for office consolidation and employee retention	36
6.6	Development of a Comprehensive Public Information Plan	36
6.6.1	Comprehensive Public Information Plan	36
6.6.2	Inclusion of SCTWAC on the EAA Web Page	36

TABLES

Table 2-1 2007 South Central Texas Water Advisory Council Membership	5
Table 2-2 Guadalupe River Basin City Population Projections for 2010-2060	11
Table 2-3 Guadalupe River Basin City Demand Projections for 2010-2060	11
Table 2-4 San Antonio River Basin City Population Projections for 2010-2060	13
Table 2-5 San Antonio River Basin City Demand Projections for 2010-2060	13
Table 2-6 Nueces River Basin City Population Projections for 2010-2060	15
Table 2-7 Nueces River Basin City Demand Projections for 2010-2060	15

FIGURES

Figure 1 – Edwards Aquifer Authority and SCTWAC Region	4
Figure 2 – Edwards Aquifer Authority, Guadalupe, Nueces and San Antonio River Basins	8
Figure 3 – Edwards Aquifer Authority and Major River Basins in Texas	9

ATTACHMENT 1 – EAA REPORT OF ACCOMPLISHMENTS OCTOBER 2008-2010

ATTACHMENT 2 – LITIGATION SUMMARY FOR THE 2010 SCTWAC EAA ASSESSMENT REPORT

EXECUTIVE SUMMARY

The South Central Water Advisory Committee (SCTWAC) was established by the Texas Legislature in the Edwards Aquifer Authority (EAA) Act. The SCTWAC represents downstream interests in the Guadalupe, San Antonio and Nueces River Basins and is charged with developing an Effectiveness Report on the Edwards Aquifer Authority every even numbered year and submit the report to the Texas Commission on Environmental Quality (TCEQ). The Effectiveness Report is required to assess:

1. The effectiveness of the EAA.
2. The effect on downstream water rights by the EAA management of the aquifer.

Specific points that are to be considered in this evaluation include:

- Whether the EAA has functioned as an effective organization;
- Whether the EAA has played a significant role in regional planning activities;
- Whether the EAA has complied with statutory mandates and deadlines provided in the EAA act;
- Whether the EAA has provided for effective protection of water quality in the aquifer and in contributing streams;
- Whether the EAA has achieved its water conservation goals; and
- Whether the EAA has provided effective protection of aquatic and wildlife habitat, endangered and threatened species, in-stream uses and bays and estuaries that depend on the aquifer.

The 2010 Effectiveness Report reviewed the effectiveness measures established in the 2008 report and if the EAA had met the standards established by those measures. The effectiveness measures were divided into the following areas:

- Regulatory Effectiveness Measures
- Research Effectiveness Measures
- Financial Effectiveness Measures
- Planning Effectiveness Measures
- Administrative Effectiveness Measures
- Development of a Comprehensive Public Information Plan

In general the SCTWAC concurs that the EAA met or exceeded the effectiveness measures established in the 2008 report. To summarize the following is a brief overview of the 2008 effectiveness measures and the SCTWAC evaluation of how the EAA has responded.

A. Regulatory Effectiveness Measures

1. Transfer Permit Rules

This effectiveness measure has been met through the Board of Directors policies to prohibit transfers and by the Cibolo Creek amendments to the EAA rules. The recommendation that before considering a Transfer Permit the EAA consider available information and do modeling to determine the localized and cumulative effects of any transfer. This recommendation also became moot due to the revised Board policies. However, during calibration of the existing model it was discovered that there were several areas where the model was lacking and additional work needed to be done to make the model more accurate.

2. Registration of Exempt Wells

The EAA began its first attempt at registering exempt wells in Hays County. The Authority met with some opposition from landowners but finished the effort in Hays County in 2009 and then focused their efforts in southern Bexar County. Given the response in Hays County the EAA staff began revisions to existing rules in 2010. It is anticipated that the proposed rule changes will be presented to the Board of Directors in late 2010. Once the new rules are adopted the Authority plans to begin working in Comal County in 2011.

3. Critical Period Rules

The EAA has identified that the Critical Period Management Plan and rules are consistent with the criteria set forth in the EAA act. The EAA currently requires that permit holders provide monthly reports on water use and can be curtailed further based on criteria established in the Critical Period Management Plan. The EAA has continued to participate in the RIP process, however, as noted on page 26 of the Edwards Aquifer Authority Report of Accomplishments 2008-2010 attached to this report “determining the effectiveness of the Authority’s Critical Period Management Plan has proven to be difficult due to the number of possible variables. Staff is developing a plan to evaluate the effectiveness of the plan.”

B. Research Effectiveness Measures

1. Modeling

The EAA has continued to work on refining and calibrating the MODFLOW model. During the past two years the EAA has found deficiencies in the model because of certain parameters used in its development. The EAA has been addressing these deficiencies so that the model more accurately measures the dynamic nature of the Edwards Aquifer. The Authority has also been working with the Texas Water Development Board to share data and modeling expertise so that the state and EAA models are compatible.

2. Impact of the Edwards Aquifer on Downstream Interests in the Guadalupe, San Antonio and Nueces River Basins

The EAA has recognized that there is interdependence between the Edwards Aquifer and river flows in all three basins. As research has progressed it is evident that the Edwards Aquifer also has an impact on minor aquifers that are above and below the Edwards Aquifer. This seems to be particularly important in the Uvalde pool where it appears that the Austin Chalk, Leona Gravels and Buda aquifers are dependent on the Edwards Aquifer for recharge. The EAA has recognized this and have included additional research that will be included in the updated MODFLOW model.

3. Water Balance in Uvalde Pool

The EAA has followed up with research on the Water Balance in the Uvalde Pool and the information will be included in future modeling efforts.

4. Continue research on flow patterns within the Edwards Aquifer

The EAA has continued their research efforts on the flow patterns within the Edwards Aquifer. It was this work that highlighted deficiencies in the existing modeling efforts. This research is also being used in the RIP process and will provide a significant resource in the deliberations.

C. Financial Effectiveness Measures

1. Explore the Potential for Developing Partnerships to Improve Recharge

The legislature gave the EAA the authority to enter into partnerships with other entities for the financing and development of recharge projects. However, there are several constraints that effectively limit the ability of the EAA to do recharge projects. These constraints include limits on use of flood flows, a determination that downstream rights will not be affected, water quality provisions, and geographic limits on where recharge facilities could be located.

2. United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs

The 2008 report suggested that the EAA become more active as a sponsor for agricultural water conservation loans and grants from the USDA and TWDB programs. While the EAA did not implement this suggestion they did implement a Water Conservation Grant Program and Range Management Cost Share Program using local funds. The programs have been a success and the EAA has continued to refine the criteria that would be used for future projects.

D. Planning Effectiveness Measures

1. Edwards Aquifer Recovery implementation program (RIP)

The major focus of the EAA and SCTWAC for the past two years has been to support the RIP process. As noted in the 2008 report the RIP process is a second chance for the EAA and stakeholders to develop a workable Habitat Conservation Plan (HCP) that would allow the EAA to receive an Incidental Take Permit from the U.S. Fish and Wildlife Service under the Endangered Species Act. To date the process has been very successful using a consensus based decision model. Both the SCTWAC and EAA have been active participants in the process and there has been significant progress in this effort. There have been several significant changes in the focus of the RIP particularly redefining the focus of the effort from focusing on recharge and springflow enhancement during critical periods to a focus on avoiding jeopardy for the species. The role of the EAA in this process has been instrumental in working with the science committee and providing data for analysis.

2. Continue in Regional Planning Efforts

The EAA has continued to be an active participant in Region L regional water planning efforts and have been developing a closer working relationship with the Texas Water Development Board (TWDB). This relationship is critical since the TWDB has been tasked in developing groundwater models for the various planning regions in Texas. Hopefully, this working relationship will provide for better information and data that will benefit both entities. The EAA has also developed a working relationship with Region N so that information can be shared.

3. Developing in-house capability to do dye testing

The EAA has developed in house capability to do dye testing and have been active in testing in several areas within their jurisdiction.

E. Administrative Effectiveness Measures

1. Continue efforts for office consolidation and employee retention

The SCTWAC has continued to support the EAA efforts to consolidate its office space to facilitate operations and for employee retention. The office consolidation is moving forward and the EAA anticipates that a design/build project to achieve this goal will be started in 2011. The EAA has also implemented several ongoing efforts to recruit and retain employees over the past two years including a review of comparable salaries and benefits by employee classification.

F. Development of Comprehensive Public Information Plan

1. Comprehensive Public Information Plan

As noted in the 2008 Effectiveness Report the SCTWAC has supported the EAA in its efforts to improve public outreach and communication and suggested that the EAA partner with other public entities such as the San Antonio Water System, San Antonio River Authority and Nueces River Authority and the Guadalupe-Blanco River Authority. The EAA has addressed this suggestion by continuing to implement its Comprehensive Public Information Plan as well as developing partnerships with other entities, revamping its web site, beginning development of educational materials, public speaking training, began work on doing a public survey to

determine the public's attitudes and perceptions of the Authority and aquifer and have been active in participating in public hearings and testimony before legislative committees.

2. Development of a SCTWAC Web Page

The SCTWAC recommended that the EAA support and implement a web page for SCTWAC. The purpose of this request was to help facilitate the dissemination of information and provide a forum for public involvement. This was not accomplished but since the EAA web site has been revamped a potential alternative would be to include the SCTWAC as part of the new EAA website.

G. Key Issues

The EAA will be facing several key issues and decision points during the next biennium including:

- Completing and implementing the recommendations in the RIP;
- Continuing to refine and improve on the Critical Period Management rules to determine how effective they are in reducing water use during drought;
- Refining and improving the MODFLOW model to more accurately reflect actual conditions within the Edwards Aquifer and assess the potential impact on water transfers out of the Uvalde pool;
- Water quality regulation was tabled during the past two years. Developing an effective regulatory framework will be difficult to accomplish and to find funding to implement;
- Current litigation, particularly EAA vs. Day could have a dramatic impact on the EAA's ability to effectively regulate withdrawals from the aquifer and negatively impact the legislative direction given to the EAA.

EFFECTIVENESS MEASURES FOR THE 2012 REPORT

The effectiveness measures for the 2012 report are based on what the SCTWAC has identified as priority areas that potentially affect springflows and downstream interests. The purpose of these measures are to provide the EAA with feedback from downstream interests and provide a method of measuring the success of the EAA in meeting its legislative mandate of protecting springflows and downstream water interests within the river basins that the EAA impacts. The

past two years have been eventful with the implementation of the legislative directives given in SB-3/HB-3, the evolution of the RIP process, understanding and recognizing the limitations of existing models, continued push from private interests to allow permit transfers from west to east, and litigation that challenges the regulatory authority of the EAA. The EAA has moved forward and has generally met the effectiveness measures established in the 2008 report or have identified areas that need to be strengthened in order to provide the best information and data for decision making. The 2012 Effectiveness Measures are targeted to completing past legislative direction and identifying issues that will affect both the EAA and downstream interests.

A. Regulatory Effectiveness Measures

1. Transfer Permit Rules

The SCTWAC has noted its concerns in the past over EAA transfer permit rules. With recent rule changes and legislative directives to the EAA many of the concerns raised in previous reports have been addressed. However, the SCTWAC continues to have serious concerns about private interests that are actively trying to change legislation or have the EAA change policies that would facilitate water transfers from the Uvalde pool to potential customers in the eastern portions of the EAA. The groups advocating these transfers have made public statements that the transfers will not have an adverse impact on permit holders in the Uvalde Pool and will provide needed water to customers in the San Antonio Pool. The assertions that these transfers would not have a negative impact seem to be based on results of using the EAA MODFLOW hydrologic model. Based on interviews with the EAA staff they have indicated that the current model was not developed nor calibrated to estimate the impact of these withdrawals on minor aquifers, springs and river flows dependent on the Edwards Aquifer Uvalde Pool. The EAA has recognized the need to update the model to take these factors into consideration and have committed the resources to accomplish this goal. The SCTWAC supports the EAA in this effort and would urge the EAA to oppose any proposed transfer of EAA permitted water from the Uvalde Pool until such time that the model has been updated and calibrated so that a scientific analysis can be done and the potential impacts evaluated.

2. Registration of Exempt Wells

The EAA continues to move forward with the registration of exempt wells in Hays and southern Bexar Counties with Comal County next on the work plan. The SCTWAC supports these efforts and urges that the EAA include an estimate of water use from these exempt wells in its reports and include an estimate of usage in its modeling efforts.

3. Water Quality Regulations

The EAA has the authority to regulate water quality within its jurisdiction. During the past two years the EAA drafted water quality regulations which targeted restricted impervious cover as the primary best management practice. The EAA subsequently tabled these draft regulations and have been assessing other water quality protection strategies. The SCTWAC has serious concerns that trying to develop detailed water quality protection regulations will potentially be in conflict with existing measures implemented by other local governments and the Texas Commission on Environmental Quality. Additional concerns are the resources that it will take to develop and implement these rules. Given the existing demands that the EAA is already faced with any reallocation of resources to move this initiative forward will adversely impact existing priorities and developing a source of funding to administer and implement will be difficult and will probably meet with resistance from various stakeholders who would have to support it.

B. Research Effectiveness Measures

1. Modeling

During the past two years the EAA has identified several deficiencies in its MODFLOW model. The problems with the model were identified as the EAA determined that the model was too narrowly focused and did not take into account several parameters that made the model limited in scope and accuracy. The SCTWAC strongly supports the EAA in its efforts to improve the model and include factors that weren't originally in the model. It is hoped that the improvements to the model will include recent studies of how the Edwards Aquifer impacts river flows in all three river basins, the water balance in the Uvalde Pool and flow patterns within the Edwards Aquifer.

The accuracy of the model is critical to the understanding of the Edwards Aquifer. The decisions made based on the model not only impact the EAA permit holders but also minor aquifers fed by the Edwards Aquifer as well as springflows and downstream interests.

C. Planning Effectiveness Measures

1. Edward Aquifer Recovery implementation program (RIP)

The RIP process has made significant progress over the past two years in developing a consensus based plan. Both the SCTWAC and the EAA have been active participants in the process along with other stakeholders. There has been significant compromise by the stakeholders to reach a consensus on most issues. There has also been a change in focus in that it appears that the RIP is moving toward protection of the endangered species by assessing what puts the species in jeopardy rather than solely focused on the volume of springflows. In recognition that there still is much to be learned regarding protection of the species there has also been a reassessment of the potential term of a takings permit by reducing the initial term of the permit. The SCTWAC supports the EAA in this effort and feel that at the conclusion of this process a viable Habitat Conservation Plan (HCP) will be produced. With the completion of the plan the challenge will be to determine how to pay for its implementation. The ongoing monitoring and implementation plan will be expensive and it is important that a funding mechanism be developed so that its long term viability will be assured.

2. Continue in Regional Planning Efforts

The EAA has continued to be an active member in Region L planning efforts. This involvement is critical because through its regulatory role the EAA has a central role in water planning for the region. The EAA should continue to keep the Regional Planning Group current with the progress of the RIP. Because of its significant regulatory role in the Nueces River Basin the EAA should be actively involved with Region N to assure that downstream interests are aware of EAA actions that could potentially affect surface water rights holders.

D. Financial Effectiveness Measures

1. Continue Water Conservation and Range Management Grants

The EAA began to implement its water conservation and range management grants program during the past two years. The water conservation grants allow qualified permit holders to apply for up to a 50% grant to implement water conservation programs such as leak detection and repair, rainwater harvesting, meter replacement, low flow toilet installation programs, and low flow shower head replacement programs. The Range Management Grants program provides limited funding in partnership with the Natural Resources Conservation Service EQIP and/or WHIP programs. This funding can be used to assist with maintenance in brush control including mechanical or hand cutting or prescribed burnings. These programs have met with initial success and have the ability to leverage other funding as well. Based on the study completed by the recharge subcommittee of the RIP one of the most effective methods of recharge and water quality protection was range management to reduce brush, particularly Ashe juniper in the recharge and contributing zone. This had the advantage of increasing recharge as well as using the land to act as a natural filter to improve water quality entering the aquifer.

2. Access State and Federal Financial Assistance Programs

There have been several changes to both state and federal financial assistance programs. The Texas Water Development Board has made several significant changes to its Clean Water and Safe Drinking Water State Revolving Funds. These funds can provide subsidized loans and in certain cases grants to assist in water quality protection/management, source water protection, water conservation and for renewable resource development. Other federal programs administered by the United States Department of Agriculture can provide funding for improvements that benefit rural communities. As a regional provider the EAA is in a unique position to provide leadership in developing eligible projects that can leverage local funding and develop projects that can have an impact on conservation, water quality protection and recharge that could have a positive impact on springflows and downstream interests.

E. Administrative Effectiveness Measures

1. Continue efforts for office consolidation and employee retention

The SCTWAC supports the continued efforts of the EAA to consolidate its offices in order to facilitate operations and communication. It is anticipated that the EAA will award design/build contracts for the implementation of this measure in 2011. Based on information in the EAA strategic plan it appears that the efforts to retain key staff are being effective. It is imperative that the EAA be able to have professional staff that can deal with the complexities of administering the various programs and projects that the EAA is tasked with to implement.

F. Development of a Comprehensive Public Information Plan

1. Comprehensive Public Information Plan

The EAA adopted a 2006-2009 Comprehensive Public Information Plan and have been actively following the plan. The SCTWAC strongly supports the EAA's efforts to expand its public information program. The EAA has begun working with other entities to communicate the need for protection of the Edwards Aquifer and how to conserve the resource. The joint work will include working with schools and other water suppliers. The SCTWAC urges the EAA to continue to work with elected officials and combine resources where appropriate.

2. Inclusion of SCTWAC on the EAA Web Page

The SCTWAC recommends that the EAA provide space on their web site for the SCTWAC.

By adding the SCTWAC it will facilitate the dissemination of information to the public so that users of the web site can access information from the SCTWAC and incorporate information on the need for springflows and downstream interests.

1.0 INTRODUCTION

The South Central Texas Water Advisory Committee (SCTWAC) was created as part of the legislative act establishing the Edwards Aquifer Authority (EAA) to represent downstream interest in the Guadalupe, San Antonio and Nueces River basins. The SCTWAC is charged with developing an Effectiveness Report on the EAA every even numbered year and submit the report to the Texas Commission on Environmental Quality (TCEQ). The effectiveness report reviews the actions of the EAA for the previous two years and comments on the impact these actions have had on downstream interests. As part of this report the SCTWAC establishes effectiveness criteria for the next biennium and making suggestions to the EAA on policy matters that potentially affect downstream interests. The SCTWAC supports the EAA in its management of groundwater resources within its jurisdiction and assuring that springflows at Comal and San Marcos Springs are protected. The proper management of groundwater resources is critical for the protection of threatened or endangered species and for providing significant flows within the river basins that cross the Edwards Aquifer.

Since its creation the EAA has faced legal, fiscal and administrative challenges in fulfilling its legislative mandate of being the primary water resource manager within its jurisdiction. The SCTWAC and EAA have differed on policies that the SCTWAC felt favored aquifer users and water marketing efforts over the protection of springflows and downstream interests. However, the 2007 Texas Legislature addressed many of the most contentious issues between the EAA and SCTWAC. SB-3/HB-3 provided specific direction to the EAA by requiring that the agency enter into cooperative agreements with federal and state agencies to implement a Recovery implementation program (RIP) with the result being that a Habitat Conservation Plan (HCP) is developed and the EAA could obtain an Incidental Take Permit authorized under the Endangered Species Act. SB-3/HB-3 also established stop gap measures for determining critical flows for Comal and San Marcos Springs. The EAA has been a full partner in the RIP process and have committed significant resources to this effort and have continued to be active in the regional planning efforts for the Texas Water Plan. The SCTWAC fully supports and endorses the EAA in these consensus building efforts with stakeholders to manage the limited groundwater

resources within its jurisdiction and protect threatened and endangered species and the springflows on which the species depend.

As noted in the 2008 Effectiveness Report the SCTWAC had serious concerns regarding the conversion of irrigation permits to other uses without a thorough analysis of the potential impacts of these actions on downstream users and the minor aquifers that are dependent on inflow from the Edwards Aquifer. There has also been a substantial water marketing effort that has targeted the Uvalde pool since the last report. This has heightened the need for the EAA to determine what potential impacts these transfers would have on springs and minor aquifers that are dependent on the Uvalde pool for recharge and if there would be an impact on water rights within the Nueces River Basin.

2.0 SOUTH CENTRAL TEXAS WATER ADVISORY COMMITTEE

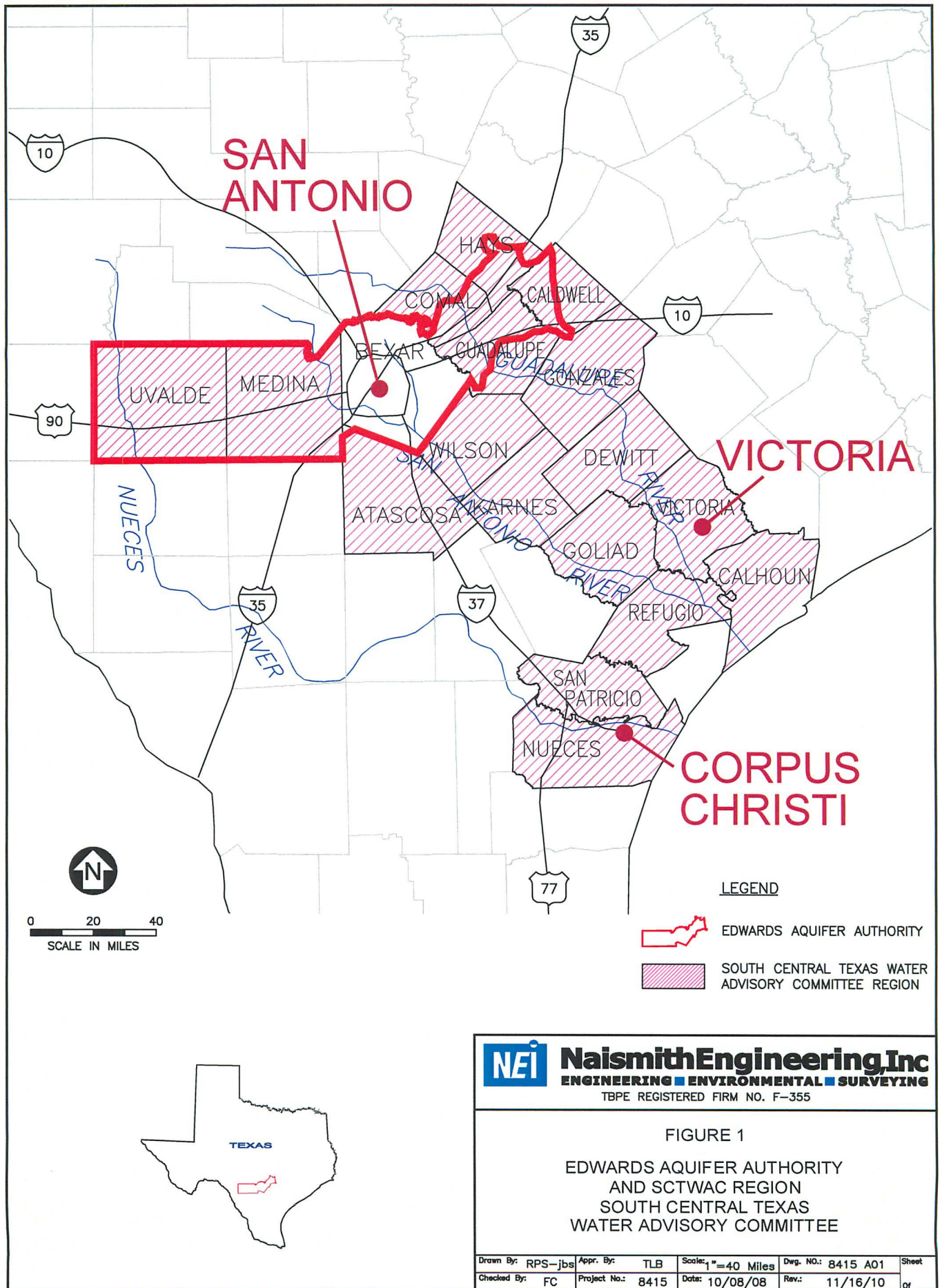
2.1 Background

In 1993 SB 1477 created the South Central Texas Water Advisory Committee (SCTWAC) as part of the Edwards Aquifer Authority (EAA) act. The inclusion of the SCTWAC in this legislation was in recognition of the hydrologic interdependence of the Edwards Aquifer, the Guadalupe, San Antonio, and Nueces River Basins. This interdependence affects both surface water rights in the affected river basins as well as recharge of the Edwards Aquifer and minor aquifers which are affected by the Edwards Aquifer. The SCTWAC recognizes the need for an effective EAA in order to establish sustainable water resource management strategies within its jurisdiction. If the EAA can meet these challenges the Edwards Aquifer will continue to provide a sustainable resource for both aquifer users and downstream interests.

The development of this report represents the perspective of downstream interests in the Guadalupe, San Antonio, and Nueces River Basins. With the exception of the SCTWAC non-voting member, the EAA Board of Directors represents aquifer users whose priorities may differ from those of downstream interests. The EAA has moved forward and has been at the forefront of implementing groundwater management with limited resources and in a politically charged atmosphere. While the SCTWAC and EAA have disagreed on specific rules and policies proposed by the EAA, the SCTWAC position should be viewed as responsible criticism and not be construed as a lack of support for the EAA. The SCTWAC continues to support the EAA in its mission to manage the Edwards Aquifer and protect the interests of both aquifer users and downstream interests.

2.2 Membership of the South Central Water Advisory Committee

The SCTWAC has 20 appointed members representing affected downstream users from seventeen counties with the region (See Figure 1). Article 1 Section 1.10 of the legislation states that “the advisory committee consists of one member appointed by the governing body of each



of the following counties and municipalities, except that Atascosa County may not have a representative on the advisory committee when the county has a representative member on the board.” The SCTWAC then designates one of its members to serve as a member of the EAA Board of Directors. This appointee is granted full rights of participation in EAA deliberations but is not allowed to vote on issues before the Board of Directors. The local political subdivisions identified and current members of the committee are listed in Table 2-1.

The SCTWAC reports to the Texas Commission on Environmental Quality (TCEQ) and the Edward Aquifer Authority Board of Directors. The SCTWAC, by resolution, may request that the EAA Board of Directors reconsider any Board action the SCTWAC considers prejudicial to downstream water interests. The EAA Board of Directors then reviews the request and if the result does not satisfy the SCTWAC the Committee may request a review by TCEQ, and for TCEQ to make a recommendation to the EAA Board. If the EAA Board of Directors determines that the EAA action in question is contrary to that of the TCEQ affecting downstream interests the EAA Board of Directors is required to reverse itself.

Table 2-1
2007 South Central Texas Water Advisory Council Membership

Representing	Member
Victoria County	Jerry James
Guadalupe County	David Davenport – Secretary
Atascosa County	Honorable Diana Bautista
Caldwell County	Tom Goynes
Calhoun County	Richard Barton
Comal County	Carl Englerth
DeWitt County	Bill Braden
Goliad County	Ray Bednorz
Gonzales County	Calvin Spacek
Hays County	Marianne Reese
Karnes County	Punch Humphries
Medina County	Fred Yanta
Nueces County	Joe McComb
Refugio County	Larry Aduddell
San Patricio County	Jim Naismith
Uvalde County	Vic Hilderbran
Wilson County	Steve Snider
City of San Antonio	Gregory Hudspeth
City of Victoria	Gary Middleton – Chairman
City of Corpus Christi	Steve Klepper

The legislature crafted the SCTWAC so that interests from across the Edwards Aquifer and affected river basins were represented. Ten members represent entities in the Guadalupe River Basin, five represent entities in the San Antonio River Basin, and five represent entities in the Nueces River Basin. As noted in the 2006 assessment report “this composition emphasizes the Guadalupe River Basin because of the substantial reliance of that basin on springflows from the major Aquifer springs in New Braunfels and San Marcos.”

2.3 Statutory Requirements for the Assessment Report

The presiding officer of the SCTWAC is mandated by the EAA Act to submit an assessment report on the EAA to TCEQ and the EAA Board of Directors by October 31st of each even numbered year. The first report was issued in 1998 and subsequently four reports have since been issued. The legislature requires that the report assess:

1. The effectiveness of the authority
2. The effect on downstream water rights by the EAA management of the aquifer.

Specific points that are to be considered in this evaluation include:

- Whether the EAA has functioned as an effective organization;
- Whether the EAA has played a significant role in regional planning activities;
- Whether the EAA has complied with statutory mandates and deadlines provided in the EAA Act;
- Whether the EAA has provided for effective protection of water quality in the aquifer and in contributing streams;
- Whether the EAA has achieved its water conservation goals; and
- Whether the EAA has provided effective protection of aquatic and wildlife habitat, endangered and threatened species, in-stream uses, and bays and estuaries that depend on the aquifer.

2.3.1 Relationship of the Edwards Aquifer to the Boundaries of the Edwards Aquifer Authority

The Edwards Aquifer is the primary water source for much of South Central Texas. The western edge of the aquifer begins in Kinney County and runs in a generally northeastern direction into Bell County. However, the EAA boundaries do not coincide with the aquifer boundaries; rather it encompasses the area of greatest usage within the aquifer. This includes agricultural irrigators west of San Antonio and major municipal users including the cities of San Antonio, New

Braunfels and San Marcos in the east (See Figure 2). Portions of the recharge, transition and artesian zones of the Edwards Aquifer lie outside the jurisdiction of the EAA. There has been a great deal of proposed water development and marketing activity in these areas, particularly in Kinney County. There is a concern by local interests in the western portion of the EAA that any movement or additional development of the Edwards Aquifer water in these areas would adversely impact water rights granted by the EAA. The SCTWAC shares this concern because of the potential for harming downstream water interests.

Since the 2008 report there has also been a great deal of activity in the water market within the Uvalde Pool of the Edwards Aquifer with the proposed conversion of irrigation rights to municipal use and transporting the water across the Knippa Gap to customers in the eastern portion of the EAA jurisdiction. There has been considerable opposition to this proposal from local interests in Uvalde County because of concerns that the amount of water withdrawn from the Uvalde Pool will adversely affect downstream users as well as springs in Uvalde County and users of minor aquifers which are dependent on the Edwards Aquifer for recharge.

2.4 Relationship of the Edwards Aquifer Authority to the Guadalupe, Nueces, and San Antonio River Basins

The Edwards Aquifer lies in the upper portion of the Guadalupe, Nueces, and San Antonio River Basins. The formation encompasses a contributing zone of approximately 4,400 square miles, a recharge zone of 1,500 square miles, and a confined zone of 2,100 square miles for a total of approximately 8,100 square miles. Rainfall across the region averages 22-36 inches annually with significant recharge occurring in the western portion of the aquifer in the Balcones Fault Zone where the Edwards limestone is still at land surface and has not been faulted deep into the subsurface (see Figure 3).

The Edwards Aquifer is the sole source of water for the City of San Antonio and many of the other municipalities in the region. While springflows contribute significant flows to surface waters which have been perfected as surface water rights within the Nueces, San Antonio and Guadalupe River Basins. The total volume of water in the Edwards Aquifer has been estimated

TEXAS

SAN ANTONIO RIVER BASIN

GUADALUPE RIVER BASIN

NUECES RIVER BASIN

SAN ANTONIO-NUECES BASIN

GULF OF MEXICO

LEGEND

- EDWARDS AQUIFER AUTHORITY
- GUADALUPE RIVER BASIN
- NUECES RIVER BASIN
- SAN ANTONIO RIVER BASIN
- SAN ANTONIO-NUECES BASIN






FIGURE 2

EDWARDS AQUIFER AUTHORITY, GUADALUPE, NUECES AND SAN ANTONIO RIVER BASINS

SOUTH CENTRAL TEXAS

WATER ADVISORY COMMITTEE

Drawn By: RPS-jbs	Appr. By: TLB	Scale: 1"=60 Miles	Dep. NO.: 8415 A05	Sheet
Checked By: FC	Project No.: 8415	Date: 11/19/08	Rev.: 11/16/10	or

 EDWARDS AQUIFER AUTHORITY
 GUADALUPE RIVER BASIN
 NUECES RIVER BASIN
 SAN ANTONIO RIVER BASIN
 SAN ANTONIO–NUECES BASIN



0 30 60

SCALE IN MILES



NaismithEngineering, Inc
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING

TBPE REGISTERED FIRM NO. F-355

FIGURE 2

EDWARDS AQUIFER AUTHORITY, GUADALUPE,
NUECES AND SAN ANTONIO RIVER BASINS
SOUTH CENTRAL TEXAS
WATER ADVISORY COMMITTEE

Drawn By: RPS-jbs	Appr. By: TLB	Scale: 1"=60 Miles	Dwg. NO.: 8415 A05	Sheet
Checked By: EC	Project No.: 8415	Date: 11/19/08	Rev.: 11/16/10	of



LEGEND

- 1. Canadian
- 2. Red
- 3. Sulphur
- 4. Cypress
- 5. Sabine
- 6. Neches
- 7. Neches-Trinity
- 8. Trinity
- 9. Trinity-San Jacinto
- 10. San Jacinto
- 11. San Jacinto-Brazos
- 12. Brazos
- 13. Brazos-Colorado
- 14. Colorado
- 15. Colorado-Lavaca
- 16. Lavaca
- 17. Lavaca-Guadalupe
- 18. Guadalupe
- 19. San Antonio
- 20. San Antonio-Nueces
- 21. Nueces
- 22. Nueces-Rio Grande
- 23. Rio Grande



EDWARDS AQUIFER
AUTHORITY



0 110
SCALE IN MILES



Naismith Engineering, Inc.
ENGINEERING ■ ENVIRONMENTAL ■ SURVEYING

TBPE REGISTERED FIRM NO. F-355

FIGURE 3

EDWARDS AQUIFER AUTHORITY
AND MAJOR RIVER BASINS IN TEXAS
SOUTH CENTRAL TEXAS
WATER ADVISORY COMMITTEE

Drawn By: RPS-jbs	Appr. By: TLB	Scale: 1"=110 Miles	Dwg. NO.: 8415 A04	Sheet
Checked By: FC	Project No.: 8415	Date: 10/13/08	Rev.: 11/16/10	Of

at 45 million acre feet. The aquifer is predominantly composed of porous limestone which provides for rapid recharge during storm events and rapid depletion during high demand periods. Water enters the aquifer as runoff from rain events that collect in the streams and rivers of the Nueces, San Antonio and Guadalupe River Basins that flow generally south/southeast across the recharge zone where the water comes into direct contact with the porous Edwards limestone. The hydraulic gradient lowers as water generally moves east and northeast to the major springs in San Antonio, New Braunfels and San Marcos. As water flows east, irrigation and municipal water wells intercept a substantial portion of the aquifer's annual recharge. Water is recharged in all three basins and is discharged through water wells and springs in all three basins, but recharge and discharge are not balanced. Approximately 51 percent of recharge occurs in the Nueces River Basin, 37 percent in the San Antonio River Basin and 12 percent in the Guadalupe River Basin. The 2005 Hydrologic Data Report from the EAA identified combined water wells and springs discharge for the 1935-2005 historic period to be 11.2 percent in the Nueces River Basin, 36.7 percent in the San Antonio River Basin and 51.8 percent in the Guadalupe River Basin.

2.4.1 Guadalupe River Basin

The Guadalupe River Basin is limited on the north by the Colorado River Basin, on the east by the Lavaca River Basin and the Lavaca-Guadalupe Coastal Basin, and on the west and south by the Nueces and San Antonio river Basins. Total drainage of the basin is 6,700 square miles. The average flow of the Guadalupe River above the recharge zone is 320,000 acre-feet and increases to 1,323,000 acre-feet near Victoria. According to the TWDB groundwater resources supply, 48 percent of the water used for all purposes in the basin while surface water resources supplies about 52 percent. The largest water purpose in the basin is municipal, which accounts for more than 45 percent, followed by manufacturing, accounting for about 23 percent. Major population centers in the basin and their population estimates are included in the following tables:

Table 2-2
Guadalupe River Basin
City Population Projections for 2010-2060

City Name	P2010	P2020	P2030	P2040	P2050	P2060
Victoria	65,709	71,058	75,452	78,945	81,814	84,342
San Marcos	48,814	69,906	90,990	114,477	136,466	158,099
New Braunfels	46,909	60,186	75,239	90,002	105,392	121,944
Seguin	25,309	29,339	33,696	38,048	42,877	48,077
Kerrville	23,044	25,681	26,934	27,544	28,926	29,545
Lockhart	16,328	21,083	25,111	29,154	33,216	37,148
Port Lavaca	13,163	14,325	15,513	16,717	17,925	19,030
Cuero	6,718	6,883	6,977	7,007	6,902	6,779
Gonzales	7,792	8,435	8,925	9,277	9,379	9,347
Luling	6,309	7,301	7,998	8,700	9,407	10,092
Kyle	21,457	31,126	33,613	35,203	39,197	41,850

Source: Texas Water Development Board 2011 Regional Water Plan

Table 2-3
Guadalupe River Basin
City Demand Projections for 2010-2060 (in ac-ft¹)

City Name	P2010	P2020	P2030	P2040	P2050	P2060
Victoria	11,924	12,656	13,184	13,530	13,930	14,360
San Marcos	8,038	11,198	14,371	17,824	21,559	24,439
New Braunfels	10,509	13,213	16,350	19,457	22,667	26,226
Seguin	5,018	5,718	6,454	7,203	8,069	9,047
Kerrville	4,362	4,746	4,918	4,937	5,152	5,262
Lockhart	2,451	3,094	3,629	4,180	4,725	5,285
Port Lavaca	1,769	1,877	1,981	2,079	2,209	2,345
Cuero	1,249	1,257	1,250	1,232	1,198	1,177
Gonzales	1,545	1,644	1,710	1,756	1,765	1,759
Luling	1,067	1,210	1,299	1,384	1,486	1,594
Kyle	2,740	3,940	4,217	4,377	4,874	5,203

Source: Texas Water Development Board 2011 Regional Water Plan.

¹An ac-ft is equal to 325,851 gallons and is the amount of water required to cover one acre with a foot of water.

The Guadalupe-Blanco River Authority (GBRA) is a regional entity serving Hays, Comal, Guadalupe, Caldwell, Gonzales, DeWitt, Victoria, Kendall, Refugio, and Calhoun counties. The Authority's duties include providing water to New Braunfels and San Marcos from Canyon Reservoir, delivering Guadalupe River water through its Calhoun Canal System to Calhoun County rice farmers and industries along the Victoria Barge Canal. It also oversees operation of Coletto Creek Reservoir, operating the San Marcos regional water treatment plant, and provides wastewater treatment in and around the city of Victoria. The GBRA also operates a saltwater

barrier at the Calhoun Canal System during low flows in the Guadalupe River to prevent saltwater intrusion.

Total water use in the basin is projected to increase to about 244,000 acre-feet by the year 2050. This increase in total demand is due primarily to the expected increase of municipal water use of more than 88,000 acre-feet and projected growth in manufacturing water requirements of nearly 26,000 acre-feet over the 1990-2050 planning period. Water conservation practices are intended to reduce the basin's annual water use by about 23,000 acre-feet by the year 2020, and more than 42,000 acre-feet annually by the year 2050.

2.4.2 *San Antonio River Basin*

The San Antonio River Basin is bounded on the north and east by the Guadalupe River Basin and on the west and south by both the Nueces River Basin and the San Antonio-Nueces Coastal Basin. Total drainage area of the basin is 4,180 square miles.

For the San Antonio River Basin, the average recharge is 129,000 acre-feet per year and the average river flow below San Antonio is 369,000 acre-feet per year. Groundwater resources supply about 88 percent of the water used for all purposes in the basin with surface water resources supplying the remaining 12 percent. Municipal water use accounts for 67 percent of all water use in the basin and another 20 percent of the water is used for irrigated agriculture. Groundwater supplies about 99 percent of the water for municipal use in the basin and about 80 percent of the water used for irrigated agriculture. In 1990, water used for municipal, industrial, and agricultural purposes totaled 358,470 acre-feet. Major population centers and population estimates are included in the following tables:

Table 2-4
San Antonio River Basin
City Population Projections for 2010-2060

City Name	P2010	P2020	P2030	P2040	P2050	P2060
San Antonio	1,354,381	1,552,538	1,729,245	1,872,964	2,002,017	2,116,782
Universal City	17,248	19,722	21,970	21,970	21,970	21,970
Schertz	26,856	36,645	47,115	57,457	68,805	80,944
Live Oak	9,641	10,126	106,11	11,096	11,581	12,066
Leon Valley	9,284	9,329	9,456	9,583	9,710	9,837
Converse	15,339	19,445	23,204	26,132	28,697	30,892
Kirby	9,066	9,437	9,768	10,037	10,279	10,494
Alamo Heights	7,671	8,039	8,148	8,239	8,331	8,423
Floresville	9,000	10,261	11,653	12,999	14,402	15,846
Kenedy	3,585	3,965	4,266	4,522	4,793	4,950
Karnes City	3,710	4,008	4,322	4,573	4,728	4,812
Goliad	2,306	2,710	3,035	3,248	3,411	3,514

Source: Texas Water Development Board 2011 Regional Water Plan

Table 2-5
San Antonio River Basin
City Demand Projections for 2010-2060 (in ac-ft¹)

City Name	P2010	P2020	P2030	P2040	P2050	P2060
San Antonio	216,946	241,730	265,369	283,229	300,501	314,727
Universal City	2,608	2,916	3,175	3,125	3,101	3,101
Schertz	4,151	5,583	7,073	8,560	10,251	12,059
Live Oak	1,145	1,157	1,177	1,193	1,232	1,284
Leon Valley	1,092	1,066	1,049	1,030	1,022	1,036
Converse	1,907	2,331	2,729	3,044	3,311	3,564
Kirby	1,005	1,004	1,007	1,001	1,013	1,034
Alamo Heights	2,071	2,134	2,136	2,132	2,146	2,170
Floresville	1,805	2,011	2,245	2,475	2,726	3,000
Kenedy	763	826	874	912	961	993
Karnes City	432	453	474	492	503	512
Goliad	416	480	527	553	577	594

Source: Texas Water Development Board 2011 Regional Water Plan.

¹An ac-ft is equal to 325,851 gallons and is the amount of water required to cover one acre with a foot of water.

The San Antonio River Authority (SARA) is the only major surface water supplier for the San Antonio River Basin. The Authority's principal purpose is to provide flood protection and wastewater treatment services in the San Antonio River Basin. Existing reservoirs in the basin provide water for irrigation (Lake Medina), cooling for steam-electric power generation (Braunig and Calaveras Reservoirs), and flood protection (Olmos Reservoir). Currently, the San Antonio

Basin is supplied by wastewater discharges derived from pumpage of groundwater from the Edwards-Balcones, Edwards-Trinity (Plateau), Trinity, Carrizo-Wilcox, Queen City, Sparta, and Gulf Coast Aquifers. The City of San Antonio and surrounding area is provided with water from the Edwards Aquifer.

Total water use in the basin is projected to increase to about 719,000 acre-feet by 2050, representing an increase of about 360,000 acre-feet over the 1990-2050 planning horizon. The driving force for this significant increase in total water use is the foreseen increase in municipal water use of almost 337,000 acre-feet over the planning period. Water conservation practices and programs are projected to reduce annual water demand by almost 93,000 acre-feet by 2020, and more than 152,000 acre-feet by the year 2050.

2.4.3 *Nueces River Basin*

The Nueces River Basin is bounded on the north and east by the Colorado, San Antonio, and Guadalupe River Basins, and the San Antonio-Nueces Coastal Basin; on the west and south it is bounded by the Rio Grande River Basin and the Nueces-Rio Grande Coastal Basin. The Nueces River Basin covers approximately 17,000 square miles, encompassing all or part of 23 counties. Stream flow in the basin above the recharge zone of the aquifer averages 326,000 acre-feet per year, and downstream the flow averages 162,000 acre-feet. Groundwater resources supply about 76 percent of the water used for all purposes in the basin with surface water resources supplying the remaining 24 percent. Irrigated agriculture is the basin's largest water use category, which amounts to nearly 90 percent, while municipal water use accounts for about 5 percent. Major population centers and population estimates are included in the following tables:

Table 2-6
Nueces River Basin
City Population Projections for 2010-2060

City Name	P2010	P2020	P2030	P2040	P2050	P2060
Corpus Christi	316,058	356,123	391,077	421,761	448,879	470,523
Uvalde	15,137	15,356	15,538	15,681	15,776	15,848
Crystal City	7,514	7,713	8,046	8,118	8,192	8,266
Pearsall	7,317	7,474	7,608	7,719	7,800	7,842
Pleasanton	8,728	9,205	9,624	9,953	10,231	10,434
Hondo	9,050	10,324	11,513	12,541	13,540	14,437
Carrizo Springs	6,068	6,474	6,725	6,751	6,603	6,279
Mathis	5,034	5,034	5,034	5,034	5,034	5,034
Devine	4,270	4,414	4,548	4,664	4,777	4,878
Cotulla	4,052	4,408	4,598	4,790	4,989	5,188

Source: Texas Water Development Board 2011 Regional Water Plan

Table 2-7
Nueces River Basin
City Demand Projections for 2010-2060 (in ac-ft¹)

City Name	P2010	P2020	P2030	P2040	P2050	P2060
Corpus Christi	61,953	68,212	73,592	78,422	82,961	86,962
Uvalde	6,087	61,244	6,144	6,148	6,150	6,178
Crystal City	2,247	2,272	2,343	2,337	2,349	2,370
Pearsall	1,443	1,448	1,449	1,435	1,442	1,449
Pleasanton	1,906	1,969	2,027	2,063	2,109	2,151
Hondo	1,784	2,001	2,205	2,374	2,548	2,717
Carrizo Springs	1,842	1,943	1,996	1,981	1,930	1,836
Mathis	648	632	615	598	586	586
Devine	837	850	856	862	878	896
Cotulla	1,407	1,516	1,566	1,615	1,677	1,743

Source: Texas Water Development Board 2011 Regional Water Plan.

¹An ac-ft is equal to 325,851 gallons and is the amount of water required to cover one acre with a foot of water.

The Nueces River Authority (NRA) is empowered to provide management of the surface water resources for the entire region except Wilson and Karnes Counties. Surface water resources in the basin include several small lakes on the Nueces River in Zavala and Dimmit Counties owned by Zavala-Dimmit Counties WID #1. Both Choke Canyon and Lake Corpus Christi reservoirs owned by the City of Corpus Christi and the Nueces River Authority also provide surface water for the basin.

In 1990, total water demand in the basin was 615,752 acre-feet, which represents an increase of about 89,000 acre-feet above the 1980 total basin water use. Total water use in the basin is projected by the Texas Water Development Board to decline over the 1990-2050 planning period with a projected total water use of about 209,000 acre-feet by the year 2050. This decline is due to a projected reduction in water requirements for irrigated agriculture of about 82 percent over the planning period. This substantial reduction in irrigation water requirements is due to predicted decreases in groundwater availability resulting in insufficient quantities of groundwater to meet current and future levels of irrigation water use. Water conservation practices and programs are projected to reduce the basin's total annual water use by about 10,000 acre-feet by the year 2020, and nearly 15,000 acre-feet annually by 2050.

3.0 EFFECTIVENESS MEASURES FOR THE 2010 REPORT

The effectiveness measures for the 2010 report were based on priority areas that the SCTWAC identified as potentially affecting springflows and downstream interests. The purpose of these effectiveness measures are to provide the EAA with feedback from downstream interests and provide a method of measuring the success of the EAA in meeting its legislative mandates. The legislative direction given to the EAA in SB 3/HB 3 provided an interim solution for many of the thorny issues associated with permits, conservation triggers and the retirement of downstream water rights. The 2010 effectiveness measures are targeted to holding the EAA accountable for meeting legislative expectations established in SB 3/HB 3. The 2010 Effectiveness Measures are grouped into the following six areas:

- Regulatory Effectiveness Measures
- Research Effectiveness Measures
- Financial Effectiveness Measures
- Planning Effectiveness Measures
- Administrative Effectiveness Measures
- Development of a Comprehensive Public Information Plan

3.1 Regulatory Effectiveness Measures

3.1.1 *Transfer Permit Rules*

The SCTWAC identified several concerns regarding the rules allowing the issuance of transfer permits allowing the transfer of Base Irrigation Groundwater (BIG) from the historically irrigated lands. The SCTWAC recommended that the EAA, at the applicants' sole expense, do a thorough investigation through modeling and other information available that could be used to evaluate both the individual request as well as the cumulative effect of the transfer permits that have already been granted. At a minimum this analysis should include an estimated impact on existing permitted wells, springflows and impacts on downstream users in the affected river basin or basins. The EAA should also adopt specific criteria that would be used to evaluate these impacts.

3.1.2 *Registration of Exempt Wells*

The EAA should continue its plan to register exempt wells and consider including an estimate of water use by the exempt wells. The existing work plan should be examined to determine if there is a way to accelerate this process.

3.1.3 *Critical Period Rules*

The 2008 Effectiveness Report recommended that the EAA revise the critical period rules to require permit holders to submit quarterly budgets for permit amounts. The new rules now measure compliance on an annual basis, even for critical period reductions. The effect of the deletion of this rule is that instead of being able to determine whether a user is reducing usage during a critical period, the EAA now waits until the year-end report is filed. The SCTWAC recommends that the EAA develop an enforcement plan that will allow the EAA to determine critical period reduction compliance as close to real time as possible which may require permit holders to report on daily or weekly basis during a critical period.

3.2 Research Effectiveness Measures

3.2.1 *Modeling*

The EAA should continue to work on refining and calibrating the MODFLOW model. This model should provide the basic analytical tool for evaluating the impacts of actions on springflows and downstream interests. As additional information is developed involving the threatened and endangered species the MODFLOW model could be incorporated into this analysis.

3.2.2 *Impact of the Edwards Aquifer on Downstream interests in the Guadalupe, San Antonio and Nueces River Basins*

Several recent studies sponsored by the EAA have shown that there is evidence that the Edwards Aquifer has an impact on river flows in all three basins. The EAA research into the gains and losses of flow along the Guadalupe River should be followed with similar research for both the San Antonio and Nueces Rivers.

3.2.3 *Water Balance in the Uvalde Pool*

The EAA should follow up on the recommendation in their research report Evaluation of the Edwards Aquifer in Kinney and Uvalde Counties, Texas and do additional research on the water balance in Uvalde County. As part of this effort there should be an analysis of the impact of the Edwards Aquifer on downstream interests.

3.2.4 *Continue research on flow patterns within the Edwards Aquifer*

The EAA should continue its research into flow patterns within the Edwards Aquifer particularly the Knippa Gap, and flow patterns affecting Comal and San Marcos springs. Previous work has identified gaps in the MODFLOW model and has provided valuable insight into the dynamic nature of the aquifer.

Based on the clear direction given in SB-3/HB-3 the EAA should not move forward on any recharge and recirculation projects but should provide any reports and information to the RIP for their review and recommendation to the EAA.

3.3 Financial Effectiveness Measures

3.3.1 *Explore the Potential for Developing Partnerships to Improve Recharge*

The legislature gave the EAA the authority to enter into partnerships with other entities for the financing and development of recharge projects. There should be an effort made to meet with other entities in the region to determine if there is a potential for developing multi-use projects that would provide recharge to Comal and San Marcos springs.

3.3.2 *United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs*

Since agricultural water use is one of the largest water users the EAA should consider becoming more active as a sponsor for agricultural water conservation loans and grants from the USDA and TWDB programs. The EAA could act as a local sponsor and facilitate loans and grants for agricultural water conservation.

3.4 Planning Effectiveness Measures

3.4.1 *Recovery implementation program (RIP)*

Continuing to support the RIP process is the greatest challenge that the EAA as an agency has faced since its formation. Success will show that regional cooperation can develop regional solutions and provide a plan that will result in receiving an incidental take permit. Failure will call into question the role of the EAA in meeting its legislatively mandated charge to develop a workable plan for the Edwards Aquifer.

The RIP process is a second chance for the EAA and stakeholders to develop a workable Habitat Conservation Plan (HCP) that would allow the EAA to receive an Incidental Take Permit from U.S. Fish and Wildlife Service under the Endangered Species Act. The legislature has provided a stop gap solution in SB-3/HB-3 to give the parties the opportunity to get organized and move forward with specific performance deadlines. To date there has been great progress with the stakeholders working with a consensus based decision model. The SCTWAC has been an active participant in this process and fully supports the EAA in its efforts in the RIP process. The RIP process is arguably the most significant and complicated effort that the EAA has ever attempted. The outcome will likely determine the future of local/regional regulatory efforts to protect springflows, threatened and endangered species and downstream interests or if those regulatory decisions are defaulted to the legislature, regulatory agencies and courts. It is vitally important that information regarding the RIP process be available to the public. It is recommended that the EAA create a separate link on their web site for ongoing information on the RIP process, results and a discussion of the policies guiding the RIP participants.

3.4.2 *Continue in Regional Planning Efforts*

The EAA has continued to be an active member in Region L planning efforts. This involvement is critical because of the unique regulatory role that the EAA plays in the region. The EAA should make an effort to keep the Regional Planning Group current with the progress of the RIP as well as research efforts that the EAA is involved with in the region. The EAA should also consider becoming involved in Region N since actions by the EAA could impact downstream interests in this planning region.

3.4.3 *Developing in-house capability to do dye testing*

The decision to develop an in-house capability to do dye testing should prove to be an effective method of providing flexibility in scheduling and responding to hydrologic events. The EAA should periodically review that this continues to be a cost effective measure.

3.5 Administrative Effectiveness Measures

3.5.1 *Continue efforts for office consolidation and employee retention*

The SCTWAC supports the continued efforts of the EAA to consolidate its office space in order to facilitate operations and communication. Based on information supplied to the SCTWAC it appears that the EAA has improved its retention efforts for employees.

3.6 Development of Comprehensive Public Information Plan

3.6.1 *Comprehensive Public Information Plan*

In 2006 the EAA developed a 2006-2009 Comprehensive Public Information Plan. The goal of the plan was to “engender a greater understanding, trust, and support of the Authority and its mission” among identified stakeholders throughout the region by having proactive communication and education outreach. The EAA has followed its plan and have developed several educational and public relations tools. The SCTWAC endorses and supports these efforts but would also urge that the EAA include information regarding the interdependence between the Edwards Aquifer, springflows and downstream water interests. The SCTWAC would also urge the EAA to partner with other educational programs sponsored by the San Antonio Water System, Guadalupe-Blanco River Authority, San Antonio River Authority and the Nueces River Authority. Given the importance of the RIP process it is strongly recommended that the EAA put a separate link on their web page to provide information on the RIP. This would provide easy access and facilitate transparency in the RIP process.

3.6.2 *Development of a SCTWAC Web Page*

The SCTWAC recommends that the EAA support and implement a web page for SCTWAC and provide updates to the web page at the request of the SCTWAC. This would facilitate the dissemination of information and provide for greater public involvement.

4.0 STATUS OF MEETING 2008 EFFECTIVENESS MEASURES

The following is a discussion of the status of the EAA in meeting the 2008 Effectiveness Measures.

4.1 Regulatory Effectiveness Measures

4.1.1 *Transfer Permit Rules*

This effectiveness measure has been met through the Board of Directors policies to prohibit transfers and by the Cibolo Creek amendments to the EAA rules. The recommendation that before considering a Transfer Permit the EAA consider available information and do modeling to determine the localized and cumulative effects of any transfer. This recommendation also became moot due to the revised Board policies. However, during calibration of the existing model it was discovered that there were several areas where the model was lacking and additional work needed to be done to make the model more accurate.

4.1.2 *Registration of Exempt Wells*

The EAA began its first attempt at registering exempt wells in Hays County. The Authority met with some opposition from landowners but finished the effort in Hays County in 2009 and then focused their efforts in southern Bexar County. Given the response in Hays County the EAA staff began revisions to existing rules in 2010. It is anticipated that the proposed rule changes will be presented to the Board of Directors in late 2010. Once the new rules are adopted the Authority plans to begin working in Comal County in 2011.

4.1.3 *Critical Period Rules*

The EAA has identified that the Critical Period Management Plan and rules are consistent with the criteria set forth in the EAA act. The EAA currently requires that permit holders provide monthly reports on water use and can be curtailed further based on criteria established in the Critical Period Management Plan. The EAA has continued to participate in the RIP process, however, as noted on page 26 of the Edwards Aquifer Authority Report of Accomplishments 2008-2010 attached to this report “determining the effectiveness of the Authority’s Critical

Period Management Plan has proven to be difficult due to the number of possible variables. Staff is developing a plan to evaluate the effectiveness of the plan.”

4.2 Research Effectiveness Measures

4.2.1 Modeling

The EAA has continued to work on refining and calibrating the MODFLOW model. During the past two years the EAA has found deficiencies in the model because of certain parameters used in its development. The EAA has been addressing these deficiencies so that the model more accurately measures the dynamic nature of the Edwards Aquifer. The Authority has also been working with the Texas Water Development Board to share data and modeling expertise so that the state and EAA models are compatible.

4.2.2 *Impact of the Edwards Aquifer on Downstream Interests in the Guadalupe, San Antonio and Nueces River Basins*

The EAA has recognized that there is interdependence between the Edwards Aquifer and river flows in all three basins. As research has progressed it is evident that the Edwards Aquifer also has an impact on minor aquifers that are above and below the Edwards Aquifer. This seems to be particularly important in the Uvalde pool where it appears that the Austin Chalk, Leona Gravels and Buda aquifers are dependent on the Edwards Aquifer for recharge. The EAA has recognized this and have included additional research that will be included in the updated MODFLOW model.

4.2.3 *Water Balance in Uvalde Pool*

The EAA has followed up with research on the Water Balance in the Uvalde Pool and the information will be included in future modeling efforts.

4.2.4 *Continue research on flow patterns within the Edwards Aquifer*

The EAA has continued their research efforts on the flow patterns within the Edwards Aquifer. It was this work that highlighted deficiencies in the existing modeling efforts. This research is also being used in the RIP process and will provide a significant resource in the deliberations.

4.3 Financial Effectiveness Measures

4.3.1 *Explore the Potential for Developing Partnerships to Improve Recharge*

The legislature gave the EAA the authority to enter into partnerships with other entities for the financing and development of recharge projects. However, there are several constraints that effectively limit the ability of the EAA to do recharge projects. These constraints include limits on use of flood flows, a determination that downstream rights will not be affected, water quality provisions, and geographic limits on where recharge facilities could be located.

4.3.2 *United States Department of Agriculture (USDA) and Texas Water Development Board (TWDB) Agricultural Loan and Grant Programs*

The 2008 report suggested that the EAA become more active as a sponsor for agricultural water conservation loans and grants from the USDA and TWDB programs. While the EAA did not implement this suggestion they did implement a Water Conservation Grant Program and Range Management Cost Share Program using local funds. The programs have been a success and the EAA has continued to refine the criteria that would be used for future projects.

4.4 Planning Effectiveness Measures

4.4.1 *Recovery implementation program (RIP)*

The major focus of the EAA and SCTWAC for the past two years has been to support the RIP process. As noted in the 2008 report the RIP process is a second chance for the EAA and stakeholders to develop a workable Habitat Conservation Plan (HCP) that would allow the EAA to receive an Incidental Take Permit from the U.S. Fish and Wildlife Service under the Endangered Species Act. To date the process has been very successful using a consensus based decision model. Both the SCTWAC and EAA have been active participants in the process and there has been significant progress in this effort. There have been several significant changes in the focus of the RIP particularly redefining the focus of the effort from focusing on recharge and springflow enhancement during critical periods to a focus on avoiding jeopardy for the species. The role of the EAA in this process has been instrumental in working with the science committee and providing data for analysis.

4.4.2 *Continue in Regional Planning Efforts*

The EAA has continued to be an active participant in Region L regional water planning efforts and have been developing a closer working relationship with the Texas Water Development Board (TWDB). This relationship is critical since the TWDB has been tasked in developing groundwater models for the various planning regions in Texas. Hopefully, this working relationship will provide for better information and data that will benefit both entities. The EAA has also developed a working relationship with Region N so that information can be shared.

4.4.3 *Developing in-house capability to do dye testing*

The EAA has developed in house capability to do dye testing and have been active in testing in several areas within their jurisdiction.

4.5 Administrative Effectiveness Measures

4.5.1 *Continue efforts for office consolidation and employee retention*

The SCTWAC has continued to support the EAA efforts to consolidate its office space to facilitate operations and for employee retention. The office consolidation is moving forward and the EAA anticipates that a design/build project to achieve this goal will be started in 2011. The EAA has also implemented several ongoing efforts to recruit and retain employees over the past two years including a review of comparable salaries and benefits by employee classification.

4.6 Development of Comprehensive Public Information Plan

4.6.1 *Comprehensive Public Information Plan*

As noted in the 2008 Effectiveness Report the SCTWAC has supported the EAA in its efforts to improve public outreach and communication and suggested that the EAA partner with other public entities such as the San Antonio Water System, San Antonio River Authority and Nueces River Authority and the Guadalupe-Blanco River Authority. The EAA has addressed this suggestion by continuing to implement its Comprehensive Public Information Plan as well as developing partnerships with other entities, revamping its web site, beginning development of educational materials, public speaking training, began work on doing a public survey to

determine the public's attitudes and perceptions of the Authority and aquifer and have been active in participating in public hearings and testimony before legislative committees.

4.6.2 *Development of a SCTWAC Web Page*

The SCTWAC recommended that the EAA support and implement a web page for SCTWAC. The purpose of this request was to help facilitate the dissemination of information and provide a forum for public involvement. This was not accomplished but since the EAA web site has been revamped a potential alternative would be to include the SCTWAC as part of the new EAA website.

5.0 DISCUSSION OF KEY ISSUES

With the passage of SB-3/HB-3 many of the historically contentious issues facing the EAA were addressed and set clear guidelines for the EAA to follow. Since the 2008 Effectiveness Report the EAA has been diligent in meeting the challenges set out by the Texas Legislature. The past two years have seen stakeholders moving forward with the RIP process, an initiative to register exempt wells, identification of problems with the MODFLOW model, greater coordination between the EAA and the Texas Water Development Board, expansion of and litigation that challenges the regulatory authority of the EAA. The key issues facing the EAA over the next two years will be the culmination of several ongoing efforts by the EAA, stakeholders and the outcome of litigation. The key issues that have been identified over the next two years include the conclusion of the RIP process, updating and improving the modeling efforts by the EAA, the potential implementation of water quality regulations, efforts to develop recharge projects, efforts to move water from the Uvalde Pool east to the San Antonio Pool, development of alternative strategies for critical period groundwater management and the consolidation of EAA facilities.

5.1 Edwards Aquifer Recovery Implementation Program (RIP)

The Edwards Aquifer Recovery Implementation Program was initiated after the collapse of the proposed Habitat Conservation Program (HCP) developed by the EAA. In response, the legislature directed the EAA to enter into the RIP process which included both state and federal agencies along with stakeholders within the affected area. A consensus based decision model has been used and all parties have stayed at the table to work out difficult issues. The RIP process has been moving forward with the legislative direction to develop recommendations for withdrawal adjustments based on a combination of spring discharge rates from Comal and San Marcos Springs and levels at the J-17 and J-27 wells during critical periods. This would “ensure that federally listed, threatened, and endangered species associated with the Edwards Aquifer will be protected at all times, including throughout a repeat of the drought of record.”

During the initial work by the RIP the focus was on developing strategies to maintain springflows to protect the endangered species. Several of the strategies focused on enhanced or artificial recharge as well as land management. In its report the sub-committee identified several

constraints in developing recharge projects including the cost to develop the projects and water quality concerns. Natural recharge options seemed to be the most effective using a combination of cedar eradication and re-vegetation using native grasses and trees. This approach had the advantage of also slowing the discharge into the aquifer and improving water quality. During the course of its deliberations it has become apparent that there needs to be an ongoing scientific investigation into the tolerance levels of the species to drought and what puts the species in jeopardy and not just focus on recharge and sustaining springflows. This change in focus has allowed the RIP to examine alternatives to a long term takings permit from U.S. Fish and Wildlife Service. These alternatives include having a shorter period for the takings permit and doing long term scientific studies to better define the tolerance of the endangered species to drought conditions and what course of action is available to protect the species if we enter another drought of record.

As the RIP process enters its final stages the difficult decisions will be tied to what is needed to keep the endangered species out of jeopardy and how to pay for implementation of the final plan. As part of this effort the long term water planning and resource management by major permit holders will also be a major factor in how to approach potential solutions since less reliance on the aquifer during the critical period will lessen the stress on the springs and species.

5.2 Critical Period Management

Critical Period Management (CPM) will continue to be a major focus of water resource management for the Edwards Aquifer. While the EAA has received legislative direction on CPM there is still a need to be able to accurately assess the effectiveness of the CPM. The need for CPM is evidenced by the fact that the EAA has declared at least one stage of CPM in three of the last five years (2006, 2008 and 2009). In general terms it would appear that the CPM has been effective since in 2008 total withdrawals from the aquifer were about 6% less than 2006 and in 2009 total withdrawals were 7.5% less than 2008. The EAA has noted that the challenges in accurately predicting how effective CPM is include rainfall variability across the Edwards Aquifer. Since most groundwater use is seasonal, identifying a similar historical event for comparison is difficult, additional population growth and water demands also creates a moving target, the timing of crop irrigation impacts overall water usage relative to CPM. Another factor that influences how to measure CPM impacts is updating and refining the EAA MODFLOW

model to incorporate these variables and evaluate water level responses in areas away from the index wells and major springs. The EAA recognizes the need to update and refine the model and has that as a work item for 2011.

5.3 Water Transfers

The EAA addressed permitted transfers as part of the implementation of SB-3/HB-3; however, there is still a push by private interests to have the ability to move water through a pipeline from the Uvalde Pool to customers located east of the Knippa Gap. These proposals have been opposed by several groups in Uvalde County as well as water rights holders within the Nueces River Basin. Opponents fear that large withdrawals from the Uvalde Pool will have a negative impact upon minor aquifers located above and below the Edwards Aquifer and that both short term and long term impacts on the Edwards Aquifer are not known. There is evidence that these minor aquifers are recharged by the Edwards Aquifer and any depletion of the Uvalde Pool will have a negative impact on EAA permit holders. Since much of the domestic and agricultural water use in this area is from these minor aquifers, which are not subject to EAA permit conditions, they could be faced with loss of water supply. Proponents of the transfers cite the EAA MODFLOW hydrologic model as evidence that there would not be a negative impact on water levels with these continuous withdrawals. As noted earlier in this report the EAA has reported that the MODFLOW model needed to be updated and recalibrated to take into account several variables that were not included in the development of the original model. To the credit of the EAA they have recognized the limitations of the current model and have cautioned that there were significant limitations in what should be interpreted from the results of model runs. Proponents of the project have indicated that they will request that the Texas Legislature repeal the prohibition of pumping water from west to east in the Edwards Aquifer. The SCTWAC is opposed to this attempt to potentially harm both EAA permit holders in the Uvalde Pool as well as those users dependent on minor aquifers that are recharged by the Edwards Aquifer. This transfer would also negatively impact the RIP process since the known deficiencies of the MODFLOW model prevent it from being used to justify such a significant change in policy.

5.4 Water Quality Regulation

The EAA has been authorized to consider water quality as part of their regulatory authority. Traditionally water quality regulation within the Edwards Aquifer has been done by either cities or the Texas Commission on Environmental Quality. The EAA had proposed water quality regulations that based their water quality regulations on limiting the use of impervious cover. Since the initial publication of these draft regulations the EAA has been reviewing what would be an appropriate role for the agency in the regulation of water quality within the region. There will be several challenges in the development of a regulatory framework including how the EAA will interact with other entities that regulate water quality, how any oversight and/or enforcement will be funded, and what water quality strategies will be incorporated within the rules. Meaningful water quality protection involves a series of Best Management Practices (BMP) that must be targeted to the specific site situation. One of the greatest challenges facing communities is the maintenance issues associated with water quality protection because it is often lack of maintenance rather than design that cause water quality BMP's to fail. An evolving issue is how the EAA will approach water quality planning and enforcement. The draft water quality rules that were discussed by the EAA focused on the restriction of impervious cover as the primary BMP to preserve water quality. By focusing only on this BMP there could be problems that are missed and water quality could be negatively affected. In reconsidering how the EAA will be involved with water quality protection several factors will need to be addressed including how the program will be funded, will the EAA adopt rules that are not consistent with local municipality's requirements, addressing concerns from the development community, how will enforcement be administered and who will be responsible for approving water quality measures.

5.5 Litigation

The EAA has had several major lawsuits over the implementation of the act. In most cases the EAA has prevailed and have received legislative direction that has clarified issues that could potentially been litigated. At the present time the EAA has perhaps its greatest challenge in the lawsuit EAA vs., Day. In this suit the EAA rules have been challenged as well as the authority of the EAA to regulate groundwater withdrawals. Currently this law suit is before the Texas

Supreme Court and should be decided before the next effectiveness report is due. The following is a discussion of the issues in the case.

5.5.1 *Edwards Aquifer Authority and the State of Texas vs. Burrell Day and Joel McDaniel*

This predominant legal issue in this case is whether an owner of real property owns the groundwater in place beneath his property or, alternatively, owns the groundwater only after it has been physically captured. This case has pitted property rights advocates against groundwater conservation districts in determining how groundwater is regulated. The final resolution of this case by the Texas Supreme Court could affect the viability of constitutional “takings” claims by landowners who are denied the right to capture groundwater. This case has gotten the attention of various groups with a variety of positions being articulated by the litigants and numerous amici curiae as to how the EAA’s actions were either constitutional or unconstitutional. Most of the legal arguments have focused on the point at which a landowner’s right in groundwater actually becomes vested. The issues in this case are charged and the Court could potentially take this opportunity to alter how groundwater is administered in Texas. However, the Court could also take a narrower view and keep the regulatory system in place but allow a limited takings claim by property owners. Another option would be to limit its review of the case to the specific fact issues in the Appeals Court decision and effectively send the issue back to the legislature. Whatever the final decision by the Texas Supreme Court, it will have a direct impact on the EAA and potentially affect permit holders and downstream interests. A detailed analysis of this case is included in Attachment 3.

6.0 EFFECTIVENESS MEASURES FOR THE 2012 REPORT

The effectiveness measures for the 2012 report are based on what the SCTWAC has identified as priority areas that potentially affect springflows and downstream interests. The purpose of these measures are to provide the EAA with feedback from downstream interests and provide a method of measuring the success of the EAA in meeting its legislative mandate of protecting springflows and downstream water interests within the river basins that the EAA impacts. The past two years have been eventful with the implementation of the legislative directives given in SB-3/HB-3, the evolution of the RIP process, understanding and recognizing the limitations of existing models, continued push from private interests to allow permit transfers from west to east, and litigation that challenges the regulatory authority of the EAA. The EAA has moved forward and has generally met the effectiveness measures established in the 2008 report or have identified areas that need to be strengthened in order to provide the best information and data for decision making. The 2012 Effectiveness Measures are targeted to completing past legislative direction and identifying issues that will affect both the EAA and downstream interests.

6.1 Regulatory Effectiveness Measures

6.1.1 *Transfer Permit Rules*

The SCTWAC has noted its concerns in the past over EAA transfer permit rules. With recent rule changes and legislative directives to the EAA many of the concerns raised in previous reports have been addressed. However, the SCTWAC continues to have serious concerns about private interests that are actively trying to change legislation or have the EAA change policies that would facilitate water transfers from the Uvalde pool to potential customers in the eastern portions of the EAA. The groups advocating these transfers have made public statements that the transfers will not have an adverse impact on permit holders in the Uvalde Pool and will provide needed water to customers in the San Antonio Pool. The assertions that these transfers would not have a negative impact seem to be based on results of using the EAA MODFLOW hydrologic model. Based on interviews with the EAA staff they have indicated that the current model was not developed nor calibrated to estimate the impact of these withdrawals on minor aquifers, springs and river flows dependent on the Edwards Aquifer Uvalde Pool. The EAA has

recognized the need to update the model to take these factors into consideration and have committed the resources to accomplish this goal. The SCTWAC supports the EAA in this effort and would urge the EAA to oppose any proposed transfer of EAA permitted water from the Uvalde Pool until such time that the model has been updated and calibrated so that a scientific analysis can be done and the potential impacts evaluated.

6.1.2 *Registration of Exempt Wells*

The EAA continues to move forward with the registration of exempt wells in Hays and southern Bexar Counties with Comal County next on the work plan. The SCTWAC supports these efforts and urges that the EAA include an estimate of water use from these exempt wells in its reports and include an estimate of usage in its modeling efforts.

6.1.3 *Water Quality Regulations*

The EAA has the authority to regulate water quality within its jurisdiction. During the past two years the EAA drafted water quality regulations which targeted restricted impervious cover as the primary best management practice. The EAA subsequently tabled these draft regulations and have been assessing other water quality protection strategies. The SCTWAC has serious concerns that trying to develop detailed water quality protection regulations will potentially be in conflict with existing measures implemented by other local governments and the Texas Commission on Environmental Quality. Additional concerns are the resources that it will take to develop and implement these rules. Given the existing demands that the EAA is already faced with any reallocation of resources to move this initiative forward will adversely impact existing priorities and developing a source of funding to administer and implement will be difficult and will probably meet with resistance from various stakeholders who would have to support it.

6.2 Research Effectiveness Measures

6.2.1 *Modeling*

During the past two years the EAA has identified several deficiencies in its MODFLOW model. The problems with the model were identified as the EAA determined that the model was too narrowly focused and did not take into account several parameters that made the model limited in scope and accuracy. The SCTWAC strongly supports the EAA in its efforts to improve the

model and include factors that weren't originally in the model. It is hoped that the improvements to the model will include recent studies of how the Edwards Aquifer impacts river flows in all three river basins, the water balance in the Uvalde Pool and flow patterns within the Edwards Aquifer.

The accuracy of the model is critical to the understanding of the Edwards Aquifer. The decisions made based on the model not only impact the EAA permit holders but also minor aquifers fed by the Edwards Aquifer as well as springflows and downstream interests.

6.3 Planning Effectiveness Measures

6.3.1 *Edward Aquifer Recovery implementation program (RIP)*

The RIP process has made significant progress over the past two years in developing a consensus based plan. Both the SCTWAC and the EAA have been active participants in the process along with other stakeholders. There has been significant compromise by the stakeholders to reach a consensus on most issues. There has also been a change in focus in that it appears that the RIP is moving toward protection of the endangered species by assessing what puts the species in jeopardy rather than solely focused on the volume of springflows. In recognition that there still is much to be learned regarding protection of the species there has also been a reassessment of the potential term of a takings permit by reducing the initial term of the permit. The SCTWAC supports the EAA in this effort and feel that at the conclusion of this process a viable Habitat Conservation Plan (HCP) will be produced. With the completion of the plan the challenge will be to determine how to pay for its implementation. The ongoing monitoring and implementation plan will be expensive and it is important that a funding mechanism be developed so that its long term viability will be assured.

6.3.2 *Continue in Regional Planning Efforts*

The EAA has continued to be an active member in Region L planning efforts. This involvement is critical because through its regulatory role the EAA has a central role in water planning for the region. The EAA should continue to keep the Regional Planning Group current with the progress of the RIP. Because of its significant regulatory role in the Nueces River Basin the EAA should

be actively involved with Region N to assure that downstream interests are aware of EAA actions that could potentially affect surface water rights holders.

6.4 Financial Effectiveness Measures

6.4.1 *Continue Water Conservation and Range Management Grants*

The EAA began to implement its water conservation and range management grants program during the past two years. The water conservation grants allow qualified permit holders to apply for up to a 50% grant to implement water conservation programs such as leak detection and repair, rainwater harvesting, meter replacement, low flow toilet installation programs, and low flow shower head replacement programs. The Range Management Grants program provides limited funding in partnership with the Natural Resources Conservation Service EQIP and/or WHIP programs. This funding can be used to assist with maintenance in brush control including mechanical or hand cutting or prescribed burnings. These programs have met with initial success and have the ability to leverage other funding as well. Based on the study completed by the recharge subcommittee of the RIP one of the most effective methods of recharge and water quality protection was range management to reduce brush, particularly Ashe juniper in the recharge and contributing zone. This had the advantage of increasing recharge as well as using the land to act as a natural filter to improve water quality entering the aquifer.

6.4.2 *Access State and Federal Financial Assistance Programs*

There have been several changes to both state and federal financial assistance programs. The Texas Water Development Board has made several significant changes to its Clean Water and Safe Drinking Water State Revolving Funds. These funds can provide subsidized loans and in certain cases grants to assist in water quality protection/management, source water protection, water conservation and for renewable resource development. Other federal programs administered by the United States Department of Agriculture can provide funding for improvements that benefit rural communities. As a regional regulator the EAA is in a unique position to provide leadership in developing eligible projects that can leverage local funding and develop projects that can have an impact on conservation, water quality protection and recharge that could have a positive impact on springflows and downstream interests.

6.5 Administrative Effectiveness Measures

6.5.1 Continue efforts for office consolidation and employee retention

The SCTWAC supports the continued efforts of the EAA to consolidate its offices in order to facilitate operations and communication. It is anticipated that the EAA will award design/build contracts for the implementation of this measure in 2011. Based on information in the EAA strategic plan it appears that the efforts to retain key staff are being effective. It is imperative that the EAA be able to have professional staff that can deal with the complexities of administering the various programs and projects that the EAA is tasked with to implement.

6.6 Development of a Comprehensive Public Information Plan

6.6.1 Comprehensive Public Information Plan

The EAA adopted a 2006-2009 Comprehensive Public Information Plan and have been actively following the plan. The SCTWAC strongly supports the EAA's efforts to expand its public information program. The EAA has begun working with other entities to communicate the need for protection of the Edwards Aquifer and how to conserve the resource. The joint work will include working with schools and other water suppliers. One of the greatest challenges facing the EAA is communicating to the public the limitations of the Edwards Aquifer and the importance of protecting spring flows that provide the base flow for three river basins and habitat for endangered species. Another challenge is communicating to the public the various issues that affect their water supply such as: the importance of the RIP process; water quality protection; the need to fully comprehend the complexities of the Edwards Aquifer; as well as the need to share information and promote conservation strategies that are appropriate for the region. The SCTWAC urges the EAA to allocate sufficient resources to provide information to the public to accomplish the objectives stated above, and to continue to work with elected officials and combine resources where appropriate.

6.6.2 Inclusion of SCTWAC on the EAA Web Page

The SCTWAC recommends that the EAA provide space on their web site for the SCTWAC.

By adding the SCTWAC it will facilitate the dissemination of information to the public so that users of the web site can access information from the SCTWAC and incorporate information on the need for springflows and downstream interests.

ATTACHMENT 1
EAA REPORT OF ACCOMPLISHMENTS OCTOBER 2008-OCTOBER 2010



EDWARDS AQUIFER
A U T H O R I T Y

Edwards Aquifer Authority Report of Accomplishments
October 2008 – October 2010

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL A. SUSTAIN FEDERALLY-PROTECTED AQUIFER DEPENDENT SPECIES

Edwards Aquifer Authority Act References: §§ 1.01; 1.11(d)(9); 1.14(a)(6)-(8) and (h); 1.25(b)(3); 1.26; 1.26A and 1.27.

Action Step	Status
1. Submit EARIP status report to legislature by January 1, 2009.	This Action Step was completed. Status report presented to board and to the EARIP, and was submitted to the Governor, Lt. Governor, Speaker of the House, Edwards Aquifer Legislative Oversight Committee, and Edwards Aquifer area legislators
2. Continue ecosystem and bio-monitoring at Comal and San Marcos springs.	This Action Step was completed. The Authority's bio-monitoring contract with Bio-West Inc. was renewed at the January 8, 2008, board meeting. Critical Period monitoring was conducted during the summer 2008. Bio-monitoring activities continued and were reported to the board and to the EARIP Steering Committee. The 2007 bio-monitoring summary report was given to the U.S. Fish and Wildlife Service (USFWS) and the EARIP and the principal, Ed Oborny, participated in a panel discussion on the matter at the April 10, 2008 RIP meeting.
3. Monitor and support Edwards Aquifer area science subcommittee.	This Action Step was completed. The Authority continued to remain involved in a supportive role to the EARIP process and provided technical information such as findings of the San Marcos Pool study, modeling information on the region's new pumping cap, and analysis of various data such as the correlation of San Marcos Springs levels to J-17 index well levels and Comal Springs critical period trigger levels. In 2008, the Authority also agreed to serve as a contracting agent on behalf of the EARIP to engage the services of Dr. Thomas Hardy to conduct an evaluation of the springs ecosystems and successfully received a Texas Water Development Board grant for reimbursement to cover half the costs associated with the study.
4. Contribute to discussions on implementing agreement with RIP Steering Committee and stakeholder group.	This Action Step was pending. No conversations occurred in 2008 concerning the implementing agreement.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL B. MANAGE GROUNDWATER WITHDRAWALS

Edwards Aquifer Authority Act References: §§ 1.01; 1.08(a); 1.11(b); 1.14 – 1.22 and 1.26.

Action Step	Status
1. Issue final groundwater withdrawal permits.	This Action Step was completed. In 2007 the Authority revised permit amounts to become effective January 1, 2008, in keeping with changes made to the EAA Act by Senate Bill 3, Article 12. In 2008, the Authority revised its permit form; issued the revised permit amounts in draft form to permit holders to verify their groundwater totals; and then after confirming the amounts, received board authorization to prepare final permits reflecting the new amounts. Authority staff then issued final permits to all permit holders and recorded them with the respective county clerks.
2. Develop and implement Critical Period Management Plan consistent with criteria set forth in Section 1.26 of the EAA Act.	This Action Step was completed. Emergency rules consistent with the Critical Period Management Plan in the EAA Act were adopted and put in place in late 2007. Proposed rules incorporating a similar Critical Period Management Plan were presented for public comment in spring 2008 as part of an overall rules cleanup effort. The rules, as they apply to Critical Period, were then carved out of the overall rules and presented as for adoption in May and took effect in June. Based on the new rules, the Authority declared stage I of the Critical Period Management Plan on June 23 for a period of 30 days.
3. Develop a water conservation grants program.	This Action Step was completed. Authority rules outlining a conservation grants program were developed in 2007 and adopted by the board in July 2008.
4. Improve the ease, efficiency, and accuracy of meter readings for all permit holders.	This Action Step was ongoing. Staff's efforts to issue final permits following the 2007 legislative change to the Authority's pumping cap delayed the implementation of meter reading improvements and on-line reporting. Staff was to address these issues in 2009.
5. Continue improvement of Authority's permit transfer program.	This Action Step was ongoing. Prior to issuing final permits based on the revised pumping cap, staff processed all pending permanent groundwater rights transfers. Staff made significant improvements in its permit transfer program and will continue to strive for reduced review times in 2009.
6. Review and update the Authority's Groundwater Management Plan for board adoption by September 1, 2008.	This Action Step was redirected. The Groundwater Management Plan was not due until March 2009 and thus it was rescheduled for board consideration and adoption in early 2009.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL B. MANAGE GROUNDWATER WITHDRAWALS (CONTINUED)

Edwards Aquifer Authority Act References: §§ 1.01; 1.08(a); 1.11(b); 1.14 – 1.22 and 1.26.

7. Review and update the Authority's Groundwater Conservation Plan and submit to the legislature before January 1, 2009.	This Action Step was completed. The Groundwater Conservation Plan (GCP) was updated to reflect rule changes adopted by the board in July 2008. The updated GCP was approved by the board in December and subsequently submitted to the legislature as required.
8. Carry out regulatory program regarding Groundwater Conservation Plans.	This Action Step was ongoing. Staff continued to implement a regulatory program to apply the GCP rules reflected in ch. 715, subch. C of the Authority's rules.
9. Re-evaluate Cibolo Creek transfer policy.	This Action Step was ongoing. The board authorized staff to prepare proposed rules as they relate to the transfers of groundwater withdrawal rights from west to east of Cibolo Creek, based on findings of the study: "Simulated Impacts Associated with Cibolo Creek Transfers using MODFLOW-NR and Senate Bill 3 Assumptions," and recommendations by staff and counsel.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL C. DEVELOP RECHARGE PROGRAM FOR IMPROVED AQUIFER MANAGEMENT AND ENVIRONMENTAL RESTORATION

Edwards Aquifer Authority Act References: §§ 1.08; 1.11(f)-(f-2); 1.26A(n); 1.44; and 1.45.

Action Step	Status
1. Complete Analysis of Recharge and Recirculation and gain board guidance on future direction of recharge program. *	This Action Step was ongoing. The completion date of the Analysis of Recharge and Recirculation study was extended to December 31, 2008, at the request of the contractor. The results were to be reported to the board and various stakeholder groups in early 2009.
* Note - all recharge components of Strategic Plan will be updated pending decisions by the board	
2. Participate in and support the Recovery Implementation Program (RIP) - Recharge Subcommittee.	This Action Step was completed. The Authority supported the EARIP Recharge subcommittee by hosting meetings and generally making information available as requested. The Authority plans to share with the EARIP results of the Analysis of Recharge and Recirculation, upon completion of the study in 2009.
3. Expand program to offer incentives for range management.	This Action Step was completed. In adopting the Authority's 2008 operating budget, the board approved funding to expand range management incentives for the Edwards Aquifer Contributing Zone in addition to the Recharge Zone. The Authority's contracting forms and website were updated to indicate that incentive funding is also available for the contributing zone. In 2008, Authority staff completed 15 incentive funding contracts covering 685.7 acres at a cost to the Authority of \$31,980.70 for recharge zone range management projects. No funding was requested for contributing zone range management projects.
4. Participate in the Cibolo Creek and Nueces Basin studies.	This Action Step was completed. The Authority attended meetings of both basin studies. However, the Nueces Study progressed slowly due to a lack of available funding from the U.S. Corps of Engineers (COE). In October, the Authority's board approved an interlocal agreement to become a funding partner in the Cibolo Creek study and committed to contributing \$309,958 for Phase III of the study, which will conclude in 2011.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY

Edwards Aquifer Authority Act References: §§ 1.01; 1.03(17) and (21); 1.08(a) and (c); 1.081; 1.11(d)(8), (10) and (11); 1.14(a)(1) and (2); 1.15(b); 1.27(b)(2); 1.35(c) and (d) and 1.44(b)(2) and (e).

Action Step	Status
1. Evaluate the need for additional water quality protection programs.	This Action Step was ongoing. A water quality trends analysis report originally scheduled for completion in 2008, was delayed to 2009. The report findings will provide a basis to evaluate the need for additional water quality protection programs.
2. Carry out existing regulatory programs for well construction and plugging, storage tanks, and well registration.	This Action Step was completed. As of 2008, regulatory programs for well construction and plugging, storage tanks, and well registration were fully functional as follows: <ul style="list-style-type: none">• Approximately 250 well construction permits and approximately 100 well plugging permits are issued per year.• Approximately 85 active facilities were regulated by the program. In July 2008, the board approved updated storage tank rules requiring all regulated facilities to registration with the Authority.• The well registration program was engaged in the process of verifying the condition and use of wells which have been registered with the Authority.
3. Perform Authority Conservation Easement Inspection Program.	This Action Step was completed. On a yearly basis, staff inspects each of the nine properties on which the Authority holds conservation easements. Pursuant to an interlocal cooperation agreement between the Authority and the City of San Antonio (City), staff also conducts conservation easement inspections for the City. Three City conservation easements were inspected by the Authority in 2008.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY (CONTINUED)

Edwards Aquifer Authority Act References: §§ 1.01; 1.03(17) and (21); 1.08(a) and (c); 1.081; 1.11(d)(8), (10) and (11); 1.14(a)(1) and (2); 1.15(b); 1.27(b)(2); 1.35(c) and (d) and 1.44(b)(2) and (e).

4. Administer the emergency plan for response to aquifer pollution events, with clarity about responsibilities and communications.	This Action Step was completed. The emergency plan for response to aquifer pollution events was prepared in 2007 and is maintained by the Authority's Aquifer Management Team.
5. Develop program for providing advice to those who fight fires on the recharge zone as specified in Section 1.081 of the EAA Act.	This Action Step was ongoing. Authority staff met with area fire fighters and fire marshals responsible for fighting fires on the recharge zone to gain input for the development of a regulatory concept memorandum that was to be drafted for board consideration in 2009.
6. Finalize hazardous materials storage rules and programs.	This Action Step was completed. Hazardous materials storage rules were approved by the board in March 2008 as ch. 713, subch. F of Authority rules. In June and July 2008, three staff members were hired to implement the program. Staff also worked to inform potentially regulated facilities about the rules and to take inventory of facilities that may be regulated by the rules.
7. Develop and publish an Authority report on the status of major spill events that have occurred over the Edwards Aquifer.	This Action Step was redirected. Authority staff developed a draft report, but a final report was not completed due to redirected priorities.
8. Administer Stormwater Best Management Plan inspection program initiated in 2007.	This Action Step was completed. Authority staff actively inspected stormwater Best Management Practices (BMPs) approved by the Texas Commission on Environmental Quality. The BMPs are designed to improve stormwater runoff quality at regulated facilities on the recharge zone. In 2008, staff conducted stormwater BMP inspections, with efforts focused in counties regulated by the Authority other than Bexar County. Stormwater BMP inspections in Bexar County are primarily conducted by the San Antonio Water System.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL E. IDENTIFY, PRIORITIZE, AND IMPLEMENT AUTHORITY'S RESEARCH AND TECHNOLOGY PROGRAM

Edwards Aquifer Authority Act Reference: § 1.27.

Action Step	Status
1. Further integrate Aquifer Science Advisory Panel into overall Research and Technology program.	<p>This Action Step was completed. The Aquifer Science Advisory Panel (ASAP) met twice in 2008. The ASAP provides input on Authority research and technology programs and the ASAP is being updated based on this input.</p>
2. Prepare biennial update of Aquifer Science Research Plan (ASRP).	<p>This Action Step was completed. The 2008 biennial update to the ASRP was drafted in 2008 and published in January 2009.</p>
3. Implement Aquifer Science Research Plan.	<p>This Action Step was completed. The Aquifer Science Research Plan was implemented in 2008 by implementing or completing the following projects included in the Authority's 2008 operating budget:</p> <ul style="list-style-type: none"> • Aquifer model improvement – adding the new Newton-Rastor (NR) solver, initiating work to combine the surface water model (HSPF) with the groundwater model (MODFLOW), initiating updates to the MODFLOW code to incorporate a dual continuum model (DCM), and updating input files based on refined data sets. • Flowpath/water balance studies - additional tracer testing in Kinney, Medina, and Hays counties and a geophysical investigation of the Frio River floodplain. • Support studies - completion of a Guadalupe River Gains/Loss Study by USGS, improved gauging systems at Comal and San Marcos springs, well hydrophysics studies, San Marcos Pool study and resulting report to the Restoration Implementation Program (RIP) Science Subcommittee, and a pilot study to improve water quality data using passive sampling devices.
4. Implement continuous improvement process for aquifer science data collection program.	<p>This Action Step was ongoing. In 2008, an expert geochemist was contracted to review the Authority's water quality sampling network and suite of parameters analyzed. The contractor provided a report to the Authority on recommendations for improvements to the program.</p>
5. Provide consultation and support to Authority programs and external programs as necessary.	<p>This Action Step was completed. Aquifer Science Program staff prepared geologic opinions of properties being considered for conservation easement purchases. In 2008, Aquifer Science Program staff also assisted with reviewing technical reports regarding Guadalupe River gains and losses, analysis of recharge and recirculation, and effects of transferring groundwater withdrawal rights to east of Cibolo Creek.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF

Edwards Aquifer Authority Act References: § 1.11(d)(5).

Action Step	Status
1. Continue office consolidation.	This Action Step was ongoing. At the direction of the board, staff continued to attempt to acquire additional property adjacent to the Authority's main building for future expansion. This expansion of the Authority's main building will allow staff to consolidate into one office building.
2. Enhance Authority technology.	This Action Step was completed. Staff made several important purchases in 2008 to enhance the Authority's technology. Staff acquired new records management software and accounting software to greatly improve efficiency. Staff also purchased new desktop computers for employees.
3. Review and enhance employee fringe benefit package to ensure competitiveness and posture the organization to retain talent.	This Action Step was completed. Effective for 2008, the Authority revised its employee retirement plan with the Texas Counties and Districts Retirement System to provide a 20-year service option for Authority employees. In addition, the Authority established a Retiree Health Savings program that provides employees with the ability to set aside funds to be used for medical expenses upon retirement. The Authority also renewed employee health insurance coverage in 2008.
4. Develop a prepared workforce by introducing employee training and development programs to coach employees for success in their career with the Authority.	This Action Step was ongoing. The Authority consistently provides funding for employees to obtain training in areas specific to their work area to introduce enhance employee training and development programs.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF (CONTINUED)

Edwards Aquifer Authority Act References: § 1.11(d)(5).

Action Step	Status			
5. Enhance staff diversity.	<p>This Action Step was ongoing. In September 2008, staff presented to the board its 2007 Diversity Report. The 2007 Diversity Report focused primarily on diversity based on race or ethnicity. The following table depicts the ethnic composition of San Antonio's population compared to the Authority's current staff, and the Authority's applicant pool for vacant positions.</p>			
	Ethnic Composition	San Antonio	EAA Staff	EAA Applicants
	White	41%	54%	41%
	Hispanic	50%	42%	49%
	Black	6%	3%	6%
	Other	2%	1%	4%

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL G. RAISE PUBLIC AWARENESS OF THE AUTHORITY

Edwards Aquifer Authority Act References: §§ 1.08(a); Tex. Water Code §§ 36.108(p); and 36.110.

Action Step	Status
1. Articulate the role of the Authority's programs in supporting the overall mission.	This Action Step was ongoing. A series of pamphlets explaining various aspects of the Authority's mission and programs, specifically living on the recharge zone, well ownership and a permit holder's guide, were initiated for completion in 2009.
2. Enhance the Authority's Education Program to reach more audiences.	This Action Step was completed. A new Doc Edwards Amazing Aquifer Adventure live skit was introduced in January to elementary age school children, and numerous presentations were held. In addition to schools, the character Doc Edwards has made appearances at agricultural fairs, community events, and libraries. In addition, a new elementary level video project featuring an animated version of Doc Edwards was approved by the board in September. A series of interpretive displays were designed and scheduled to be installed at three sites across the region in 2008. These sites are Cooks Slough in Uvalde, Landa Park in New Braunfels, and Aquarena Center in San Marcos.
3. Continue to implement and refine comprehensive public relations and community relations program for the Authority.	This Action Step was completed. In 2008, Authority staff visited with key members of the local media to ascertain their interest in and knowledge of aquifer-related issues. As a result, the Authority used the declaration of Critical Period in the summer as an opportunity to proactively engage the media and stakeholders in communicating important news about the aquifer. Staff also continued to provide regular updates on water-related news to the board, SCTWAC and staff in an effort to keep stakeholders abreast of major news topics.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2008

GOAL G. RAISE PUBLIC AWARENESS OF THE AUTHORITY (CONTINUED)

Edwards Aquifer Authority Act References: §§ 1.08(a); Tex. Water Code §§ 36.108(p); and 36.110.

Action Step	Status
4. Work with members of the Edwards Aquifer Legislative Oversight Committee (EALOC) and other legislators to inform them of Edwards Aquifer and Authority issues and programs.	This Action Step was completed. In 2008, the Authority met with various members of the Texas Legislature to report on various aquifer issues.
5. Enhance communications with federal, state and local elected and other officials and stakeholders in the region on Edwards Aquifer and Authority issues.	This Action Step was completed. The Authority engaged stakeholders, including permit holders, through workshops and public hearings held in relation to new hazardous materials rules, a general rules cleanup, and critical period rules changes. In addition, staff coordinated meetings with title companies and with county clerks to discuss issues related to the issuance of permits this year.
6. Expand outreach to community through a proactive speaker's bureau.	This Action Step was ongoing. Staff initiated development of a pamphlet and accompanying presentation on living on recharge zone for use in 2009.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

Goal A. SUSTAIN FEDERALLY-PROTECTED AQUIFER DEPENDENT SPECIES

Edwards Aquifer Authority Act References: §§ 1.01; 1.11(d)(9); 1.14(a) (6)-(8) and (h); 1.25(b)(3); 1.26; 1.26A and 1.27

Action Step	Status
1. Establish process for sharing information with the EARIP and stakeholder groups.	<p>This Action Step was completed.</p> <p>The Authority maintained consistent contact with the RIP program manager to discuss and provide information and the status report was presented to the board, the RIP , and subsequently the legislature as required by statute.</p>
2. Continue ecosystem and bio-monitoring at Comal and San Marcos springs.	<p>This Action Step was completed.</p> <p>In 2009, in addition to the regular monitoring, there were four special low flow bio-monitoring activities conducted (three at San Marcos and one at Comal). The results of regular and special event monitoring were present to the board and the RIP.</p>
3. Monitor and support Edwards Aquifer area science subcommittee.	<p>This Action Step was completed.</p> <p>Authority staff performed numerous groundwater modeling scenarios at the SSC chairman's request to assist the subcommittee with the critical period reduction analysis. Recommendations of the SSC that can be implemented by the Authority in the foreseeable future, such as groundwater model refinements, will be considered in the development of future strategic plans. Springflow recommendations of the SSC are still under consideration by the EARIP; therefore, the Authority did not taken any follow-up actions regarding minimum springflow recommendations. The Authority also provided data to the EARIP on a regular basis and all progress by the science subcommittee was reported monthly to board.</p>
4. Finalize the implementing agreement required by the Edwards Aquifer Authority Act by December 31, 2009.	<p>This Action Step was completed.</p> <p>The Authority and its general counsel were active participants in the Implementing Agreement discussions. The draft Implementing Agreement was approved at the Authority's October board meeting.</p>
5. Support operations of the EARIP as identified or requested.	<p>This Action Step was completed.</p> <p>The Authority remained an integral part of the Steering Committee, and contributed as follows:</p> <ul style="list-style-type: none"> • Provided its \$25,000 annual contribution for EARIP administrative expenses; • Served as the contract agent for the Hardy study, which was the first research effort of the EARIP; and • Created an internal EARIP coordinator and organized monthly briefings for Authority staff.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

Goal A. SUSTAIN FEDERALLY-PROTECTED AQUIFER DEPENDENT SPECIES (CONTINUED)

6. Participate in development of EARIP HCP and EIS.	This Action Step was completed. The Authority was an active participant in the HCP and EIS discussions, and the EARIP program manager and the Authority's representative to the EARIP each provided monthly reports to the board. Additionally, the Authority submitted its 2005 draft HCP to the EARIP.
---	--

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL B. MANAGE GROUNDWATER WITHDRAWALS

Edwards Aquifer Authority Act References: §§ 1.01; 1.08(a); 1.11(b); 1.14 – 1.22 and 1.26.

Action Step	Status
1. Continue program to increase the ease, efficiency, and accuracy of meter readings for all permit holders.	This Action Step was completed. In 2009, staff began installing new irrigation meters on volunteer wells and retrofitting the new meters with remote gauging hardware.
2. Continue to maintain Critical Period Management Plan consistent with criteria set forth in Sections 1.26 and 1.26A of the Edwards Aquifer Authority Act.	This Action Step was completed. Authority staff provided a report to the EARIP Science Sub Committee (SSC) on the evolution of Critical Period Management, including year 2008 implementation of the Authority's Critical Period Management Plan. Recommendations of the SSC that can be implemented by the Authority in the foreseeable future, such as groundwater model refinements, will be considered in the development of future strategic plans. Springflow recommendations of the SSC are still under consideration by the EARIP; therefore, the Authority has not taken any follow-up actions regarding minimum springflow recommendations. The Authority also declared stages I and II of critical period in 2009 and did not pursue any critical period rule revisions in 2009.
3. Continue to enhance conservation rules and programs.	This Action Step was completed. The Authority launched its conservation grant program by awarding grants to five permit holders in 2009. The Authority postponed the incorporation of the groundwater conservation plan into the rules.
4. Continue improvement of the Authority's permit program.	This Action Step was ongoing. In 2009, Authority staff reduced processing time for transfers to less than 60 days. However, this processing time has fluctuated and the current average is greater than 60 days. Staff records all permanent permit transfers into county records and, in 2009, also began exploring the feasibility of providing online access to permit information.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL B. MANAGE GROUNDWATER WITHDRAWALS (CONTINUED)

Action Step	Status
5. Continue and expand Authority well registration program.	This Action Step was completed. Authority staff evaluated exempt well rules and recommended revisions to clarify the rules. Rulemaking to edit the exempt well rules will be initiated in 2010. Well registration and inspection efforts were substantially completed in Hays County. Focused well inspection efforts shifted to southern Bexar County in late 2009.
6. Evaluate need to analyze permit transfers.	This Action Step was pending. The MODFLOW model was evaluated to evaluate transfer scenarios. Individual transfers are normally of a volume below the resolution of the current model. Extensive model refinements would be required before using the current MODFLOW model to analyze common transfer volumes. Additionally, transfers from east to west across Cibolo Creek were addressed in 2009 through the adoption of amended rules prohibiting groundwater rights transfers from west to east of Cibolo Creek, except under certain, narrowly defined conditions. Adoption of these rule amendments followed an assessment of the rule changes and public hearings on the subject.
7. Enhance reporting of annual withdrawals by documenting annual use by federal facilities within the Authority's jurisdiction.	This Action Step was completed. Federal facilities using Edwards Aquifer water were identified and entity contact information was derived to improve federal withdrawal reporting. As a result, specific pumping volumes for 2009 were obtained for each federal facility in the Authority's jurisdictional area.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL C. DEVELOP RECHARGE PROGRAM FOR IMPROVED AQUIFER MANAGEMENT AND ENVIRONMENTAL RESTORATION

Edwards Aquifer Authority Act References: §§ 1.08; 1.11(f)(f-2); 1.26A(n); 1.44; and 1.45.

Action Step	Status
1. Pursue a program of building recharge structures.	This Action Step was pending. Authority staff reviewed the statute and rules and initiated the rule revision process such that proposed rules would be provided to the board for their consideration in 2010. Further direction for the recharge program is pending the final report of the EARIP Recharge Committee. Authority staff also evaluated staffing needs and determined additional staff would be required, preferably an engineer, to initiate the recharge program in 2010.
2. Complete analysis of recharge and recirculation study.	This Action Step was completed. The results of the final report were presented to the board in February and were the focal point of discussion at special work session of the board in October.
3. Participate and support the Recovery Implementation Program (EARIP) - Recharge Facilities Feasibility Subcommittee.	This Action Step was completed. The Authority received no requests for technical support in 2009 and the report of the recharge feasibility subcommittee did not include any recommendations.
4. Continue to participate in the Cibolo Creek and Nueces Basin recharge feasibility studies.	This Action Step was completed. The Authority participated in various meetings related to the feasibility studies for the Cibolo and Nueces basin feasibility studies. In turn, the Aquifer Management Planning Committee received briefings from the USGS on the status of the modeling efforts. Additionally, the Authority and Guadalupe Blanco River Authority entered into an interlocal cooperation agreement whereby the Authority would provide cooperative funding for the Cibolo Creek feasibility study if needed. The studies had not progressed to a point where results were available for incorporation into a recharge program.
5. Continue overall research into recharge strategies.	This Action Step was ongoing. In 2009, the Authority provided cooperative funding for two brush control studies.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY

Edwards Aquifer Authority Act References: §§ 1.01; 1.03(17) and (21); 1.08(a) and (c); 1.081; 1.11(d)(8), (10) and (11); 1.14(a) (1) and (2); 1.15(b); 1.27(b)(2); 1.35 (c) and (d); and 1.44(b)(2) and (e).

Action Step	Status
1. Continue program for providing advice to those who fight fires on the recharge zone as specified in S.B. No. 585.	This Action Step was completed. Proposed rules that incorporated the components of S.B. No. 585 were prepared in 2009 for consideration by the board in 2010. Educational components of the program, such as guidance documents and workshops were scheduled to be implemented in 2010.
2. Continue to implement the hazardous materials storage program.	This Action Step was completed. The hazardous materials storage program was fully operational in 2009 pursuant to Authority rules, ch. 713, subch. F.
3. Carry out existing regulatory programs for well construction, well plugging, abandoned wells, storage tanks, and well registration (as identified under Goal B).	This Action Step was completed. Well registration efforts were substantially completed in Hays County. Numerous abandoned wells, non-exempt withdrawals, and unregistered wells were located in the process. Additionally, well registration staff was diverted to resolving cases in southern Bexar County that were identified during drought conditions. Meanwhile, focused well registration and inspection efforts in Comal County are expected to be initiated in 2011. Concepts were also developed for an Authority abandoned well closure program whereby the Authority will provide initial funding to resolve abandoned well cases. Activities for the abandoned well program will be initiated in 2010.
4. Develop a phased plan for a comprehensive water quality protection program.	This Action Step was ongoing. The water quality trends analysis report was finalized and presented to the board in 2009. Staff initiated drafting a comprehensive water quality protection plan to be considered by the board in 2010. The plan will include non-degradation concepts.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY (CONTINUED)

Action Step	Status
5. Develop impervious cover rules as early phase of plan.	This Action Step was pending. Authority staff prepared an impervious cover regulatory concept memorandum and presented the memo to the board for consideration. The board opted to delay further consideration of impervious cover regulatory concepts until 2010.
6. Continue support of Authority and City of San Antonio conservation easement purchase and monitoring programs to preserve properties on the recharge zone and drainage area.	This Action Step was ongoing. Authority staff prepared numerous geologic evaluations of properties and conservation easement monitoring plans for the City. Authority staff also initiated easement monitoring activities on properties for which the City approved the Authority-prepared easement monitoring plans. Authority staff monitored the eight properties on which the Authority holds conservation easements.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL E. IDENTIFY, PRIORITIZE, AND IMPLEMENT AUTHORITY'S RESEARCH AND TECHNOLOGY PROGRAM

Edwards Aquifer Authority Act Reference: § 1.27.

Action Step	Status
1. Implement Aquifer Science Research Plan.	<p>This Action Step was completed.</p> <p>The Aquifer Science Research Plan was implemented through the following projects:</p> <ul style="list-style-type: none">• MODFLOW model revisions were initiated by reviewing various input data files to evaluate accuracy and completeness. Updating the model with more recent (post year 2000) recharge and discharge datasets will be completed in future years, (plan for 2011).• HSPF and MODFLOW model integration was initiated but is pending various HSPF model refinements being performed by U.S. Army Corps of Engineers (COE) and Authority contractors.• Model re-calibration considering the DCM process was not initiated in 2009.• Geophysical surveys, aquifer biota, and tracer testing studies were ongoing in 2009.• Borehole hydrophysics studies were performed in 2009 with project reports to be finalized in 2010.• Laboratory methodologies for bacterial source studies were evaluated but research laboratory staff left the university involved (UTSA) prior to initiating data collection. Therefore, data collection for the parameters (bacteria source or PPCP) was not performed in 2009.• Passive water quality sampling studies were conducted in 2009 and a project review was performed by an Authority contractor in 2010. Certain types of passive sampling devices will be incorporated into the Authority's routine data collection activities.• The Authority sponsored the international Congress on Speleology in 2009.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

**GOAL E. IDENTIFY, PRIORITIZE, AND IMPLEMENT AUTHORITY'S RESEARCH AND TECHNOLOGY PROGRAM
(CONTINUED)**

Action Step	Status
3. Implement continuous improvement process for aquifer science data collection program.	This Action Step was ongoing. Authority studies have indicated that certain types of passive sampling devices combined with borehole hydrophysics data can be used to enhance sampling for short term groundwater quality changes. Additionally, the Authority completed the installation of six new rain gauges, bringing the total network to 84 stations throughout the region.
4. Implement baseline surface water quality studies in San Geronimo Creek Basin.	This Action Step was ongoing. Baseline surface water sampling was initiated in the San Geronimo Creek basin by collecting quarterly samples from three sites. Samples were analyzed for a comprehensive suite of parameters; however, a laboratory contract to have samples analyzed for endocrine disrupting compounds has not been finalized. Background information for tracer testing in the San Geronimo Creek basin is being developed but field activities have not been initiated.
5. Initiate study to evaluate Edwards Aquifer recharge potential from the Cibolo Creek Basin.	This Action Step was ongoing. Background information for tracer testing in the Cibolo Creek basin is being developed. Field observations for dye injection and monitoring points were initiated.
6. Initiate MODFLOW users group to make model more accessible to interested parties.	This Action Step was completed. A MODFLOW users group was developed for website application in 2010.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF

Edwards Aquifer Authority Act References: §§ 1.11(d)(5).

Action Step	Status
1. Continue office consolidation	This Action Step was completed. In 2009, the Authority acquired the key property necessary for renovation and expansion of its main office building. The houses located on adjacent property have been removed from the Authority's capital inventory and await removal and/or demolition. The Authority also hired Broadbus and Associates as the owner's representative for the Authority's main building renovation and expansion project and began the process for selecting a design-build team.
2. Promote and expand Authority's tuition reimbursement program.	This Action Step was ongoing. Staff continued to promote the tuition reimbursement program with employees. However, staff has not expanded the program to coursework beyond that which would improve performance on the job.
3. Introduce Leadership Succession Plan to ensure leadership continuity and transfer of institutional knowledge.	This Action Step was ongoing. In 2009, staff introduced a two-tiered supervisory training program: (1) one track targeted existing supervisors; and (2) the second track targeted employees that demonstrated potential to be promoted into supervisory positions. The training was designed to develop leadership and managerial skills and enhance communication between employees and supervisors. Additionally, staff introduced online employee training to allow non-supervisory staff the opportunity to enhance and gain critical skills needed for job success.
4. Introduce retirement planning seminars to employees.	This Action Step was completed. The Authority hosted representatives from TCDRS and ICMA, the Authority's retirement plan providers, to meet with employees regarding retirement planning and investment /savings strategies. Specifically, ICMA introduced a Managed Account feature into their program that allowed participants the ability to participate in an actively managed account feature based on their risk comfort and investment goals.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF (CONTINUED)

5. Enhance employee satisfaction and retention.	<p>This Action Step was completed.</p> <p>In 2009, the Authority conducted its triennial salary and benefits survey. As part of this survey, the Authority matches and contrasts comparable salary and benefits data with 12 benchmark organizations. The latest survey identified some positions that were below the salary market target and the Authority brought these select positions to the identified market target in 2010.</p> <p>Also in 2009, the Authority conducted employee focus group sessions to determine strategies for future benefit enhancements in the coming benefit plan years. Based on these sessions, the Authority has included in the 2011 General Manager's Proposed budget a comprehensive wellness program for employees that includes health screenings, flu shots, and pedometers to engage employees in more cardiovascular activities to improve overall health.</p>
6. Further efforts to enhance staff diversity.	<p>This Action Step was completed.</p> <p>In 2009, Authority staff delivered to the board the third annual Diversity and Recruitment Report for recruitment efforts that occurred in the calendar year 2008. Authority staff also met with representatives from area chamber of commerce to discuss avenues for recruitment and advertising position vacancies to enhance the Authority's applicant pool.</p>
7. Enhance Authority technology.	<p>This Action Step was completed.</p> <p>The Authority replaced notebook computers for directors and applicable staff in 2009; fField personnel were assigned "smart phones" to enhance connectivity; and the Authority purchased and implemented FileHold as a centralized records management system. FileHold is a web-based program that enhances the Authority's ability to make more records available online.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2009

GOAL G. RAISE PUBLIC AWARENESS OF THE AUTHORITY

Edwards Aquifer Authority Act References: §§ 1.08(a); Tex. Water Code §§ 36.108(p); and 36.110.

Action Step	Status
1. Clearly articulate the role of the Authority's programs in supporting the overall mission.	<p>This Action Step was completed.</p> <p>In 2009, the Authority introduced a series of new booklets to help educate permit holders and stakeholders about various aspects of the aquifer and continued to develop relationships with media across the region.</p>
2. Further enhance image of the Edwards Aquifer Authority.	<p>This Action Step was completed.</p> <p>The Authority initiated a redesign of the website to improve user functionality and ease of use. Staff also engaged a consultant to conduct stakeholder interviews to assess perceptions about the agency, its mission, and policies. The findings of this effort were reported to the board at its summer work session.</p>
3. Maintain and enhance proactive communications with key stakeholder groups including federal, state and local elected and other officials in the region on Edwards Aquifer and Authority issues.	<p>This Action Step was completed.</p> <p>The Authority's legislative consultants provided periodic communications to various congressional members and Authority staff met regularly with the House and Senate Natural Resources Committees and addressed issues related to legislative topics, namely amendments proposed to amend the Authority's jurisdictional boundary in Atascosa County. The Authority also provided testimony on various other matters, including a bill seeking funding for repairs to the Medina Lake Dam.</p> <p>Additionally, the Authority held three mayors meetings in February – one each in San Marcos, San Antonio and Hondo. Staff also continued to serve on the EARIP outreach subcommittee.</p>
4. Continue to refine education programs to reach more targeted audiences.	<p>This Action Step was completed.</p> <p>Authority staff engaged Region 20 Education Service Center as a partner in holding instructional video conferences for students across the region. Other educational program improvements included the addition of new support materials and presentations to the Doc Edwards elementary school program and the development of a new education video on the aquifer.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL A. SUSTAIN FEDERALLY-PROTECTED AQUIFER DEPENDENT SPECIES

Edwards Aquifer Authority Act References: §§ 1.01; 1.11(d)(9); 1.14(a) (6)-(8) and (h); 1.25(b)(3); 1.26; 1.26A and 1.27.

Action Step	Status
1. Support operations of the EARIP as identified or requested.	<p>This Action Step was completed.</p> <p>The Authority continued to meet regularly (more than monthly) and discuss relevant matters before the EARIP with the Program Manager and remained active in all work groups and subcommittees. Additionally, the Authority continues to contribute \$25,000 annually to the EARIP for administrative expenses. The 2011 EARIP status report will be presented to the Authority's Board of Directors at the regular December meeting for consideration.</p>
2. Continue ecosystem and bio-monitoring at Comal and San Marcos springs.	<p>This Action Step was completed.</p> <p>The Authority continues to fund the comprehensive and special-event bio-monitoring activities at Comal and San Marcos springs, including one high-flow monitoring event in 2010. The 2010 annual report was presented to the board and the named legislative members.</p>
3. Monitor and support Edwards Aquifer area science subcommittee, as applicable.	<p>This Action Step was completed.</p> <p>Monthly progress reports continued to be provided to the Executive Committee and board from the Program Manager and the Authority's representative to the EARIP Steering Committee. The science subcommittee has not been very active in 2010. However, Authority staff has provided information as requested. In addition, the Authority continued to provide technical support to the EARIP. In 2010, this consisted of responding to various groundwater modeling requests.</p>
4. Participate in development of EARIP HCP and EIS.	<p>This Action Step was completed.</p> <p>The Authority has been an active participant in all discussions related to the HCP and the EIS. Monthly progress reports have been provided to the board from the Program Manager and the Authority's representative to the EARIP Steering Committee. Several items, including covered action, geographic scope, covered species, term of the Incidental Take Permit and conceptual framework for an HCP were discussed at an August 24 special board meeting. In addition, the Dry Year Option has been well-received and a write-up has been submitted to the EARIP.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL B. MANAGE GROUNDWATER WITHDRAWALS

Edwards Aquifer Authority Act References: §§ 1.01; 1.08(a); 1.11(b); 1.14 – 1.22 and 1.26.

Action Step	Status
<p>1. Continue to improve the ease, efficiency, and accuracy of meter readings for all permit holders.</p>	<p>This Action Step was completed. In 2010, the Authority installed 185 irrigation meters as of August 27, and the Authority is reissuing a request for proposals to purchase additional meters. No additional new meters are expected to be installed the remainder of 2010. In addition, 91 conventional irrigation meters have been converted to automated reporting (AMR). The AMR “backbone” is still under development.</p> <p>The implementation plan for a voluntary remote metering program for M&I was postponed until the volunteer irrigation program is completed. However, remote metering of two M&I permit holders was implemented as a result of negotiated agreement (Crystal Clear and County Line Water Supply Companies). However, additional voluntary irrigators will be solicited with the Authority’s 2010 annual use reports to be mailed to permit holders in December 2010.</p> <p>Additionally, a new <i>How to Read a Meter</i> card was developed as a supplement for the <i>Permit Holder’s Guide</i> booklet.</p>
<p>2. Expand meter inspection program.</p>	<p>This Action Step was completed. Staff has met its stated goal of identifying and notifying three purveyors and will be reviewing their meters by the end of the year.</p>
<p>3. Continue to maintain Critical Period Management Plan consistent with criteria set forth in the Edwards Aquifer Authority Act.</p>	<p>This Action Step was completed. Staff continued to participate in the EARIP process and critical period management plan options were discussed with the board at its work session and the Aug. 24 special meeting of the board. However, determining the effectiveness of the Authority’s Critical Period Management Plan has proven to be difficult due to the number of possible variables. Staff is developing a work plan to evaluate the effectiveness of the plan.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL B. MANAGE GROUNDWATER WITHDRAWALS (CONTINUED)

4. Continue to enhance the Authority's conservation rules and programs.	<p>This Action Step was completed.</p> <p>The Groundwater Conservation Plan will be distributed to legislature by the end of the year. GCP status report forms were mailed to appropriate industrial permit holders and were due by June 30, 2010. Technical review of Industrial GCP Status reports is ongoing. Staff has referred GCP non-reporters to the Authority's Compliance Team for enforcement.</p> <p>Authority staff also is currently developing a process to re-evaluate reported irrigation efficiencies to determine continued compliance of the minimum 60% irrigation efficiency standard. However, any updates to the rules were postponed until 2011 due to reprioritization of the rulemaking schedule.</p>
5. Continue to implement and administer water conservation grants program.	<p>This Action Step was completed.</p> <p>The Authority awarded nine (9) conservation grants to seven (7) permit holders in 2010. Staff is developing a survey instrument seeking feedback from recent grant recipients and also is working on a joint funding agreement with the City of Devine to purchase and distribute 1,500 water conservation kits. Once developed, this JFA may serve as a model for the Authority to assist other water purveyors in the distribution of water conservation information.</p>
6. Continue improvement of Authority's permit transfer program.	<p>This Action Step was ongoing.</p> <p>Average transfer processing time is currently 99 days. This average processing time is higher than last year and above the aggressive goal set for 2010. Staff is currently evaluating the transfer process to identify where delays are occurring with the goal of improving the time necessary to process all types of permit transfers. In this regard, staff has begun exploring the possibility of accepting permit transfer applications electronically.</p> <p>Additionally, the permits program is being refined to make basic permit information available on the Authority's website by the end of 2010. This information will consist of permit number, entity number, entity name, authorized water rights (base, unrestricted, total), aquifer pool, and purpose of use. Users will be able to filter information to meet their needs. Making specific or customized permit information available online for individual permit holders is still under consideration.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL B. MANAGE GROUNDWATER WITHDRAWALS (CONTINUED)

7. Continue and expand Authority well registration program.	<p>This Action Step was ongoing.</p> <p>Concepts for changes to the exempt well rules are scheduled for presentation to the board for consideration by the end of 2010. Consequently, focused well registration efforts are not planned for Comal County until exempt well rule changes are considered by the board. In the meantime, well registration staff is primarily focusing on searching for and resolving abandoned well cases in Bexar County and developing improved well registration communication materials such as leave-behind door hangers for property/home improved letters and follow-up leave-behind materials that are engaging and informative.</p>
8. Continue to evaluate need to analyze permit transfers.	<p>This Action Step was pending.</p> <p>Staff plans to perform groundwater modeling for this task in late 2011 after making refinements to the current model. Future strategies will be developed based on outcomes of groundwater modeling.</p>
9. Assess effectiveness of groundwater withdrawal permits.	<p>This Action Step was pending.</p> <p>Staff has discussed the concept of evaluating the effect of groundwater withdrawal permits on permit holder use internally and with a prospective consultant. Development of a scope of work is proving to be difficult and staff is reconsidering whether such a study will result in useful information.</p>
10. Establish a long-term financial forecast to meet the Authority's programmatic needs.	<p>This Action Step was ongoing.</p> <p>Staff is developing a letter agreement with PFM to develop a 10-year revenue and expense projection model. This work is expected to be completed by October 31. Staff will then consider whether to hold public meetings on the fee projections based on the results of the study.</p> <p>The board also approved proposed rules in 2010 regarding the concept of special fees and these rules are currently pending public comment. Rules regarding a special fee related to well capping are also currently under consideration.</p>
11. Evaluate Dry Year option program.	<p>This Action Step was ongoing.</p> <p>Authority staff helped direct a workgroup of the EARIP focusing on the Dry Year option as a potential HCP component. Further development will be contingent upon EARIP determination of whether or not to include in HCP.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL C. DEVELOP RECHARGE PROGRAM FOR IMPROVED AQUIFER MANAGEMENT AND ENVIRONMENTAL RESTORATION

Edwards Aquifer Authority Act References: §§ 1.08; 1.11(f)(f-2); 1.26A(n); 1.44; and 1.45.

Action Step	Status
1. Initiate a recharge program for the primary purpose of supporting flows at San Marcos and Comal springs.	<p>This Action Step was ongoing. A recharge program for the Authority has yet to be fully articulated, however, efforts to initiate a recharge program included the following activities in 2010:</p> <ul style="list-style-type: none"> • Advertised twice for a staff engineer without success. A renewed effort will be initiated following the instructions received at the August 13-15 work session. • The recharge rules, Ch. 711, subch. J were reviewed for potential revisions, however, this effort has been tabled pending outcomes of the EARIP. • The Authority continued to participate in brush control activities.
2. Continue participation in the Cibolo Creek and Nueces Basin studies. <i>(Note, this Action Step may be folded into Action Step 1 in the future).</i>	<p>This Action Step was completed. Authority staff continued to participate in stakeholder meetings of the Cibolo and Nueces basin feasibility studies. The Authority is a cooperative partner of the Cibolo Creek study with the Corps of Engineers (COE) and receives periodic reports from the COE. The Authority has provided funds for refinements to the HSPF model for the COE. There has been no reported activity on the Nueces Basin study.</p>
3. Participate in and support the EARIP- Recharge Facility Feasibility Subcommittee.	<p>This Action Step was pending. The subcommittee has not been active in 2010 and has not made any requests to the Authority. As the study moves closer to completion, the Authority, and other partners who are EARIP participants, will make sure the results are completely provided to the EARIP.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY

Edwards Aquifer Authority Act References: §§ 1.01; 1.03(17) and (21); 1.08(a) and (c); 1.081; 1.11(d)(8), (10) and (11); 1.14(a) (1) and (2); 1.15(b); 1.27(b)(2); 1.35 (c) and (d); and 1.44(b)(2) and (e).

Action Step	Status
1. Administer program for providing advice to those who fight fires on the recharge zone as specified in S.B. No. 585.	<p>This Action Step was ongoing.</p> <p>Rulemaking pursuant to S.B. No. 585 was completed in June 2010. Requirements of the regulated community set forth in the new rules (§713.513) are due to the Authority in mid-December 2010. Staff is also working to develop the required education components of the new program.</p>
2. Implement abandoned well closure program.	<p>This Action Step was ongoing.</p> <p>The Authority appropriated \$350,000 in 2010 to establish the Abandoned Well Closure Fund. Preliminary program procedures have been developed as reported to the board at the summer work session and processing of abandoned well compliance issues has been suspended, pending the finalization of this program.</p> <p>The Authority also is considering whether to seek reimbursement from those well owners who cannot afford expenses associated with closing abandoned wells. In this regard, staff is in the process of:</p> <ul style="list-style-type: none"> • Selecting qualified firms to conduct well logging and well closing services. • Holding discussions with non-profit organizations that may be able to certify the ability of certain well owners to repay the Authority's costs for well closure <p>Additionally, the General Manager's 2011 Proposed Operating Budget includes appropriation of an additional \$350,000 in 2011, and staff plans to submit an application for a federal Clean Water Act 319 grant in fall 2010.</p>
3. Implement phased plan for a comprehensive water quality protection program.	<p>This Action Step was ongoing.</p> <p>A draft plan was presented to the board during its summer work session. Future regulatory and non-regulatory program concepts as approved by the board in October will be presented for rules development in 2011.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL D. IMPLEMENT AND EXPAND INITIATIVES TO PROTECT WATER QUALITY (CONTINUED)

4. Develop impervious cover rules.	<p>This Action Step was redirected.</p> <p>In February, the board approved an impervious cover regulatory concept memorandum and authorized staff to conduct a regulatory assessment of the concepts. The preliminary findings of the assessment were presented to the board at its summer work session. The final assessment report was presented to the Aquifer Management Planning Committee in September, and in October the board voted to pursue a water quality regulatory program based on Best Management Practices in stormwater management to prevent water quality degradation instead of impervious cover limits. Therefore the development of impervious cover rules will not be necessary.</p>
5. Continue to support efforts to preserve properties on the recharge zone and drainage area.	<p>This Action Step was ongoing.</p> <p>Authority staff supports the City of San Antonio's Edwards Aquifer land acquisition program pursuant to an interlocal agreement between the Authority and the City. In 2010, will perform 10 property inspections for the City and prepare monitoring plans for 24 additional properties. In 2010, staff also has performed one geologic assessment for Trust for Public Lands for a property in Hays County. Additionally, the board adopted a resolution in support of the City of San Antonio's Proposition 1 initiative to continue a tax initiative to fund the purchases of lands and conservation easements on the recharge zone. Staff also has proposed \$250,000 for land acquisition within the 2011 proposed budget.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL E. IDENTIFY, PRIORITIZE, AND IMPLEMENT AUTHORITY'S RESEARCH AND TECHNOLOGY PROGRAM

Edwards Aquifer Authority Act Reference: § 1.27.

Action Step	Status
1. Continue to Implement Aquifer Science Research Plan.	<p>This Action Step was ongoing.</p> <p>Activities aimed at implementing the Aquifer Science Research Plan in 2010 include the following:</p> <ul style="list-style-type: none">• ASRP document will be updated by end of 2010.• Discussions and sharing of information with EARIP is ongoing.• MODFLOW and HSPF model updates are ongoing but will not be completed in 2010.• Geophysical surveys, and aquifer biota studies also are in progress.• Aquifer retention analysis work will be initiated in 2010 by installing additional water level recorders near existing structures.• Flowpath studies by tracer testing are being conducted in Kinney, Bexar, and Hays counties.• Hydrophysics program is ongoing; eight wells have been surveyed and report preparation is in progress. In November, a contract renewal to continue the work will be presented to the board.

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

**GOAL E. IDENTIFY, PRIORITIZE, AND IMPLEMENT AUTHORITY'S RESEARCH AND TECHNOLOGY PROGRAM
(CONTINUED)**

<p>2. Continue Implementation of continuous improvement process for aquifer science data collection program.</p>	<p>This Action Step was ongoing. Activities addressing this action step include the following:</p> <ul style="list-style-type: none"> • Three years of passive sampling data have been collected using two types of passive samplers. A data evaluation report has been prepared and the method will be incorporated into the water quality sampling program for select parameters. • Twelve additional rain gauges will be installed in 2010 and evapotranspiration data collection methods are being evaluated. • The hydrophysics program is being used to identify sentinel monitoring wells as recommended in the water quality trends report. In 2010, one stormwater sampling station has been established in Bexar County (Lorence Creek station on recharge zone) • The 2009 water quality trends report recommended long-term monitoring at select monitoring well locations to better identify and document trends. Sampling plans are being modified using hydrophysics data to identify ideal monitoring intervals in available monitoring wells. • Existing sampling protocols are being enhanced by adding more temperature, level and conductivity probes to identify recently recharged storm pulses at monitoring wells on and near the recharge zone. Once storm pulse timing is identified at a specific monitoring well, future sampling events can be timed to coincide with stormwater influences. Passive sampling devices are also being used to investigate water quality changes related to transient (short-term) water quality changes.
<p>3. Implement baseline surface water quality studies in San Geronimo Creek Basin.</p>	<p>This Action Step was ongoing. Baseline water quality sampling has been conducted in San Geronimo Creek at three sampling locations. PPCP data will be collected in the fall of 2010, pending laboratory agreements. Staff is also working with Texas A&M scientists to identify the best evapotranspiration data collection and analysis methods. Method selection will be complete in 2010 and equipment purchases are proposed in the 2011 draft budget.</p>
<p>4. Continue study to evaluate Edwards Aquifer recharge potential from the Cibolo Creek Basin.</p>	<p>This Action Step was ongoing. Field surveys for tracer testing in Cibolo Creek have been initiated on Camp Bullis property. However, monitoring network and dye injection sites have not been finalized. Once tracer testing and other studies to evaluate Edwards Aquifer Recharge from the Cibolo Creek Basin are under way, staff will report study progress to the board. Staff estimates such a report can be provided in mid-2011.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF

Edwards Aquifer Authority Act References: §§ 1.11(d)(5).

Action Step	Status
1. Continue office consolidation.	<p>This Action Step was ongoing. The Authority selected the design-build team of Bartlett Cocke/Kell Munoz early in 2010. Kell Munoz has completed Schematic Design and is in the Design Development phase of the Authority's main building expansion and renovation. The design-build team will be presenting concepts and layouts for the board meeting room to the ad hoc building committee at their September 2010 meeting in order to finalize design development.</p> <p>Authority staff and representatives of Broaddus and Associates, the Authority's project manager, have concluded meetings with cross functional team of Authority staff to receive input and finalize design on space and storage needs. As the design-build team finalizes design and construction drawings and moves into construction, Authority staff will be kept apprised of progress and building updates as appropriate. Staff has also met with design consultants to begin finalizing office layouts and furniture, fixture, and equipment needs for the Authority's new facility.</p>
2. Improve professional development of Authority staff.	<p>This Action Step was ongoing. Beginning in 2009, the Authority initiated an Employee Development and Training program that called for two tracks: (1) for up-and-coming supervisors in order to prepare for succession into management positions with the Authority and (2) leadership training for current management and supervisory staff. In 2010, this program continued with the addition of a separate track for leadership training for executive staff. Also, the Authority introduced online, self-paced training program for non-supervisory staff to initiate training opportunities in areas such as customer service, business writing and communication, as well as technical training in Microsoft office products such as MS Word, and Excel.</p> <p>Staff also has examined various job progression steps for select positions within the Authority. Where practical, staff will implement these initiatives to provide further career path development for staff in order to effectively nurture and grow talent within the Authority.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL F. NURTURE AND DEVELOP EDWARDS AQUIFER AUTHORITY STAFF (CONTINUED)

<p>3. Determine strategic market target of EAA compensation to the relative market place.</p>	<p>This Action Step was ongoing. Staff presented information on the posturing of the Authority's salary structure to the board at its August work session. Staff will continue this discussion with the Finance/Administrative Committee and board in September and October. The 2011 proposed budget does not include funding for revisions to the Authority's salary structure.</p> <p>At the August work session, staff presented the concept of moving from a triennial salary market analysis to an annual review of salaries for Authority jobs. As part of this annual analysis, staff will review and update job requirements and duties as appropriate in order to more equitably match Authority jobs to similar positions in the marketplace.</p>
---	---

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL G. RAISE PUBLIC AWARENESS OF THE AUTHORITY

Edwards Aquifer Authority Act References: §§ 1.08(a); Tex. Water Code §§ 36.108(p); and 36.110.

Action Step	Status
1. Clearly articulate the role of the Authority's programs in supporting the overall mission.	<p>This Action Step was ongoing. In 2010, the Authority addressed this action step as follows:</p> <ul style="list-style-type: none"> • Obtained analysis of current EAA website(s) and supporting published materials and determined areas of strengths and weaknesses; currently in the process of prioritizing next steps and forming action plan • Met with consultant to plan launch of Discover the Edwards Aquifer Comal Springs & River program; developing corresponding activities to further enhance understanding; and partnering with area organizations and agencies to plan supporting events. • Investigated possibilities for partnerships with public venues. • Conducted two daylong speaker training workshops with consultant Mary Rauch. Feedback from participating staff was overwhelming positive; plan to continue training in small, focused groups held offsite to prevent constant interruptions. • Initiated outreach to community organizations and homeowner associations on the RZ; speaking engagements are being scheduled
2. Further enhance image of the Edwards Aquifer Authority.	<p>This Action Step was ongoing. The Authority is attempting to further enhance its image through the following:</p> <ul style="list-style-type: none"> • Engaged consultant Redhill Group to conduct a benchmark survey of the public's attitudes and perceptions of the Authority and the aquifer. • Continued to refine community outreach, speaking events, and partnerships with reciprocal/relevant organizations to maximize effect. Conservation-oriented activities are proposed for 2011. • Engaged consultant to assist with development of a web/social media marketing plan
3. Maintain and enhance proactive communications with key stakeholder groups including federal, state and local elected and other officials and stakeholders in the region on Edwards Aquifer and Authority issues.	<p>This Action Step was ongoing. The General Manager has met with several key legislators since joining the Authority in March. Additionally, the Authority testified to the House Natural Resources Committee on April 15 and the House Select Committee on Special Purpose Districts on August 19. Public hearings with stakeholders and individual meetings with various public officials have also been held across the region. The Authority's team of legislative consultants has met w/federal and state officials regarding securing funds for well closing activities.</p>

Edwards Aquifer Authority Report of Accomplishments
October 2008-October 2010

Calendar Year 2010

GOAL G. RAISE PUBLIC AWARENESS OF THE AUTHORITY (CONTINUED)

<p>4. Enhance the Authority's Education Program to reach more audiences.</p>	<p>This Action Step was ongoing. Enhancements to educational programming include:</p> <ul style="list-style-type: none">• Revised middle school student book due for completion in fall 2010.• New partnership with UTSA for 2011 Water: A Living Lesson.• Exploring partnership with McKenna New Braunfels Children's Museum.• Launched Count Early reader book, Doc Edwards Rock Star! Book and live show; completed Discover the Edwards Aquifer book, and added new elements to Doc Ed website.• Completion of "Drop Inside the Edwards Aquifer" video scheduled for October.• Completed "Discover the Edwards Aquifer: Comal River" Workbook.
--	--

ATTACHMENT 2
LITIGATION SUMMARY FOR THE 2010 SCTLWAC EAA ASSESSMENT
REPORT

LAW OFFICE OF
JOHN J. VAY

512.669.5069 tel
888.569.5069 fax

john@vay.net

November 3, 2010

Mr. Tom Brown
Naismith Engineering, Inc.
600 West 8th Street, Suite 300
Austin, TX 78701

Re: EAA Effectiveness Report – *Edwards Aquifer Authority v. Day*

Dear Mr. Brown:

In support of Naismith Engineering, Inc.'s preparation of the current Edwards Aquifer Authority Effectiveness Report, the following is a brief discussion of *The Edwards Aquifer Authority and The State of Texas v. Burrell Day and Joel McDaniel*, which is currently pending before the Supreme Court of Texas (Case No. 08-0964).

The predominant legal issue in the *Day* case is whether an owner of real property owns the groundwater in place beneath his property or, alternatively, owns the groundwater only after it has been physically captured. Property rights advocates are urging the former while certain groundwater conservation districts urge the latter – the final resolution of which will affect the viability of constitutional “takings” claims by landowners who are denied the right to capture groundwater. Despite the huge political buildup, the Texas Supreme Court could potentially side-step the contentious ownership-in-place and constitutional takings dispute by focusing on other case-specific issues (e.g., the regulatory status of produced groundwater discharged into a watercourse and diverted downstream for irrigation).

In the *Day* case, the EAA issued an irrigation permit to Day and Burrell (the applicants) authorizing the production of fourteen acre-feet of groundwater in Atascosa County. The applicants had originally requested 700 acre-feet of water based on historical use, which included the pumping of groundwater into a ditch that flowed into a surface water impoundment from which commingled water was withdrawn for the irrigation of 300 acres of land. EAA determined that the commingled water withdrawn from the impoundment should be classified as surface water subject to appropriation by the State of Texas, not produced groundwater for which an irrigation permit could be issued by EAA. The applicants appealed the adverse EAA decision to the District Court in Atascosa County, which summarily dismissed their several constitutional claims but reversed the EAA's permitting decision on the classification and quantity of water authorized. Both parties appealed the District Court's decision to the Texas Court of Appeals in San Antonio, which reversed the lower court's invalidation of EAA's permitting decision, reversed the summary dismissal of the applicants' constitutional “takings” claim, and affirmed the summary dismissal of the applicants' remaining constitutional claims (e.g., deprivation of due process and equal protection).

710 W. 14TH STREET ~ SUITE A
AUSTIN, TEXAS 78701
WWW.VAY.NET

Although it is difficult to predict what a majority of the nine Justices will ultimately decide in the *Day* case, the Texas Supreme Court previously ruled in the *Barshop* case that EAA's enabling statute is not unconstitutional on its face (*i.e.*, a 'facial' constitutional challenge). The *Barshop* decision left open the possibility that EAA's statute as applied in specific cases could be found unconstitutional (*i.e.*, an 'as applied' constitutional challenge). A variety of positions have been articulated in the *Day* case by the litigants and numerous *amici curiae* as to how the EAA's actions are either constitutional or unconstitutional when a landowner's application for a permit to produce groundwater is partially or wholly denied. Because a landowner's constitutional takings claim requires a vested right, most of the legal arguments have focused on the point at which a landowner's rights in groundwater actually become vested.

Some litigants and *amici* have argued that groundwater is owned in place beneath the surface (absolute ownership) and that a vested property right exists prior to any physical capture of the groundwater. Others have argued that no actual ownership or vested property right exists until the groundwater is physically captured. Still others have asserted that exempt and historical groundwater uses are the only vested rights that remain following the Legislature's enactment of the EAA statute under the "conservation amendments" to the Texas Constitution. Although the Texas Supreme Court is unlikely to invalidate the EAA's statutory and regulatory permitting scheme in the *Day* case, the Court's decision on the ownership-in-place and vested rights dispute could determine the viability of 'as applied' constitutional takings claims against the EAA. Depending on how narrowly the Court draws its opinion in the *Day* case, the resulting assertion of constitutional takings claims by landowners could lead to substantial litigation in the short-term as the limits of such claims are tested in the lower courts. Of course, not every landowner who is wholly or partially denied a groundwater permit by EAA would be able to demonstrate that he has been unconstitutionally deprived of a reasonable investment-backed expectation that groundwater can be produced. The general legal viability of such takings claims does not automatically or necessarily translate into an award of damages.

Based on my assessment of the various courts' decisions and the briefs submitted by the litigants and *amici* in the *Day* case, it appears more likely that the Texas Supreme Court will affirm the rule of absolute ownership of groundwater as enunciated in the *East* case; leave intact the rule of capture as discussed in the *Sipriano* case; affirm the 'facial' constitutional validity of the EAA statute as enunciated in the *Barshop* case; recognize the general viability of 'as applied' constitutional takings claims as preserved in groundwater district statutes; and suggest limitations on the circumstances in which the investment-backed expectations of persons other than exempt or historical groundwater users might reasonably exist following passage of the EAA statute (*e.g.*, legislatively mandated limits on total withdrawals and other statutory restrictions on the development of groundwater under the State's general 'police powers' could render investment-backed expectations unreasonable). In regard to the applicants' remaining constitutional claims, it is less likely that the Supreme Court would overturn the portion of the Court of Appeals decision which affirmed the District Court's dismissal of the applicants' due process and equal protection complaints about the EAA hearing process.

**THE SUPREME COURT OF TEXAS
ELECTRONIC BRIEFING
08-0964
THE EDWARDS AQUIFER AUTHORITY v. DAY**

Links to Ebriefs (PDF) currently available:

1. Day - Petition for Review [1.23 MB] | Appendix [4.27 MB] - Filed: 01/30/2009
2. State - Petition for Review - Filed: 02/02/2009 [712 KB]
3. EAA - Petition for Review - Filed: 02/02/2009 [3.54 MB]
4. Amicus Brief - Medina County Irrigators Alliance - Received: 03/03/2009 [497 KB]
5. EAA - Response to Petition - Filed: 03/04/2009 [1.17 MB]
6. Amicus Brief - Angela Garcia - Received: 03/06/2009 [149 KB]
7. Amicus Brief - City of Victoria - Received: 03/30/2009 [988 KB]
8. Amended Amicus Brief - Medina County Irrigators Alliance - Received: 04/08/2009 [489 KB]
9. Amicus Brief - Texas Farm Bureau - Received: 04/29/2009 [0.99 MB]
10. Amicus Brief - HGSD - Received: 05/01/2009 [941 KB]
11. Day - Response to State's Petition - Filed: 05/05/2009 [875 KB]
12. Day - Response to EAA's Petition - Filed: 05/05/2009 [931 KB]
13. Amicus Brief - Texas and Southwestern Cattle Raisers Association - Received: 05/05/2009 [494 KB]
14. State - Response to Petition - Filed: 05/06/2009 [441 KB]
15. State - Reply in Support of Petition - Filed: 05/20/2009 [298 KB]
16. EAA - Reply to Response to Petition - Filed: 05/20/2009 [1.76 MB]
17. Amicus Brief - The Alliance of EAA Permit Holders - Filed: 06/08/2009 [221 KB]
18. Supplement to Amicus Brief - The Alliance of EAA Permit Holders - Received: 06/09/2009 [121 KB]
19. Supplement to Amicus Brief - The Alliance of EAA Permit Holders - Received: 06/18/2009 [76.9 KB]
20. EAA - Petitioner's Brief on the Merits - Filed: 09/18/2009 [2.53 MB]
21. State - Petitioner's Brief on the Merits - Filed: 09/18/2009 [1.47 MB]
22. Day - Petitioners' Brief on the Merits - Filed: 09/18/2009 [5.35 MB]
23. Amicus Brief - Canadian River Municipal Water Authority - Received: 10/27/2009 [2.52 MB]
24. Day - Respondent's Brief to State's Brief - Filed: 10/30/2009 [931 KB]
25. Day - Respondent's Brief to EAA's Brief - Filed: 10/30/2009 [1.73 MB]
26. EAA - Respondent's Brief on the Merits - Filed: 11/02/2009 [6.34 MB]
27. Joint Amicus Brief - Texas Farm Bureau & Texas Cattle Feeders Association - Received: 11/02/2009 [1.14 MB]
28. State - Respondent's Brief on the Merits - Filed: 11/02/2009 [920 KB]
29. Amicus Letter - Texas Comptroller of Public Accounts - Received: 12/15/2009 [1.72 MB]
30. EAA - Reply Brief - Filed: 12/17/2009 [1.10 MB]
31. State - Reply Brief - Filed: 12/17/2009 [1.53 MB]
32. Day - Reply Brief to State's Response Brief - Filed: 12/17/2009 [705 KB]

33. Day - Reply Brief to EAA's Response Brief - Filed: 12/17/2009 [3.32 MB]
34. Amicus Brief - Texas Wildlife Association - Received: 01/12/2010 [173 KB]
35. Amicus Brief - Angela Garcia - Received: 01/26/2010 [1.23 MB]
36. Amicus Brief - Harris-Galveston Subsidence District - Received: 02/01/2010 [213 KB]
37. Amicus Brief - Mesa Water - Received: 02/10/2010 [127 KB]
38. Amicus Brief - Texas Landowners Council - Received: 02/12/2010 [211 KB]
39. Amicus Brief - Pacific Legal Foundation - Received: 02/12/2010 [135 KB]
40. Amicus Brief - Bragg - Received: 02/16/2010 [7.54 MB]
41. Amicus Letter Brief - City of Amarillo - Received: 02/16/2010 [393 KB]
42. Amicus Letter Brief - City of El Paso - Received: 02/16/2010 [3.84 MB]
43. EAA - Petition for Writ of Mandamus - Filed: 03/05/2010 [176 KB]
44. Day - Response to Post-Submission Letter Brief - Filed: 03/18/2010 [18 KB]
45. Amicus Post-Submission Letter - Bragg - Received: 05/10/2010 [21 KB]
46. Amicus Letter Brief - Bragg - Received: 05/25/2010 [30 KB]
47. Post-Submission Amicus Brief - Texas Alliance of Groundwater Districts - Received: 05/28/2010 [142 KB]
48. Amicus Letter - Duncan - Received: 06/03/2010 [74 KB]
49. State - Post-Submission Brief - Filed: 06/10/2010 [78 KB]
50. Day - Response to Amicus Brief - Filed: 06/10/2010 [233 KB]
51. Day - Response to Post-Submission Brief - Filed: 06/28/2010 [432 KB]
52. Amicus Letter - Texas Farm Bureau - Received: 07/09/2010 [22 KB]
53. EAA - Response to Amicus Letter - Received: 08/30/2010 [265 KB]

If such is the case, the Texas Supreme Court would affirm that portion of the Court of Appeals decision reversing the lower court's summary dismissal of the applicants' constitutional takings claim and remand the matter back to the District Court for a civil trial on the takings claim. A potential issue on remand is whether the applicants' inability to obtain a permit for the full amount of the requested groundwater partially resulted from the applicants' own failure to meet their burden of proof during the EAA hearing, rather than any constitutional infirmity (e.g., historical irrigation of 150 rather than 300 acres). On remand, consideration must also be given to whether a total or substantial deprivation is necessary to support an award and the method of calculating damages for any such taking. These types of issues would not be resolved in the Texas Supreme Court's current opinion, because they are not directly before the Court.

Instead of resolving the ownership-in-place, vested rights, and constitutional takings issues under the facts of the *Day* case, the Texas Supreme Court might side-step these politically explosive issues. It could potentially do so by narrowly reversing that portion of the San Antonio Court of Appeals' decision which overturned the District Court's order reversing EAA's denial of the applicants' full groundwater request (e.g., by determining that produced groundwater conveyed to the surface water impoundment should have been considered in calculating the historical usage). In so doing, the Texas Supreme Court would have to tread on other potentially thorny ground (e.g., the extent to which groundwater might retain its essential character despite being commingled with surface water). To prevent substantial upheaval in the State's current surface water appropriation system, the Court would need to carefully navigate within the specific facts of the *Day* case, so as to avoid characterizing spring flows or groundwater-derived wastewater discharges in streams as non-surface waters (e.g., by relying on historical well production and physical capture of groundwater, engineered conveyance of produced groundwater into an impoundment located on the same tract, and retrieval of stored groundwater for agricultural irrigation by the producer). In short, the Court's majority opinion could potentially characterize the actions of the applicants' predecessors as historical use of groundwater that is protected under EAA's enabling statute, thereby necessitating a remand of the matter back to EAA for further proceedings and rendering moot the ownership-in-place, vested rights, and constitutional takings issues raised by the applicants. In their various concurring and/or dissenting opinions, the Justices might include some explanatory or informative dicta on those issues to loosely guide future lower court actions.

If the EAA ultimately prevails in the *Day* case, one of the possible constitutional checks on its ability to deny or restrict a landowner's right to pump groundwater (i.e., takings claims) would largely be abolished. Although potentially relevant, that result is not necessarily dispositive of any legal claims potentially arising from other EAA permitting decisions (e.g., denial of requests to change the place or manner of use of groundwater previously authorized for withdrawal) which would be subject to additional legal considerations beyond those presented in the *Day* case. If, on the other hand, the permit applicants were to prevail in the *Day* case, EAA could be faced with the prospect of multiple constitutional takings claims. If any number of those claims is ultimately successful, EAA would be obligated to pay substantial monetary damages to claimants – resulting in increased operating costs and fees – and undetermined amendments to EAA's enabling statute might be necessary to provide some relief

and avoid future claims. The mere viability of constitutional takings claims as announced by the Texas Supreme Court could also lead EAA to adopt a much more cautious approach to the denial of applications to produce or use groundwater. Under either scenario, if the rule of capture is largely left intact by the Court, liabilities as between competing groundwater withdrawals (whether in the same or interconnected water-bearing formations) should not be affected.

In conclusion, the *Day* case presents the Supreme Court of Texas with an opportunity to fundamentally alter the landscape of Texas groundwater law. That having been said, I do not presently expect a majority of the Justices to support a decision that would directly invalidate the EAA statute or rules, substantially alter the rule of capture, or altogether preclude 'as applied' constitutional takings claims by affected landowners. The Court is more likely to allow EAA's current statutorily prescribed groundwater regulatory regime to remain in place subject to limited takings claims by property owners whose vested rights, in the form of reasonable investment-backed expectations, are fully frustrated by the EAA's decisions. Alternatively, the Court might decide the *Day* case on other legal grounds (e.g., historical use of commingled groundwater) to obviate any need to resolve these politically explosive issues under the present facts. In either event, there would not be an immediate or fundamental change in EAA's operations; however, the acknowledgement of groundwater ownership-in-place, coupled with the viability of constitutional takings claims, would lead to robust litigation and more cautious decision making by EAA until the legal limits of such claims are judicially established.

Attached hereto for your convenience is a copy of the Texas Court of Appeals (Fourth District – San Antonio) underlying decision in the *Day* case, and a listing of the numerous briefs submitted to the Texas Supreme Court in Case No. 08-0964. Please do not hesitate to contact me should you wish to further discuss these matters.

Sincerely yours,



John J. Vay

Enclosures

OPINION

No. 04-07-00103-CV

EDWARDS AQUIFER AUTHORITY,

Appellant/Cross-Appellee

v.

Burrell DAY and Joel McDaniel,

Appellees/Cross-Appellants

From the 218th Judicial District Court, Atascosa County, Texas

Trial Court No. 04-04-0294-CVA

Honorable Donna S. Rayes, Judge Presiding

Opinion by: Steven C. Hilbig, Justice

Sitting: Karen Angelini, Justice

Phylis J. Speedlin, Justice

Steven C. Hilbig, Justice

Delivered and Filed: August 29, 2008

AFFIRMED IN PART; REVERSED AND RENDERED IN PART; REVERSED AND REMANDED IN PART

All parties appeal the trial court's judgment following review of a permitting decision by the Edwards Aquifer Authority ("the Authority"). The Authority claims the trial court erred in reversing its final permitting decision. Burrell Day and Joel McDaniel ("Applicants") raise three issues complaining of the trial court's failure to grant the relief they requested. We reverse that part of the trial court's judgment overturning the Authority's Final Order, remand the cause to the trial court for consideration of the Authority's claim for attorney's fees and for further proceedings on Applicants' unconstitutional taking claim, and in all other respects affirm the trial court's judgment.

Background

The Edwards Aquifer ("the Aquifer") is an underground system of water-bearing formations. *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 623 (Tex. 1996). Water enters the Aquifer through the ground as surface water and rainfall and leaves the aquifer through well withdrawals and springflow. *Id.* As the "primary source of water for residents of the south central part of this state," it is vital to Texas's economy and welfare. *Id.* Because of likely increases in withdrawals from the Aquifer and the potential effects of a drought, the Legislature enacted the Edwards Aquifer Act in 1993 to manage the Aquifer and to sustain the diverse economic and social interests dependent on aquifer water.⁽¹⁾ *Id.* at 623-24; *see* Act of May 30, 1993, 73rd Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350; as amended by Act of May 16, 1995, 74th Leg., R.S., ch. 524, 1995 Tex. Gen. Laws 3280; Act of May 29, 1995, 74th Leg., R.S., ch. 261, 1995 Tex. Gen. Laws 2505; Act of May 6, 1999, 76th Leg., R.S., ch. 163, 1999 Tex. Gen. Laws 634; Act of May 25, 2001, 77th Leg., R.S., ch. 1192, 2001 Tex. Gen. Laws 2696; Act of May 27, 2001, 77th Leg., R.S., ch. 966, §§ 2.60-2.62, and 6.01-6.05, 2001 Tex. Gen. Laws 1991, 2021-22 and 2075-76; Act of June 1, 2003, 78th Leg., R.S., ch. 1112, § 6.01(4), 2003 Tex. Gen. Laws 3188, 3193; Act of May 28, 2007, 80th Leg., R.S., ch. 1351, §§ 2.01-2.12, 2007 Tex. Gen. Laws 4612, 4627; and Act of May 28, 2007, 80th Leg., R.S., ch. 1430, §§ 12.01-12.12, 2007 Tex. Gen. Laws 5848, 5901 (hereafter "the EAA Act" or "the Act"); *see also* Tex. Const. art. XVI, § 59(a) (permitting Legislature to pass laws to conserve and

develop state's natural resources).

The EAA Act created the Authority, a conservation and reclamation district empowered to implement a regulatory scheme to control and manage the use of the Aquifer. *Barshop*, 925 S.W.2d at 624; EAA Act, §§ 1.02, 1.08. In accordance with its mandate, the Authority allocates water and regulates permits within the guidelines of the Act. EAA Act, § 1.14. The Act creates a permit system that gives preference to "existing users," which are defined as those persons who withdrew and beneficially used groundwater from the Aquifer on or before June 1, 1993.⁽²⁾ *Id.* §§ 1.03(10), 1.16; Edwards Aquifer Authority Rules § 711.1(2) (2008) (hereafter "EAA Rules"). The Act allows existing users to apply for an initial regular permit ("IRP"). EAA Act § 1.16(a); EAA Rules § 711.98(c). Such permits will be granted to existing users who properly file a declaration of historical use and who establish, by convincing evidence, beneficial use by themselves or a predecessor in interest of underground water withdrawn during the historical period - June 1, 1972 through May 31, 1993. EAA Act §§ 1.16(a), (d); EAA Rules §§ 711.98(k), 707.611. The Act entitles an existing irrigation user to a permit "for not less than two acre-feet a year for each acre of land the user actually irrigated in any one calendar year during the historical period."⁽³⁾ EAA Act § 1.16(e); *Barshop*, 925 S.W.2d at 624 n.2; *see* EAA Rules § 711.172(b)(2).

Applicants purchased a tract of property known as the Earl Baker Tract ("Baker Tract"). The Baker Tract contains an Aquifer well ("the well"). During the historical period, the well did not contain a functioning pump, had no meter, and had an uncontrolled, continuous artesian flow.⁽⁴⁾ Applicants filed an application with the Authority for an initial regular permit ("IRP"), and later amended it by letter. Applicants sought authorization to pump 700 hundred acre-feet of water from the Edwards Aquifer to irrigate crops on the Baker Tract.⁽⁵⁾ Based on the mandates of the Act, Applicants had to prove, by clear and convincing evidence: (1) beneficial use of groundwater from the Aquifer by themselves or a predecessor in interest during the historical period, and (2) the amount of water pumped and used without waste during any one year of the historical period. *See* EAA Act §§ 1.16(d), (e); EAA Rules §§ 711.98(k), 707.611. Because Applicants did not operate the well during the historical period, they submitted the affidavit of Billy T. Mitchell and Bret D. Mitchell, predecessors-in-interest with regard to the Baker Tract, in an effort to establish beneficial use during the historical period. The Mitchells' affidavit stated they leased the Baker Tract and "irrigated approximately 300 acres of Coastal Bermuda grass" from the well in 1983 and 1984. After reviewing their application and amendment, the Authority advised Applicants:

... Authority staff has preliminarily found that your application provides sufficient convincing evidence to substantiate a portion of your declaration of historical use. The Authority staff determined that your maximum beneficial use of water without waste during any one year of the historical period was 600 acre-feet and your average historical use was 600 acre-feet. Staff preliminary determinations are different from your claim for the following reasons:

Applicant supplied affidavit which stated that 300 acres were irrigated during 1983 and 1984.

The letter advised this was merely a preliminary determination and it was not "a final action by the Authority on your application."

The Authority conducted further investigation into the application and determined there was "[i]nadequate evidence of irrigation during the historical period." It sent a letter advising Applicants the Authority's general manager was going to recommend the board of directors deny the IRP, but Applicants could request a contested case hearing, which they did. *See* EAA Rules § 707.601-.602. In accordance with the Authority's rules, the matter was referred to the State Office of Administrative Hearings ("SOAH") for a hearing. *See* EAA Rules § 707.608.

In preparation for the hearing, the parties took the depositions of several witnesses, including Billy Mitchell and Joel McDaniel. Both depositions were admitted into evidence at the hearing. In his deposition, Mitchell described the methods of irrigation he used in 1983 and 1984 to irrigate 300 acres of Coastal Bermuda. Most of the acreage was irrigated from a 50-acre reservoir ("the Lake") by use of a pump and a mobile sprinkler system. Mitchell stated there was a ditch from the well to the Lake, and the water flowed from the well into the ditch and then into the Lake. They placed a pump in the Lake. The pump would draw water from the Lake into a mobile sprinkler irrigation system. Mitchell admitted he had no records of how much water they pumped out of the Lake and could not even estimate an amount. The sprinkler method was not the only irrigation method used by the Mitchells. They would also dam up the ditch to irrigate by flooding. This method was only successful with regard to irrigating five to seven acres. Any attempt to irrigate additional acreage resulted in loss of control of the water.

McDaniel also gave a deposition. He testified Applicants intended to irrigate much like their predecessors did, by placing a pump in the Lake and drawing water into a sprinkler system. When questioned about the source of the water in the Lake, McDaniel admitted the Lake was fed not only by the ditch leading from the well, but by Post Oak Creek ("the Creek") and from "watershed" when it rains. He estimated that seventy-five percent of the Lake's water came from the well.

After completion of discovery and several preliminary hearings, a final adjudicative hearing was held before a SOAH Administrative Law Judge ("ALJ"). After considering the evidence submitted by the parties, the ALJ issued a Proposal for Decision ("PFD"). The ALJ made the following findings and conclusions relevant to the main irrigation method used by the Mitchells:

[FOF] 19. Edwards Aquifer groundwater discharged from Applicant's well by the prior user was directed into a ditch and then into a lake at the bottom of the property.

[FOF] 20. The prior user placed a pump in a lake at the bottom of the property, withdrew water from the lake, and irrigated approximately 150 acres⁽⁶⁾ of Coastal Bermuda by means of a

portable sprinkler irrigation system during the historical period.

* * *

[COL] 7. [The] Creek and the lake on Applicant's property are watercourses and the water within those watercourses is state surface water and any irrigation from the lake was irrigation using state surface waters. Tex. Water Code Ann. §11.021(a) (2002); *Hoefs v. Short*, 273 S.W. 785 (Tex. 1925).

[COL] 9. Irrigation from the lake on Applicant's property with surface water is regulated by the Texas Commission on Environmental Quality (TCEQ) and not by the Authority and cannot be used as the basis for a permit authorizing use of water withdrawn from the Edwards Aquifer. *See* Tex. Water Code § 11.121 (2002).

The ALJ found Applicants had demonstrated beneficial use of groundwater through irrigation by flooding on seven acres during the historical period. Accordingly, she recommended the issuance of an IRP to Applicants authorizing the withdrawal of fourteen acre-feet of water per year. Applicants appealed to the Authority from the recommendation of the ALJ. On March 11, 2003, the Authority issued an order adopting the PFD in its entirety and granting Applicants an IRP for fourteen acre-feet ("the Final Order").

Applicants filed a petition in district court challenging the Final Order and asserting numerous constitutional claims relating to the decision and the process. In the conclusion to their petition, Applicants asked the trial court to reverse the Authority's Final Order, find Applicants irrigated three hundred acres of land during the historical period with water from the Aquifer, and remand the matter to the Authority to reconsider its decision in light such findings. Alternatively, Applicants asked the court to find in their favor on their constitutional claims.

Applicants filed a motion for summary judgment claiming they had proved as a matter of law water withdrawn by the Mitchells from the Lake was aquifer groundwater and therefore should have been considered as part of the basis for an IRP. They alleged the Authority and the ALJ erred as a matter of law in concluding the water used for irrigating 150 acres during the historical period was state water within the meaning of section 11.021(a) of the Texas Water Code rather than groundwater from the Aquifer.⁽⁷⁾ The Authority filed a competing motion for summary judgment, arguing the decisions by the Authority and the ALJ were correct as a matter of law.

The trial court granted Applicants' motion for summary judgment, ruling the Authority erred as a matter of law in adopting the ALJ's conclusion that the Creek and the Lake are watercourses and the water within those watercourses is state water and any irrigation from the Lake was irrigation using state water. The court ruled the water taken from the Lake by the Mitchells was groundwater. The trial court also granted motions for summary judgment filed by the Authority with regard to Applicants' constitutional claims.

The trial court rendered a final judgment incorporating its prior summary judgment rulings. With regard to Applicants' permit claims, the court reiterated its summary judgment rulings and further decreed that the ALJ's conclusion of law number nine, which stated that irrigation from the Lake could not be used as the basis for a permit authorizing use of water withdraw from the Edwards Aquifer, was error as a matter of law. The court remanded the matter to the Authority with orders to (1) rescind the IRP originally issued to Applicants, and (2) issue Applicants an IRP in an amount based upon irrigation of 150 acres with Aquifer water.

The Authority and Applicants appealed. The Authority raises a single issue, contending the trial court erred in granting Applicants' motion for summary judgment and concluding that water pumped from the Lake for irrigation was groundwater rather than state water. Applicants raise three issues arguing the trial court erred in granting the Authority's motions for summary judgment on Applicants' constitutional claims and erred in upholding the Authority's denial of Applicants' well construction permit.⁽⁸⁾

Standard of Review

We review a trial court's order granting summary judgment *de novo*. *Valence Operating Co. v. Dorsett*, 164 S.W.3d 656, 661 (Tex. 2005). "When conducting a de novo review, the reviewing tribunal exercises its own judgment and redetermines each issue of fact and law." *Quick v. City of Austin*, 7 S.W.3d 109, 116 (Tex. 1998). No deference is given to the lower court's decision. *See id.* When both parties move for summary judgment on the same issue and the trial court grants one motion and denies the other, we consider the summary judgment evidence presented by both parties, determine all questions presented, and, if we determine the trial court erred, we must render the judgment the trial court should have rendered. *Valence*, 164 S.W.3d at 661.

The trial court reviewed the Applicants' challenge to the Authority's Final Order under the substantial evidence standard. *In re Edwards Aquifer Auth.*, 217 S.W.3d 581, 585 (Tex. App.-San Antonio 2006, orig. proceeding). By granting summary judgment to Applicants and denying same to the Authority with regard to the Final Order, the trial court found there was not substantial evidence to support the Authority's decision. Accordingly, we must determine whether the summary judgment proof established as a matter of law there was not substantial evidence to support the Authority's decision. *See Gardini v. Tex. Workforce Comm'n*, No. 03-03-00441-CV, 2004 WL 2558423, at *3 (Tex. App.-Austin Nov. 12, 2004, no pet.) (mem. op.) (citing *Potts v. Tex. Employment Comm'n*, 884 S.W.2d 879, 882 (Tex. App.-Dallas 1994, no writ)). In doing so, we will compare the Authority's decision with the evidence presented to the trial court and the governing law. *Id.* (citing *Potts*, 884 S.W.2d at 883).

To the extent the resolution of the issues presented in this case involves statutory question, this is a question of law subject to *de novo* review. *See Bragg v. Edwards Aquifer Auth.*, 71 S.W.3d 729, 734 (Tex. 2002). In construing a statute we must ascertain the Legislature's intent in enacting the statute. *Fleming Foods of Tex. v. Rylander*, 6 S.W.3d 278, 284 (Tex. 1999). In making this determination, we look to the plain meaning of the words used in the statute. *Bragg*, 71 S.W.3d at 734; *see Tex. Gov't Code Ann. § 311.011(a)* (Vernon 2005).

Issues On Appeal

State Water or Groundwater

The Authority argues Applicants' reliance on the water taken from the Lake to prove historical beneficial use is misplaced and the water in the Lake is state water. According to the Authority, once the water from the well entered a watercourse, it became state water and cannot serve as a basis for determination of the withdrawal amount allowed in an IRP. Applicants disagree, contending groundwater retains its character as groundwater even after it enters a watercourse.

Texas makes a distinction between state water and groundwater. "[W]ater of ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state is the property of the state," and is known as state or surface water. *See* Tex. Water Code Ann. § 11.021(a) (Vernon 2008).

Groundwater, which is "water percolating below the surface of the earth," is not governed by the laws and rules applicable to state water. *Id.* §§ 35.002(5), 35.003 (Vernon 2008). Water in Texas is governed by separate legal entities and different rules and laws depending upon the character of the water. Appropriation or diversion of state water is controlled by the Texas Commission on Environmental Quality and the laws and rules relating to the state water permitting process. *City of San Marcos v. Tex. Comm'n on Environmental Quality*, 128 S.W.3d 264, 272 (Tex. App.-Austin 2004, pet. denied); *see* Tex. Water Code Ann. §§ 11.022, 11.121 (Vernon 2008).

Groundwater appropriation is regulated by local groundwater districts where they exist. *See* Tex. Water Code Ann. § 36.0015 (Vernon 2008). The Authority cannot regulate state water, but only groundwater "within or withdrawn from the aquifer." EAA Act § 1.08(b).

The Authority argues Texas law recognizes that the legal classification of water changes as water moves through the hydrologic cycle. Section 11.023 of the Texas Water Code provides storm and floodwater may be appropriated and placed in an aquifer for later removal, but when this state water is allowed to sink into the ground it "loses its character and classification as storm water or floodwater and is considered percolating ground water." Tex. Water Code Ann. § 11.023(c), (d) (Vernon 2008); *see* *Tex. Rivers Protection Ass'n v. Tex. Natural Resource Conservation Comm'n*, 910 S.W.2d 147, 153 (Tex. App.-Austin 1995, writ denied) (assuming state water diverted from river and stored in aquifer changes character and becomes groundwater).

It is well-settled that water becomes state water when it enters a "watercourse." *See* Tex. Water Code Ann. § 11.021(a) (Vernon 2008); *Dietrich v. Goodman*, 123 S.W.3d 413, 417 (Tex. App.-Houston [14th Dist.] 200, no pet.); *Domel v. City of Georgetown*, 6 S.W.3d 349, 353 (Tex. App.-Austin 1999, writ denied). The Texas Supreme Court established the criteria for a watercourse: (1) a defined bed and banks, (2) a current of water, and (3) a permanent source of supply. *Hoefs v. Short*, 114 Tex. 501, 273 S.W. 785, 786-87 (1925). The bed and banks can be "slight, imperceptible, or absent" in some circumstances without loss of character as a watercourse. *Id.* at 787. Moreover, the current does not have to be continuous and there may even be periods where the stream or other water-bearing channel is dry for "long periods of time." *Id.* Finally, even an intermittent flow is sufficient to establish a watercourse. *Id.* at 786. *Hoefs* held a dry wash that

usually flowed for a day or two after a rain five to six times a year was a watercourse. *Hoefs v. Short*, 190 S.W. 802, 804 (Tex. Civ. App.-El Paso 1916), *aff'd*, 273 S.W. 685 (1925).

The evidence here established:

- a federally-funded dam was built across the Creek on the property in the 1950s or 1960s
- the dam created a reservoir of approximately fifty-acres that existed throughout the historical period and became known as the fifty-acre lake
- the Lake is well-defined and identified on area maps
- the Lake has been described as "one of the best bass fishing holes in southwest Bexar County," attracts poachers, and has been used for skiing, duck hunting, and swimming; Applicants lease the lake for hunting and fishing
- the Lake has never dried up
- water is supplied to the Lake as follows: (1) artesian water from the well flows into a man-made ditch and into the Lake⁽⁹⁾, and (2) runoff or surface water from the land flows into the Lake.

This evidence proves the Lake is a watercourse. Because the Lake is a watercourse, once water from the well entered the Lake, its character changed from groundwater subject to the control of the Authority and became state water subject to the control of the TCEQ.

We recognize some authorities suggest that in certain circumstances groundwater may be placed in a river, transported downstream, and subsequently withdrawn from the river without immediately becoming state water. See *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 276 S.W.2d 798, 803-04 (1955); *City of San Marcos*, 128 S.W.3d at 277-78; *Denis v. Kickapoo Land Co.*, 771 S.W.2d 235, 238-39 (Tex. App.-Austin 1989, writ denied). However, not one of these cases directly addresses whether the transported water retains its character as groundwater nor do they address the jurisdiction of a groundwater district with respect to such transported water. See Kevin Smith, Comment, *Texas Municipalities' Thirst for Water: Acquisition Methods for Water Planning*, 45 Baylor L. Rev. 685, 711-12 (1993) (expressing surprise that court in *City of Corpus Christi* did not address character of water once it entered river, but opining it is arguable groundwater became state water when deposited into river). Even if there is an exception for the transportation of groundwater, it is inapplicable here because in each of those cases the owner of the groundwater exercised control over the water, knew the amount pumped into the watercourse, and withdrew approximately that same amount, or knew how much of the water was lost in transit and withdrew only the remaining water. Here, it is undisputed the well had no pump or meter when the Mitchells used water from the well for irrigation. There was no way to ensure the amount of water the Mitchells withdrew from the Lake for irrigation equaled the flow of water into the Lake from the well. Moreover, the

Legislature enacted section 11.042, which allows for the use of a watercourse to transport groundwater, but only where the amount subsequently removed or diverted does not exceed the amount of water put into the watercourse or the existing return flows. Tex. Water Code Ann. § 11.042(b), (c) (Vernon 2008). Here, when the evidence is reviewed under the appropriate standards, the control and knowledge of quantity required by the statute is absent:

- during the time the Mitchells were irrigating from the Lake, the well had no functioning pump, no meter, and was in a deteriorated condition with an uncontrolled, continuous artesian flow
- the well casing had collapsed into the well before 1983
- the quantity and rate of flow from the well during the historical period is unknown and unknowable
- the water flow from the well was unregulated
- Mitchell kept no records and cannot estimate how much water was withdrawn from the Lake

The Authority argues that because of the character of the water and the inapplicability of an exception based on transportation of groundwater, the trial court erred in granting Applicants' motion for summary judgment and denying its motion. Applicants contend the Authority's argument fails to distinguish between the different types of water that may enter a watercourse. They argue section 11.021(a), which defines "state water," does not include "groundwater" in its definition. *See* Tex. Water Code Ann. § 11.021(a) (Vernon 2008). Applicants contend this omission means groundwater can never become state water. We disagree. First, it is illogical to hold that while state water may become groundwater through storage in an aquifer, water flowing from an aquifer always retains its groundwater character. *See id.* § 11.023(d).; *see also* *Tex. Rivers Protection Ass'n*, 910 S.W.2d at 153. Furthermore, Applicants' argument that groundwater is forever groundwater because "groundwater" is excluded from the definition of state water is unreasonable. If followed to its logical conclusion, Applicants' contention would confer ownership of an undetermined amount of Hill Country water upon the owners of land containing springs from which many Texas rivers emanate. *See generally* *Texas Parks and Wildlife, An Analysis of Texas Waterways* (1974) (describing numerous Texas rivers, including the Frio, Guadalupe, Medina, Nueces, and Pedernales, as "spring-fed").

Applicants next contend, citing sections 36.001 and 36.002 of the Water Code, the Legislature has recognized groundwater and state water can be combined without either losing its original character. Tex. Water Code Ann. §§ 36.001(21), 36.002 (Vernon 2008). Section 36.001(21) defines "conjunctive use" as "the combined use of groundwater and surface water sources that optimizes the beneficial characteristics of each source." *Id.* § 36.001(21). Section 36.002 recognizes ownership rights of landowners and their lessees and assigns in groundwater, subject to rules promulgated by the relevant groundwater district. *Id.* § 36.002. Applicants' reliance on section 36.001(21) is misplaced because the definition has nothing to do with whether

groundwater loses its identity upon entering a water course. Rather, "conjunctive use" is a water management strategy recognizing the reality that many water users rely on a combination of groundwater and state water for their water supplies. *See* Tex. Water Dev. Bd., *Water for Texas* 2007, Vol. II, 10.2.6, 270-71 (describing conjunctive use water management strategies as involving combined use of groundwater and state water to optimize beneficial characteristics of each).⁽¹⁰⁾ And, though defined in Chapter 36 of the Water Code, the phrase is never actually used in Chapter 36 nor is it ever used in Chapter 11. The word "conjunctive" is used once in Chapter 36 in the section obligating each groundwater district to prepare a "management plan" that addresses certain "management goals" including "conjunctive surface water management issues." *See* Tex. Water Code Ann. § 36.1071(a)(4) (Vernon 2008). We therefore sustain the Authority's issue and hold the trial court erred in granting Applicants' motion for summary judgment and in ruling water from the Lake was groundwater that could form the basis of an IRP. Accordingly, we reverse that part of the trial court's judgment and render judgment affirming the Authority's Final Order. The Authority requests we remand this matter to the trial court with direction to address the Authority's request for attorney's fees. Applicants argue the Authority did not brief the attorney's fee issue and argue the issue is waived. We disagree. No specific point of error or issue was required because attorney's fees were contingent on the Authority's prevailing in the suit. *See id.* § 36.066(g). Having briefed the main issue, nothing more was required than to ask for remand for attorney's fees in the event our resolution favored the Authority. Applicants also argue section 36.066(g) is unconstitutional because it authorizes attorney's fees only to the Authority if it prevails and not to the citizen if the citizen prevails. Applicants do not provide any briefing on this issue. Rather, they refer us to a pleading filed in the trial court in which they objected to any award of attorney's fees to the Authority on the ground that section 36.066(g) is unconstitutional under the equal protection clause. Nevertheless, we will address their contention.

We evaluate an equal protection challenge to a statute that regulates groundwater using the rational basis test. *Barshop*, 925 S.W.2d at 631-32; *see* Tex. Const. art. I, § 3. Under the rational basis test, a statute is valid under section 3 of Article I "as long as it is rationally related to a legitimate state purpose. *Id.* at 632. As long as the court "can conceive of any rational basis for the Legislature's action" it must uphold the challenged statute. *Owens Corning v. Carter*, 997 S.W.2d 560, 581 (Tex.), cert denied, 528 U.S. 1005 (1999). It is irrelevant whether the justifications the court may hypothesize were in fact the underlying basis for the Legislature's decision. *Id.*

The Legislature could have intended to discourage suits against groundwater districts to protect them from costs and burdens associated with such suits. Such protection is similar to the protection provided governmental entities under the sovereign immunity doctrine, which has withstood equal protection challenges. *See, e.g., Richards v. Tex. A&M Univ. Sys.*, 131 S.W.3d 550, 559-60 (Tex. App.-Waco, pet. denied), cert. denied, 543 U.S. 1002 (2004) (upholding state university's sovereign immunity from anti-retaliation suit when challenged under equal protection clause). Because section 36.066(g) is rationally related to a legitimate state interest, Applicants' equal protection challenge fails. Accordingly, we remand this matter to the trial court to consider the Authority's request for attorney's fees.

Constitutional and Other Issues

In their cross-appeal, Applicants challenge the trial court's orders granting summary judgment in favor of the Authority on Applicants' constitutional claims. Applicants also raise, for the first time on appeal, issues arguing (1) the EAA Act's requirement of proof of prior historical use is unconstitutionally retroactive, (2) their IRP should have been considered under rules in effect at the time the IRP was filed, and (3) the Authority acted arbitrarily when it, in effect, denied their well construction permit.

Unconstitutional Taking

Applicants asserted a claim in the district court that the Final Order resulted in a confiscation of their water rights, under color of law, without just compensation in violation of the Texas Constitution. *See* Tex. Const. art. I, § 17 (stating no person's property shall be taken without adequate compensation). In its motion for summary judgment, the Authority argued Applicants' takings claim failed because they did not have a constitutionally protected vested interest in the groundwater. Applicants disagree and ask this court to reverse the trial court's judgment and "confirm the precedent of groundwater ownership as an unconditional component of land ownership."

This court recently held landowners have some ownership rights in the groundwater beneath their property. *City of Del Rio v. Clayton Sam Colt Hamilton Trust*, No. 04-06-00782-CV, 2008 WL 508682, *4 (Tex. App.-San Antonio Feb. 27, 2008, no pet. h.) (citing *Houston & T.C. Ry. Co. v. East*, 98 Tex. 146, 81 S.W. 279, 281 (1904)). Because Applicants have some ownership rights in the groundwater, they have a vested right therein. *See* *Tex. S. Univ. v. State St. Bank & Trust Co.*, 212 S.W.3d 893, 903 (Tex. App.-Houston [1st Dist.] 2007, pets. denied) (holding vested property right is one that has definitive, rather than potential, existence). Applicants' vested right in the groundwater beneath their property is entitled to constitutional protection. *See* *Subaru of Am., Inc. v. David McDavid Nissan, Inc.*, 84 S.W.3d 212, 219 (Tex. 2002) (holding vested right is property right protected by constitution). The trial court therefore erred in granting the Authority's motion for summary judgment on this constitutional claim. Because the Authority moved for summary judgment only on the ground Applicants have no vested property right, we must remand Applicants' constitutional taking claim for further proceedings. *Substantive Due Process*

Applicants claimed in their petition the Act deprives them of substantive due process under the United States and Texas Constitutions by (1) requiring them to prove use of aquifer water during the historical period when such records were not required to be kept, thereby making this requirement impossible to meet, and (2) requiring proof of beneficial use of groundwater from the aquifer by "convincing evidence," without defining that term.⁽¹¹⁾

A violation of substantive due process occurs only when the government deprives individuals of constitutionally protected rights by an arbitrary use of its power. *Byers v. Patterson*, 219 S.W.3d 514, 525 (Tex. App.-Tyler 2007, no pet.) (citing *Simi Inv. Co. v. Harris County*, 236 F.3d 240, 249 (5th Cir. 2000), cert. denied, 534 U.S. 1022 (2001)). A claimant prevails on a substantive due process claim by establishing it holds a constitutionally protected property right to which the

Fourteenth Amendment's due process protection applies and by establishing that the challenged governmental action is not rationally related to furthering a legitimate state interest. *Id.* (citing *Simi Inv. Co.*, 236 F.3d at 249-50 and *Mikeska v. City of Galveston*, 451 F.3d 376, 379 (5th Cir. 2005)). The Authority's motion for summary judgment sought to negate the second element as a matter of law.

Applicants' first substantive due process claim was disposed of in *Barshop*. The court held the requirement that applicants prove beneficial use of aquifer water is related to the rational objective of conserving the aquifer, noting that without the historic proof requirement, the preservation goal could be frustrated by new wells. *Barshop*, 925 S.W.2d at 632. Article XVI, section 59(a) of the Texas Constitution "recognizes that preserving and conserving natural resources are public rights and duties." *Id.* The Act furthers these goals by regulating the Edwards Aquifer, which is a vital natural resource. *Id.* Accordingly, the provisions of the Act Applicants challenge "are all rationally related to legitimate state purposes in managing and regulating this vital resource" and are "sufficiently rational to meet constitutional due course requirements." *Id.* The trial court therefore did not err in granting summary judgment for the Authority on Applicants' substantive due process challenge to proof of use during the historical period.

Applicants also claim that requiring them to prove historic use by convincing evidence, when the standard is not defined, violates their substantive due process rights. Section 1.16a(d) of the Act provides that an IRP shall be granted to an existing user who "establishes by convincing evidence beneficial use of underground water from the aquifer." EAA Act 1.16(d). The trial court granted the Authority's motion for summary judgment on the ground "convincing evidence" is a discernable standard and rationally related to the State's goal of conservation and preservation of natural resources.

In construing a statute, we ascertain the Legislature's intent from the words and terms used therein. *See Great Am. Ins. Co. v. N. Austin Mun. Util. Dist. No. 1*, 908 S.W.2d 415, 420 (Tex. 1995). Words should generally be given their ordinary meanings; however, if a word is "used as a word of art, the word shall have the meaning given by experts in the particular . . . subject matter, or art." Tex. Gov't Code Ann. § 312.002 (Vernon 2005). The function of a standard of proof, as embodied in the concept of due process, is to inform the factfinder about the degree of confidence he should have in his conclusions in a particular type of case. *In re G.M.*, 596 S.W.2d 846, 847 (Tex. 1980) (quoting *Addington v. Texas*, 441 U.S. 418, 423 (1979)). "Clear and convincing evidence" is a phrase clearly associated with an intermediate standard of review, between preponderance of the evidence and beyond a reasonable doubt. *See Addington*, 441 U.S. at 423-24. The United States Supreme Court explained this intermediate standard "usually employs some combination of the words 'clear,' 'cogent,' 'unequivocal,' [or] 'convincing' . . . [and] 'is no stranger to the civil law.'" *Id.* at 424 (quoting *Woodby v. I.N.S.*, 385 U.S. 276 (1966)). The Texas Supreme Court recognized the "clear and convincing standard of proof in 1979 and defined it as "that measure or degree of proof which will produce in the mind of the trier of fact a firm belief or conviction as to the truth of the allegations sought to be established." *G.M.*, 596 S.W.2d at 847 (quoting *State v. Addington*, 588 S.W.2d 569 (Tex. 1979)). Accordingly, the Legislature's failure to define "convincing evidence" in the Act did not affect Applicants' due process rights. "Convincing evidence" clearly refers to the intermediate standard of proof, similar

to "clear and convincing evidence," which has been defined under Texas law. Accordingly, Applicants' substantive due process rights were not affected by the absence of a definition of "convincing evidence" in the Act.

The Texas Supreme Court has recognized that numerous provisions in the Act are rationally related to the legitimate state purpose of resource protection and conservation, including Texas aquifers. *See Barshop*, 925 S.W.2d at 933. Requiring permit applicants to abide by an elevated burden of proof in proving their beneficial use of a vital Texas resource is similarly rationally related to the goals of preservation and conservation. *See id.* The intermediate level of scrutiny is appropriate because requests to withdraw and use a vital state resource involve an interest more substantial than a mere loss of money. *See Addington*, 441 U.S. at 424. Moreover, the elevated standard serves to balance the competing interests of conservation and private use. The trial court therefore did not err in granting the Authority's motion for summary judgment on the second substantive due process claim. *Open Courts*

Applicants complain various statutes concerning the State Office of Administrative Hearings are unconstitutional under the "open courts" provision of the Texas Constitution, which states, in pertinent part, that "[a] courts shall be open, and every person for an injury done him, in his lands, goods, person or reputation, shall have remedy by due course of law." *See Tex. Const. art. I, section 13.* This provision guarantees all litigants the right to redress their grievances. *LeCroy v. Hanlon*, 713 S.W.2d 335, 341 (Tex. 1986). This right is a substantial state constitutional right and therefore the Legislature "cannot arbitrarily or unreasonably interfere with a litigant's right of access to the courts." *Id.* To determine whether a statute violates the open courts provision, we "balance[] the Legislature's actual purpose in enacting a law against that law's interference with the individual's right of access to the courts." *Id.*

In the trial court, Applicants argued sections 2001.061, 2001.090, and 2003.0412 of the Texas Government Code violate the open courts provision because they permit ex parte communications during the permitting process. On appeal, Applicants posit a different argument, contending the open courts provision is violated by the requirement that permit applicants prove use of an amount of water during the historical period. Applicants may not raise this constitutional argument for the first time on appeal. *See Dreyer v. Greene*, 871 S.W.2d 697, 698 (Tex. 1993) (holding that as general rule claim, including constitutional claim, must have been asserted in trial court to be raised on appeal). Moreover, Applicants' open courts argument fails. *See Barshop*, 925 S.W.2d at 637 (holding open court guarantees are not implicated by Authority's permitting process).

Procedural Due Process

Applicants next contend the statutes dealing with the SOAH and ex parte communications - sections 2001.061, 2001.090, and 2003.0412 of the Texas Government Code - violate their rights to due process because they permit ex parte conferences between Authority employees or board members and the ALJ. An ALJ is generally prohibited from communicating with a state agency. *See Tex. Gov't Code Ann. § 2003.061(a)* (Vernon 2000). The only exception is narrow and permits an ex parte communication between an ALJ and an agency employee "who has not participated in a hearing in the case for the purpose of using the special skills or knowledge of

the agency and its staff in evaluating the evidence." *Id.* § 2001.061(c). This narrow exception has been held to be constitutional in response to a procedural due process challenge. *Smith v. Houston Chem. Servs., Inc.*, 872 S.W.2d 252, 278 (Tex. App.-Austin 1994, writ denied).⁽¹²⁾

Substantive Due Process - Section 11.021 of Texas Water Code

The Authority also moved for summary judgment on Applicants' claims that (1) section 11.021 of the Texas Water Code violated their rights to substantive due process because it identifies the State of Texas as the owner of any water found in any watercourse on Applicants' property and thereby the real property beneath it, and (2) if section 11.021 does not vest the State with the ownership of the real property underlying the watercourse, then the State must compensate Applicants for use of the real property to transport its water.

Contrary to Applicants' assertion, section 11.021 of the Water Code does not give the State ownership of the real property beneath watercourses on private property. *See* Tex. Water Code Ann. § 11.021 (Vernon 2008). Rather, that section merely defines the types of water that belong to the State. *Id.* Even if the water in the watercourse is state water, Applicants are not entitled to compensation for the State's use of the watercourse to transport the state water. "[T]he State has the right to transport water through watercourses for a public purpose without seeking permission from any riparian owners." *Domel v. City of Georgetown*, 6 S.W.3d 349, 358 (Tex. App.-Austin 1999, pet. denied). As the owner of water in a variety of watercourses, the State has the right to use watercourses to meet "its constitutionally mandated duty to conserve and develop the State's water resources." *Id.* On this basis, the *Domel* court held a city was not required to seek a private landowner's permission to transport water in a watercourse across the property. *Id.* To hold otherwise would subject the State to a taking claim everywhere state water crosses private property. *Id.* at 359. This has never been the law in Texas. *Id.* It follows that if a governmental entity is not required to seek permission to transport its water across private property, it need not compensate the landowner for such use. *See id.* Accordingly, the trial court did not err in granting the Authority's summary judgment.

Other Claims

Applicants attempt to raise additional theories and claims for the first time on appeal. Specifically claims that (1) the Act violates article I, section 16 of the Texas Constitution because the requirement of proof of previous historic use makes the Act a "retroactive law"; (2) section 245.002 of the Texas Government Code required the Authority to consider Applicants' application under the rules in effect when it was filed; and (3) the Authority acted arbitrarily with respect to Applicants' well-construction permit. Because these issues were not raised below, they cannot be raised on appeal. *See Dreyer*, 871 S.W.2d at 698.

Applicants also seek to relitigate the standard of review applicable in the trial court. This court has already determined the proper standard in the trial court for this matter is "substantial evidence," not "substantial evidence *de novo*" as suggested by Applicants. *Edwards Aquifer Auth.*, 217 S.W.3d at 585. Accordingly, our previous holding is law of the case and not subject to challenge by Applicants in this appeal. *See Lee v. Lee*, 44 S.W.3d 151, 154 (Tex. App.-Houston

[1st Dist.] 2001, pet. denied).

We overrule Applicants' constitutional issues and other claims and affirm the trial court's judgment with regard to these matters. **Conclusion**

For the reasons discussed above, we (1) reverse the part of the trial court's judgment that overturns the Authority's Final Order and render judgment affirming the Final Order; (2) reverse the take-nothing judgment against Applicants on their unconstitutional taking claim; (3) remand the cause to the trial court for consideration of the Authority's request for attorney's fees and for further proceedings on Applicants' unconstitutional taking claim; and (4) in all other respects affirm the trial court's judgment.

Steven C. Hilbig, Justice

1. The Act was originally passed on May 30, 1993, and was to take effect September 1, 1993. It did not become effective at that time because the United States Department of Justice refused to give preclearance under section 5 of the Voting Rights Act based on the appointment method used to select the Authority's board of directors. *Barshop*, 925 S.W.2d at 625. The Texas Legislature responded by amending the Act in May 1995, and changed the selection method to elective. *Id.*

The Act was then to go into effect August 28, 1995. *Id.* However, certain plaintiffs filed suit challenging the facial constitutionality of the Act. Ultimately, the Texas Supreme Court declared the act facially constitutional. *Id.* at 638.

2. Section 35.002(5) of the Texas Water Code defines "groundwater" as "water percolating below the surface of the earth." Tex. Water Code Ann. § 35.002(5) (Vernon 2008).

3. An acre-foot is the amount of water that would cover an acre of land to one foot, approximately 325,850 gallons. *Barshop*, 925 S.W.2d at 624 n.1.

4. An artesian well is one that penetrates an underground water-bearing unit that is under sufficient pressure to force water up and out of the top of the well hole without the necessity of a pump.

5. Because the original well, which dated from 1956, was in disrepair, Applicants applied to construct a new well. The Authority granted the application, but noted the new well would require a groundwater withdrawal permit. Accordingly, Applicants filed a "Notice of Transfer and Application to Amend Initial Regular Permit Application" requesting that their original IRP application be amended to change the point of withdrawal to the new well. The Authority approved the transfer request but noted that by approving the change it was "not approving, denying, or taking any other action of any kind whatsoever" on Applicants' IRP application. McDaniel admitted in his deposition that he took the Authority's responses with regard to the new well and the transfer request to mean Applicants could drill a new well, but this did not necessarily mean they would get "pumping rights."

6. The finding of 150 acres rather than the 300 acres claimed by Applicants was based on evidence summarized by the ALJ in the PFD. This finding was upheld by the trial court and is not challenged on appeal.

7. The Water Code defines "state water" as "water of ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and

rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state." Tex. Water Code Ann. § 11.021(a) (Vernon 2008).

8. As previously noted, the Authority did grant Applicant's well construction permit. Applicants contend it was, in reality, denied because even though they constructed the well they cannot pump water from it based on the denial of their request for an IRP for 600 acre feet.

9. The evidence demonstrated the water from the well flowed into the ditch and to the Lake rather than into the creek bed above the Lake.

10. Section 16.051 of the Texas Water Code directs the Texas Water Development Board to "prepare, develop, formulate, and adopt a comprehensive state water plan" beginning in 2002 and every five years thereafter. Tex. Water Code Ann. § 16.051(a) (Vernon 2008). The plan is a guide to state water policy. *Id.* § 16.501(b).

11. Applicants have not argued that any differences between the federal and state constitutional guarantees are material to this case and none is apparent. Accordingly, we will assume the protections of the United States Constitution are congruent with those of the Texas Constitution. *See New Times, Inc. v. Isaacks*, 146 S.W.3d 144, 150 (Tex. 2004), *cert denied*, 545 U.S. 1105 (2005).

12. Applicants never alleged an actual ex parte communication in this case.

EAA LITIGATION SUMMARY

2010 SCTWAC ASSESSMENT REPORT

Prepared by: Darcy A. Frownfelter, Deborah C. Trejo and Sarah Faust
Prepared: Oct. 13, 2010

The following is a summary of the litigation events related to the Edwards Aquifer Authority during the period of October 7, 2008 through October 13, 2010.

Guadalupe-Blanco River Auth. v. Royal Crest Homes, No. 89-0381 (22nd Dist. Ct., Hays County, Tex. filed June 15, 1989)

This case involves claims by the Guadalupe Blanco River Authority ("GBRA") that the water in the Edwards Aquifer is an underground river; therefore, it would be "state water" held by the State of Texas in trust for the public benefit and subject to regulation by the Texas Commission on Environmental Quality. Additionally, GBRA seeks adjudication of all claims of the right to use the Edwards Aquifer. No action occurred during the reporting period. The case remains pending.

Bragg v. Edwards Aquifer Auth., No. 06-11-18170-CV (38th Jud. Dist., Medina County, Tex., filed Nov. 21, 2006); Bragg v. Edwards Aquifer Auth., No. 06-CA-1129-XR, 2008 WL 819930 (W. D. Tex. 2008), aff'd, 342 F. App'x 43 (5th Cir. 2009)

This is a suit originally filed against the Authority by Plaintiffs seeking: 1) compensation for the unconstitutional taking, damaging or destruction of their water rights in connection with their D'Hanis and Home Place Initial Regular Permit ("IRP") applications before the Authority in violation of the Texas Constitution; 2) compensation and attorney's fees for the violation of their equal protection rights (related to their alleged water rights, attempt to reach settlement with third parties and the application of the junior/senior rules to their permit) under federal law (42 U.S.C. § 1983); and 3) compensation and attorney's fees for the violation of their due process rights (related to their alleged water rights, attempt to reach settlement with third parties and the application of the junior/senior rules to their permit) under federal law (42 U.S.C. § 1983). The case was removed to federal court. The federal district court dismissed the federal civil rights claims and remanded the takings claims to state court. The Fifth Circuit Court of Appeals affirmed the dismissal and remand. *Bragg v. Edwards Aquifer Auth.*, 342 Fed. App'x 43 (5th Cir. 2009).

On remand, in February 2010, based on pre-trial motions, the trial court ruled: that the Braggs may proceed in their individual capacity (rather than corporate); that their claims are not barred by any statute of limitations; that the State may not be joined as a third-party defendant; that the Braggs have a vested property right to groundwater in place underneath their property; that the Edwards Aquifer Authority Act ("EAA Act") altered the common law of groundwater in Texas;

and that the Authority has not physically taken the Braggs' Edwards groundwater. In March 2010, the trial court ruled that the Authority has not categorically taken the Braggs' Edwards groundwater; although it did find that a regulatory takings had occurred under the EAA Act.

In March 2010, the case went to trial on the remanded takings claims and was held in Medina County District Court. After, in May 2010, the trial court ruled: (1) that the EAA Act's enactment and implementation did not deprive Plaintiffs of all economically viable use of their property and substantially advanced the Authority's legitimate interest; (2) the Authority's denial of the D'Hanis IRP application constituted a regulatory taking for which compensation owed the Plaintiffs is \$134,918.40; and (3) the Authority's granting of the Home Place IRP for less than requested constituted a regulatory taking for which compensation owed the Plaintiffs is \$597,575. The trial court has not yet entered a final judgment. Following entry of a final judgment, the Authority will determine whether appeal is appropriate.

A & S Ranch, Ltd. v. Horton, No. 07-03-25684-CV (38th Dist. Ct., Uvalde County, Tex., third-party claims filed Oct. 10, 2007); Horton v. Edwards Aquifer Auth., No. 07-03-25684-CV-A (38th Dist. Ct., Uvalde County, Tex. remanded on attorney's fees June 11, 2010); Edwards Aquifer Auth. v. Horton, No. 04-09-00375-CV, 2010 WL 374551 (Tex. App.—San Antonio 2010, pet. denied)

This case involves the transfer of land and associated IRPs between Willoughby, Atkission, Cargil, Horton and Del Papa and A&S Ranch and a dispute over ownership of base irrigation groundwater rights. After a series of land sales, Horton and Del Papa attempted to sell A&S Ranch land and supposed water rights associated with the land. However, deed records showed that Horton and Del Papa did not own all of the water rights they purported to transfer. Thus, the Authority partially denied a transfer application to A&S Ranch. Plaintiff A&S Ranch sued Defendant/Third-Party Plaintiffs for:, among other things, breach of contract for liquidated damages of \$2,000/acre-foot of groundwater purportedly conveyed. Defendants then sued the Authority for damages caused by an alleged unconstitutional taking of their water rights by denying the A&S Ranch transfer, for tortious interference with contract, and promissory estoppel. Defendants also sued Willoughby, Atkission, Cargil and Carper Capt for breaching contracts for water rights. On June 5, 2009, the district court granted the Authority's motion to dismiss all claims against it on the basis that sovereign immunity barred the claims, but the court denied the Authority's claims for attorney's fees and costs under Chapter 36. On that same date, the court also severed all claims involving the Authority into a new case styled: *Horton v. Edwards Aquifer Auth.*, No. 07-03-25684-CV-A (38th Dist. Ct., Uvalde County, Tex.).

The Authority appealed the district court's denial of its mandatory attorney's fees and costs and the refusal of the district court to set the attorney's fees counterclaim for a bench trial. Horton and Del Papa appealed the dismissal of their counterclaims against the Authority. The court of appeals affirmed the district court's dismissal of all claims against the Authority on the basis of lack of jurisdiction and reversed and remanded the district court's denial of the Authority's counterclaim for attorney's fees. The Texas Supreme Court denied Horton and Del Papa's petition for review. The Authority's remanded attorney's fees counterclaim is pending in the trial

court.

Edwards Aquifer Auth. v. Day, No. 08-0964 (Tex. Jan. 15, 2010, pet. granted); Day v. Edwards Aquifer Auth., 274 S.W.3d 742 (Tex. App.—San Antonio 2008, pet. granted)

Day and McDaniel applied to the Authority for an IRP for 700 acre-feet. After a contested hearing, the Authority issued a permit for 14 acre-feet. Day and McDaniel appealed the Authority's ruling to federal district court, which abstained from hearing the case. *Day and McDaniel v. Edwards Aquifer Auth.*, 2004 WL 1118721 (W.D. Tex. 2004). In response, Day and McDaniel filed this similar suit in state court. The claims made by the Plaintiffs are numerous and include: (1) whether the applicants proved "historic use" of Aquifer water, or merely use of state surface water; (2) whether the Authority committed an unconstitutional taking of Plaintiffs' groundwater rights by granting their application at the reduced amount; (3) whether the EAA Act violates substantive due process by requiring proof of historic use; (4) whether the Authority violated substantive due process by applying an elevated "clear and convincing" standard of proof; (5) whether the procedures governing SOAH hearings violate the open courts provision; (6) whether the laws governing *ex parte* communications in SOAH hearings violate the equal protection or due process clauses; (7) whether various sections of the Water Code violate due process; and (8) whether the Authority's procedural rules violate due process. The Plaintiffs requested damages in the amount of \$4,587,000.00 as compensation for their allegedly "taken" water rights. The trial court ruled that Plaintiffs had proven as a matter of law that the water pumped from the lake on their land during the historical period was "groundwater from the Edwards Aquifer" and that Plaintiffs were entitled to a permit for 300 acre-feet. The court denied all of Plaintiffs' remaining statutory and constitutional claims.

Both the Authority and Plaintiffs appealed the trial court decision. The Fourth Court of Appeals agreed with the Authority by reversing the trial court and affirming the Authority's Final Order on the Day and McDaniel IRP application in all respects. The court also remanded the case to consider awarding attorney's fees to the Authority as the "prevailing party" pursuant to Tex. Water Code § 36.066(g). The court affirmed the dismissal of all claims except the claim that the Authority committed an unconstitutional taking of Plaintiffs' groundwater rights by granting their application at the reduced amount. The court of appeals reversed the trial court and, relying solely upon its opinion in *City of Del Rio v. Clayton Sam Colt Hamilton Trust*, 269 S.W.3d 613 (Tex. App.—San Antonio 2008, pet. denied), held that the landowners have "some ownership rights" in groundwater and a "vested right in the groundwater beneath their property." Plaintiffs, the Authority and the State of Texas filed petitions for review with the Texas Supreme Court, which were granted on January 15, 2010. On February 17, 2010, the case was argued before the Texas Supreme Court. The case is now submitted and pending before the Texas Supreme Court. Numerous amicus briefs have been filed in this case on both sides.

Edwards Aquifer Auth. v. Day, No. 2008-CI-03611 (73rd Dist. Ct., Bexar County, Tex., filed Mar. 5, 2008)

This case is an enforcement action in which the Authority seeks civil penalties for waste and failure to timely file demand management/critical period quarterly schedules, install a meter, pay aquifer management fees and plug an abandoned and deteriorated well. The Authority and Defendants have entered into a settlement agreement requiring the well to be plugged by November 2010 and the Defendant has paid the Authority's attorney's fees and costs. Upon completion of the settlement terms, the case will be dismissed or an agreed judgment will be entered. For this reason, the case remains pending.

Edwards Aquifer Auth. v. 211 Investments, LP, No. 2008-CI-19336 (57th Dist. Ct., Bexar County, Tex., default judgment Jan. 29, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to plug an abandoned well. Defendants did not respond to the suit and default judgment was taken in favor of the Authority. Defendants are no longer the owners of the property on which the abandoned well is located.

Edwards Aquifer Auth. v. Mt. Laurel Investments, LP, No. 2008-CI-19337 (73rd Dist. Ct., Bexar County, Tex., default judgment Jan. 29, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to plug an abandoned well. Defendants did not respond to the suit and default judgment was taken in favor of the Authority. Defendants are no longer the owners of the property on which the abandoned well is located.

Edwards Aquifer Auth. v. Mead, No. 2009-CI-01456 (407th Dist. Ct., Bexar County, Tex. filed Jan. 29, 2009)

This case is an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's unauthorized withdrawals of groundwater, failure to pay aquifer management fees, failure to meter wells and failure to plug an abandoned well. This suit is pending.

State of Texas v. Zumwalt, No. D-1-GV-001195 (345th Dist. Court, Travis County, Tex., EAA action filed Feb. 3, 2009)

The State of Texas, on behalf of the TCEQ, has sued Zumwalt for civil penalties related to violations of the Texas Clean Air Act and the TCEQ's rules, for clean-up costs recoverable under the Texas Solid Waste Disposal Act and for damages for public nuisance and negligence. Bexar County intervened in the lawsuit asserting claims for civil penalties related to violations of the Texas Clean Air Act and TCEQ's rules. The Authority intervened in the lawsuit asserting claims for civil penalties related to violations of the EAA Act, the EAA Rules, and the Texas Water Code, for clean-up costs recoverable under the Texas Solid Waste Disposal Act, as well as damages for public nuisance and negligence. The suit is pending and scheduled for trial in May 2011.

Edwards Aquifer Auth. v. Sandoval, No. 2009-CI-02111 (131st Dist. Ct., Bexar County, Tex., filed Feb. 9, 2009)

This case is an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's failure to plug an abandoned well. This suit is pending.

Edwards Aquifer Auth. v. Rash, No. 2009-CI-02915 (150th Dist. Ct., Bexar County, Tex., filed Feb. 20, 2009)

This case is an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to plug an abandoned well. This suit is pending.

In the Matter of the Request by Rep. Chisum for an Opinion of the Attorney General on Certain Issues Concerning Permits and Authority Contracts with Certain Recharge Facilities (Op. Tex. Att'y. Gen. No. GA-0708 (2009))

Rep. Chisum asked the Attorney General to opine on whether the Authority has the authority to: (1) prohibit the granting of permits for recharge facilities constructed prior to September 1, 1993; (2) prohibit itself from contracting with recharge facilities constructed prior to September 1, 1993; and (3) define "unreasonably deny" in section 1.44(b) of the EAA Act, as it has done in EAA Rules section 711.269(d). The Attorney General responded that (1) the Act enables the Authority to promulgate rules prohibiting recharge and withdrawal permits for facilities constructed prior to September 1, 1993 that will not increase the amount of the facilities recharge; (2) that a court would likely find that the Authority's powers to conserve, preserve and

protect the Aquifer and to increase its recharge support a rule that limits cooperative recharge and retrieval contracts under Act section 1.44 to political subdivisions that will provide new or additional recharge; and (3) a court would likely conclude the Authority has authority under section 1.11 of the Act to promulgate section 711.269(d) of the EAA Rules, describing a set of circumstances that constitute unreasonable denial of a recharge facility permit.

Edwards Aquifer Auth. v. Davila, No. 2008-CI-20184 (73rd Dist. Ct., Bexar County, Tex., final judgment Apr. 15, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to plug an abandoned well. Following a settlement between the parties, wherein Defendants agreed to payment to the Authority for civil penalties and costs of court, the trial court entered an agreed final judgment.

Edwards Aquifer Auth. v. C & E Collins Family Partners, Ltd., No. 2009-CI-01453 (225th Dist. Ct., Bexar County, Tex., dismissed Apr. 17, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's failure to timely file a groundwater conservation plan status report. Following a settlement between the parties, the trial court dismissed all claims in the suit without prejudice.

Edwards Aquifer Auth. v. Taylor, No. 2008-CI-20185 (131st Dist. Ct., Bexar County, Tex., final judgment May 28, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to timely register their wells. Following a settlement between the parties, wherein Defendants paid to the Authority civil penalties, attorney's fees and court costs, the trial court entered an agreed final judgment.

Willoughby v. Edwards Aquifer Auth., No. 07-03-25690-CV (38th Dist. Ct., Uvalde County, Tex., dismissed Dec. 15, 2009)

This case involved a suit for declaratory judgment that the Authority rule establishing the December 30, 1996 IRP filing deadline was invalid and Plaintiffs' application was timely filed. Plaintiffs also sought compensation for an unconstitutional taking. The Authority and the Willoughbys settled the lawsuit, wherein the Willoughbys agreed to dismiss with prejudice in exchange for the Authority not seeking to recover its attorney's fees and costs. The court entered

an order of dismissal with prejudice.

Edwards Aquifer Auth. v. BRTC Investments, LP, No. 2009-CI-02914 (131st Dist. Ct., Bexar County, Tex., filed Dec. 17, 2009)

This is an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendants' failure to plug abandoned wells. The Authority brought claims against other entities in two separate lawsuits for the same violations and obtained default judgments. *See supra Edwards Aquifer Auth. v. 211 Investments; Edwards Aquifer Auth. v. Mt. Laurel.* Subsequently ownership of the property where the wells at issue are located changed hands and the Authority filed this suit against the current property owners. In their answer to the suit, Defendants have denied all claims made against them and have pled that the Authority's claims constitute an unconstitutional taking of private property without just compensation in violation of the Texas Constitution, and that the Authority's claims and/or remedies constitute an unlawful penalty in violation of the due process provisions of the Texas Constitution. This suit is pending.

Edwards Aquifer Auth. v. Metal Contractors, Inc., No. 2009-CI-01455 (288th Dist. Ct., Bexar County, Tex., default judgment Dec. 17, 2009)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's failure to plug an abandoned well. Defendant did not respond to the suit and default judgment was taken in favor of the Authority.

Edwards Aquifer Auth. v. Barnard, No. 2010-CI-00941 (131st Dist. Ct., Bexar County, Tex., filed Jan. 21, 2010)

This case is an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's unauthorized withdrawals of groundwater and failure to meter a well. In his answer to the suit, Defendant denied all claims the Authority has made against him and made a claim for attorney's fees against the Authority. In response to a motion to transfer venue of the suit, the Authority agreed to a transfer of the suit to Hays County. The transfer and the suit are pending.

Edwards Aquifer Auth. v. Hot Wells, L.P., No. 2010-CI-01213 (285th Dist. Ct., Bexar County, Tex., filed Jan. 26, 2010)

This case is an enforcement action in which the Authority filed suit for civil penalties and

permanent injunctive relief for Defendant's failure to plug an abandoned well. This suit is pending.

Edwards Aquifer Auth. v. Chem. Lime, Ltd., 291 S.W.3d 292 (Tex. 2009); Edwards Aquifer Auth. v. Chem. Lime, Ltd., 212 S.W.3d 683 (Tex. App.—Austin 2006); Chem. Lime, Ltd. v. Edwards Aquifer Auth., No. C2002-0547A (22nd Dist. Ct., Comal County, Tex., dismissed June 3, 2010)

This case involved a preemptive declaratory judgment action to challenge the proposed denial of an application for an IRP. Plaintiff's predecessor in interest filed its IRP application on January 17, 1997, which was after the December 30, 1996 application deadline. The Authority proposed to deny the application because it was filed late. After a jury trial in 2004, Chemical Lime obtained a declaratory judgment that: (1) the Authority rulemaking that established the December 30, 1996 deadline for filing an IRP application was incorrect and instead should have set the deadline as February 16, 1997; (2) alternatively, that Plaintiff's late-filed IRP application "substantially complied" with the Authority's deadline, even though it was filed late; and (3) the EAA Act was not rendered unconstitutional as a result of the repeal of § 1.11(h) of the Act. In addition, the district court awarded Chemical Lime \$481,948.72 in attorney's fees plus additional, unspecified sums conditioned on its success on appeal.

The Authority appealed this decision, which was affirmed by the Austin Court of Appeals.

The Texas Supreme Court reversed the Austin Court of Appeals and held in favor of the Authority. The court affirmed the December 30, 1996 deadline to file permit applications used by the Authority as consistent with the *Barshop* decision and held that Chemical Lime's late-filed application did not substantially comply with the Act's permit application filing requirements. The court awarded the Authority its attorney's fees, and remanded to the District Court for reconsideration of the award of Chemical Lime's attorney's fees. The Authority and Chemical Lime entered a settlement agreement dismissing all claims and counterclaims and jointly sought and were granted an order dismissing all claims and counterclaims between the parties.

Chem. Lime, Ltd. v. Edwards Aquifer Auth., Cause No. C2004-115A (22nd Dist. Ct., Comal County, Tex., dismissed June 14, 2010)

This case involved a constitutional takings claim that was originally part of the *Chemical Lime* case discussed above. By agreement, the Plaintiff severed the takings claim out of that case into this suit. Plaintiff sought declaratory judgment that the Authority's denial of its IRP application amounted to an unconstitutional taking of Plaintiff's groundwater rights without just compensation. Following the Texas Supreme Court's opinion in the *Chemical Lime* appeal and settlement between the parties, *see supra*, an agreed motion to dismiss was granted by the court, dismissing all claims in this suit.

Edwards Aquifer Auth. v. Jaffe, No. 2008-CI-20186 (150th Dist. Ct., Bexar County, Tex., final judgment June 14, 2010)

This case involved an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's failure to plug an abandoned well. The Authority's motion for summary judgment was granted, and final judgment was entered in favor of the Authority. Following entry of Judgment, the Authority and Defendant reached a settlement in which Defendant will plug the abandoned well and pay the Authority's attorney's fees. Following completion of the settlement terms, the final judgment will be vacated.

Edwards Aquifer Auth. v. Stovall, No. 2009-CI-04906 (224th Dist. Ct., Bexar County, Tex., dismissed Sept. 8, 2010)

This case was an enforcement action in which the Authority filed suit for civil penalties and permanent injunctive relief for Defendant's unauthorized withdrawals of groundwater, failure to pay aquifer management fees and failure to meter a well. The Defendant did not respond to the suit and default judgment was taken in favor of the Authority. Defendant moved for and was granted a new trial. The Authority and Defendant reached a settlement, wherein Defendant resolved the violations and paid the Authority's attorney's fees. The suit has been dismissed.