



NOTICE OF OPEN MEETING

As required by Section 7.7.4 of the Funding and Management Agreement (FMA), an interlocal agreement made pursuant to Texas Government Code Chapter 791 by and among the Edwards Aquifer Authority (EAA), the City of New Braunfels (New Braunfels), the City of San Marcos (San Marcos), the City of San Antonio acting by and through its San Antonio Water System (SAWS), Texas State University – San Marcos (TSU), and the Guadalupe Blanco River Authority (GBRA), a meeting of the Implementing Committee for the Edwards Aquifer Habitat Conservation Plan Program is scheduled for **Thursday, June 21, 2012, at 10:30 a.m. at the New Braunfels Civic Center, 375 Castell Ave., New Braunfels, TX.** The meeting may last until 2 pm. Lunch will be served. Please RSVP on lunch to Rick Illgner.

Members of this committee include: Roland Ruiz, (EAA), Mike Morrison (New Braunfels), Tom Taggart (San Marcos), Calvin Finch (SAWS), William Nance (TSU), and Todd Votteler (GBRA). At this meeting, the following business may be considered and recommended for committee action:

1. **Call to order - establish that all Implementing Committee members are present or represented.**
2. **Public Comment.**
3. **Approval of minutes from the Implementing Committee meeting of June 5, 2012.**
4. **Receive report from the Program Manager related to the implementation of the Habitat Conservation Plan and operation of the Implementing Committee.**
5. **Receive report and take necessary action on the Annual Party Work Plans and Cost Estimates for 2013.**
6. **Consider and take possible action regarding Corps of Engineers permitting requirements.**
7. **Discussion and take possible action on Implementing Agreement.**
8. **Consider and take possible action on recommendations for members of the Science Committee identified in Section 7.9 of the Funding and Management Agreement.**
9. **Consider future meetings, dates, locations, and agendas.**

June 15, 2012

Jennifer Wong-Esparza
Assistant to Board Secretary

Pursuant to Section 7.7.4 of the funding and Management Agreement, this scheduled meeting of the Implementing Committee of the Edwards Aquifer Habitat Conservation Plan is not subject to the requirements of the Texas Open Meetings Act, Chapter 551, Texas Government Code.

Implementing Committee of the Edwards Aquifer Habitat Conservation Plan

Minutes of the June 5, 2012 Meeting at the Civic Center in New Braunfels, Texas

1. Call to Order –establish that all implementing committee members are present or represented.

The meeting was called to order at 9:09 a.m. All members of the Implementing Committee were represented. Rick Illgner served as the alternate for the Edwards Aquifer Authority. Mike Abbott served as the alternate for Texas State University. A quorum was present for all purposes. Attached to these minutes is an attendance list that was created at the meeting.

2. Public Comment.

None

3. Approval of minutes from the Implementing Committee of May 17, 2012

Mike Abbott made the motion to approve the minutes of the implementing Committee on May 17, 2012. Michael Morrison seconded the motion. There were no objections; thus, the motion passed.

4. Receive the Report of the Program Manager related to the Implementation of the Habitat Conservation Plan.

Comments have been received from USFWS on the HCP and those changes have been addressed and those comments are available on the EARIP website. The EIS is also near completion and scheduled to be published in the Federal Register soon. Then the NEPA process will begin.

5. Consider and take possible action on the Annual Party Work Plans and Cost Estimates for 2013

The Implementing Committee discussed the Annual Party Work Plans and Cost Estimates for 2013 from a budget perspective. The budgets for 2013 were approved with the following exceptions and modifications:

- a. The \$4000 budgeted for Permitting in the Aquatic Vegetation and Restoration New Braunfels Work Plan has been removed.
- b. The \$2000 budgeted for Management of Public Recreation in New Braunfels has been changed to \$0 for 2013.
- c. Litter Control and Vegetation in New Braunfels approved pending the receipt of documentation of the reallocation of the money and HCP related activities previously allocated for this purpose in the New Braunfels city budget.
- d. The \$2000 budgeted for the Golf Course Management Plan in New Braunfels has been changed to \$0 for 2013.
- e. Only \$300,900 was approved for impervious cover and water quality protection in San Marcos. The \$5,000 that was removed from the 2013 work plan may be returned to the budget at a later date conditioned on the findings of the USACE feasibility study.

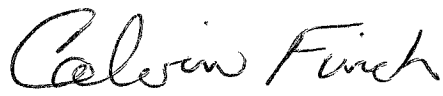
- f. Biological Monitoring (EAA) was not approved but will be reconsidered following the receipt of documentation of the reallocation of the money and HCP related activities previously allocated for this purpose in the EAA budget.
- g. Ecological Modeling (EAA) was not approved but will be reconsidered pending the addition of language explaining the process for coordination with the Science Committee to determine the best approach for 2013.

6. Discuss and take possible action regarding application for funding HCP implementation projects.

Robert Gulley explained to the Implementing Committee the importance of the application process for the EAA budget procedures. Darcy Frownfelter will distribute a copy of the application as soon as it is available. The Committee members expressed concern over their ability to achieve the October 1 deadline for submitting the application

7. Consider Future meeting dates, locations and agendas.

The meeting was adjourned at 1:24 pm. The next meeting is scheduled for June 21, 2012 at the Civic Center in New Braunfels. The Stakeholder Committee will meet at 9:00 and the Implementing Committee meeting will follow.



Calvin Finch,

Secretary to the Implementing Committee

7.7.5. Implementing Committee Voting.

Except as otherwise provided in this Article for resolution of specific issues, a decision of the Implementing Committee will be made only by unanimous vote of the five voting members of the Committee, and any vote less than unanimous will result in disapproval of the proposed decision. Nonvoting members of the Implementing Committee will not be considered as members of the Committee for determining quorum or for decisions involving consensus or voting.

Section 7.8. Stakeholder Committee.

The Parties, through the Implementing Committee, will establish, and invite Stakeholders to designate members of, an Adaptive Management Stakeholder Committee (Stakeholder Committee). The Stakeholder Committee will be comprised and operate as provided in this Section.

7.8.1. Membership on the Stakeholder Committee.

The Stakeholder Committee will be comprised of one representative from each of the Parties and, to the extent possible, one representative from each of the following:

- a. Texas Commission on Environmental Quality;
- b. Texas Parks and Wildlife Department;
- c. Texas Department of Agriculture;
- d. Texas Water Development Board;
- e. Guadalupe-Blanco River Authority;

- f. San Antonio River Authority;
- g. South Central Texas Water Advisory Committee;
- h. Bexar County;
- i. CPS Energy;
- j. Bexar Metropolitan Water District or its successor, if that successor entity is not already represented on the Stakeholder Committee;
- k. A holder of an initial regular permit issued to a retail public utility located west of Bexar County, to be appointed by the EAA;
- l. A holder of an initial regular permit issued by the EAA for industrial purposes, to be appointed by the EAA;
- m. A holder of an industrial surface water right in the Guadalupe River Basin, to be appointed by the Texas Commission on Environmental Quality;
- n. A holder of a municipal surface water right in the Guadalupe River Basin, to be appointed by the Texas Commission on Environmental Quality;
- o. A retail public utility in whose service area the Comal Springs or San Marcos Springs is located;
- p. A holder of an initial regular permit issued by the EAA for irrigation, to be appointed by the commissioner of agriculture;
- q. An agricultural producer from the Edwards Aquifer region, to be appointed by the commissioner of agriculture;

- r. Environmental interests from the Texas Living Waters project, to be appointed by the governing body of that project, or if that project is discontinued, jointly by the National Wildlife Federation and the Lone Star Chapter of the Sierra Club;
- s. Recreational interests in the Guadalupe River Basin, to be appointed by the Texas Parks and Wildlife Commission;
- t. A holder of an EAA initial regular permit issued to a small municipality (population under 50,000) located east of San Antonio to be appointed by the Stakeholder Committee;
- u. Edwards Aquifer region municipal ratepayers/general public, to be appointed by the Stakeholder Committee;
- v. Guadalupe River Basin municipal ratepayers/general public, to be appointed by the Stakeholder Committee;
- w. A conservation organization, to be designated by the Stakeholder Committee; and
- x. Nueces River Authority.

7.8.2. Representatives Serving on the Stakeholder Committee.

The Parties recognize that, with the exception of the Parties, participation on the Stakeholder Committee is voluntary and cannot be compelled by the Service or the Parties. Any entity or class listed above that does not have a designated representative to the Stakeholder Committee will not be considered as a member of the Committee for purposes of determining quorum, consensus, affirmative votes or unanimous votes.

a. Timely Acceptance.

Within 60 days of the effective date of the Permit, and from time to time thereafter as necessary, each designating entity described in Subsection 7.8.1 entitled to designate an entity representative or one or more class representatives to serve as members of the Stakeholder Committee will advise the Program Manager in writing of the name and contact information of each designated representative.

b. Later Acceptance.

A designating entity listed in Subsection 7.8.1 may, at any time after the 60-day period, elect to designate a qualified representative to serve as a member of the Stakeholder Committee by giving written notice to the Program Manager of its intent to designate a representative and by providing the name and contact information of the representative.

c. Authorization to Vote.

Each designated entity representative or class representative will become a member of the Stakeholder Committee on the date that the Program Manager receives the written notification from the designating entity of the designation and the designee's acceptance of the designation as a member. Each member will be authorized to vote on behalf of the entity or class the member represents. If an entity or class listed in Subsection 7.8.1 was represented on the EARIP Steering Committee created under Section 1.26A of the EAA Act, the representative of that entity or class will be presumed to continue as the voting representative of that entity or class on the Stakeholder Committee in the absence of a contrary designation or a written resignation.

d. Alternates.

Each designating entity may appoint one or more alternates to act as its representative Stakeholder Committee member in the absence of its regular designee.

7.8.3. Role of the Stakeholder Committee.

The Stakeholder Committee will have the role in the AMP and the Program as described as follows in this Subsection and as may be specifically provided in other sections of this Agreement:

- a. at the request of the Program Manager or an individual Party, consult with, advise, and make recommendations to the Program Manager, the individual Party, or the Implementing Committee on Routine AMP Decisions;
- b. consult with, advise, and make recommendations to the Implementing Committee on proposed Nonroutine AMP Decisions;
- c. consult with, advise, and make recommendations to the Implementing Committee on proposed Strategic AMP Decisions;
- d. consult with, advise, and make recommendations to the Program Manager or the Implementing Committee on the design of studies related to the Biological Goals or the Biological Objectives;
- e. consult with, advise, and make recommendations to the Program Manager or the Implementing Committee on any other matter at the request of the Program Manager or Implementing Committee; and
- f. make appointments of members to the Science Committee as provided in

Section 7.9.

7.8.4. Meetings of the Stakeholder Committee.

The Stakeholder Committee will meet twice each calendar year and at any other time upon the request of the Program Manager or of any two voting members of the Implementing Committee, or upon petition to the Program Manager by four members of the Stakeholder Committee. Meetings will be conducted at the official offices of the EAA or at another location agreed upon by the Stakeholder Committee. The Program Manager will provide reasonable advance notice of the meetings via email to each member of the Stakeholder Committee and will also post notice of any meeting on the EAA website. Meetings will generally be open to the public, but, with good cause, may be closed to the public at the request of the Program Manager or any two members of the Stakeholder Committee. Meetings of the Stakeholder Committee are not subject to the Texas Open Meetings Act, but the Committee and Program Manager will make reasonable efforts to provide notice of its meetings and conduct them open to the public as though they were subject to the Texas Open Meetings Act.

7.8.5. Stakeholder Committee Voting.

Each member of the Stakeholder Committee will have one vote until that member's participation is resigned, or forfeited by absence, without an authorized alternate, from three consecutive meetings.

7.8.6. Procedures of the Stakeholder Committee.

A quorum for any meeting of the Stakeholder Committee will be three-fourths of the total number of members. The Stakeholder Committee will operate on a consensus basis, to the maximum extent achievable. In the absence of consensus, an affirmative vote of at least three-fourths of the entire membership will be required to approve any recommendation to the Program Manager or the Implementing Committee. The

Stakeholder Committee will elect a chair person, along with any other officers, and adopt procedures to govern its activities.

Section 7.9. Science Committee.

The Parties, through the Implementing Committee, will establish and, in conjunction with the Stakeholder Committee, appoint an Adaptive Management Science Committee (Science Committee). To the extent possible, the Science Committee will be comprised of an odd number of not fewer than seven or more than eleven members, as determined by the Implementing Committee, who have technical expertise in one or more of the following areas: (a) the Edwards Aquifer or its management; (b) the Comal Springs and River as defined by Subsection 3.4.2 of the HCP; (c) the San Marcos Springs and River as defined by Subsection 3.4.3 of the HCP; or (d) the Covered Species.

7.9.1. Membership on the Science Committee.

The Implementing Committee and the Stakeholder Committee will each select an equal number of members of the Science Committee and will coordinate with one another in making selections in order to ensure balance and proper coverage of areas of expertise. The Implementing Committee and the Stakeholder Committee will jointly select one additional member of the Science Committee. In the case of a vacancy on the Science Committee, the committee, or committees, that made the initial appointment for that position will appoint a replacement member.

a. Invitations to Serve.

The Parties recognize that participation on the Science Committee is voluntary and cannot be compelled by the Service or the Parties. Any person to which the Implementing Committee or the Stakeholder Committee extends an invitation to be a member of the Science Committee will be requested to respond in writing to the Program Manager within 30 days of the date of the invitation advising of the

acceptance of the invitation and to provide the invitee's contact information. If an invitee does not timely respond with acceptance, that invitation will be considered declined and another qualified person will be invited to become a member of the Science Committee in the same manner as for the invitation that was declined.

b. Authorization to Vote.

Each member appointed to the Science Committee will be authorized to vote and such appointed member will become a member of the Committee on the date that the Program Manager receives the written acceptance of the appointment.

c. No Alternate.

No member of the Science Committee may designate an alternate to act for that member in the member's absence.

7.9.2. Role of the Science Committee.

The Science Committee will have the role in the AMP and the Program as described in this Subsection, as follows:

- a. consult with, advise and make recommendations to the Program Manager, the Implementing Committee and the Stakeholder Committee on any AMP Decision upon request;
- b. provide independent and unbiased advice based on their best scientific judgment so that all AMP Decisions will be made consistent with the best scientific and commercial data available; and
- c. participate in the meetings of the Science Review Panel and provide to the Panel such information as requested by that Panel or the Implementing

Committee.

7.9.3. Operations of the Science Committee.

a. Meetings.

The Science Committee will meet at any time upon the request of the Program Manager, the Implementing Committee, or the Stakeholder Committee. Meetings will be conducted at the official offices of the EAA or at any other location agreed upon by the Science Committee. The Program Manager will provide reasonable advance notice of the meetings via email to each member of the Science Committee and will post notice of any meeting on the EAA website. Meetings will generally be open to the public, but, with good cause, may be closed to the public at the request of the Program Manager or any two members of the Science Committee. Meetings of the Science Committee are not subject to the Texas Open Meetings Act, but the Committee and Program Manager will make reasonable efforts to provide notice of its meetings and conduct them open to the public as though they were subject to the Texas Open Meetings Act.

b. Subcommittees.

The Science Committee may be organized into subcommittees as jointly determined by the Program Manager and Implementing Committee.

7.9.4. Requests for Science Committee Evaluations or Recommendations.

a. Requests on Proposed Routine AMP Decisions.

Requests by the Program Manager, the Implementing Committee, or the Stakeholder Committee for an evaluation or recommendation on a proposed Routine AMP Decision may be made to the entire Science Committee or the

appropriate subcommittee of the Science Committee. However, for any proposed Routine AMP Decision that has significant potential to affect the overall well-being of a Covered Species, the decision-maker (the Program Manager or the Implementing Committee, as appropriate) will, if time allows, consult the Science Committee for input prior to making a decision or, if that is not possible, as soon as possible after making the decision and will adjust the decision as appropriate.

b. Requests on Other AMP Decisions.

For any proposed Nonroutine or Strategic AMP Decision, the Implementing Committee will seek a recommendation from the entire Science Committee prior to taking action on the proposed decision.

c. Information Provided.

The Program Manager will regularly inform the Science Committee of plans related to the applied research activities described in the HCP, including, but not limited to, Subsections 6.3.4 (applied research facility), 6.3.5 (Texas wild-rice enhancement) and 6.3.6 (monitoring and reduction of gill parasites), and, unless exigent conditions require otherwise, seek comments and recommendations from the Science Committee with regard to the research plans before the plans are implemented. The Program Manager will also inform the Science Committee and the Science Review Panel of the findings and results of the research activities.

7.9.5. Procedures.

The Science Committee and its subcommittees will operate to the maximum extent achievable by a collaborative process designed to achieve consensus. In the absence of full consensus on any evaluation or recommendation, the Science Committee will provide a written summary of competing positions to the Program Manager or the Implementing or Stakeholder Committees, as may be appropriate. Each member of the Science

Committee will have one vote towards consensus until participation is resigned, or forfeited by absence from three consecutive meetings. A quorum for any meeting of the Science Committee will be three-fourths of the total number of members for whom the Program Manager has received the notification of acceptance described in Subsection 7.9.1.b. The Science Committee will elect a chair person and a vice chair and adopt procedures to govern its activities.

7.9.6. EAA Funding.

The EAA, after consulting with the Implementing Committee, may enter into contracts with members of the Science Committee as, in the judgment of the EAA, are necessary and reasonable to secure the members' services.

Section 7.10. Creation of the Science Review Panel.

Not later than December 31, 2013, the EAA will enter into a contract with the National Academies of the National Academy of Science to establish an independent Science Review Panel (SRP), select its members, and undertake the ongoing role of overseeing the SRP activities. If the National Academies declines to enter into a contract that is reasonable in the judgment of the Implementing Committee, the Program Manager will consult with the Implementing Committee and the Stakeholder Committee in order to develop a consensus recommendation to the EAA on another comparable organization to select, and contract to fulfill that role. The Implementing Committee, in its discretion and after receiving the recommendation of the Stakeholder Committee, may recommend to the EAA that it contract with one organization for selection of SRP members, and contract with another organization for the ongoing role of overseeing SRP activities.

7.10.1. Membership of the Science Review Panel.

The SRP will have five members, chosen on the basis of their expertise in the scientific areas most relevant to resolution of issues expected to arise in the AMP. The members

2013 Budget Chart

June 11, 2012

Measure	Allocated Amount for 2013 in 7.1 of the HCP	Estimated 2013 Cost as given in 2013 Work Plans	Status of Work Plan
New Braunfels			
Old Channel Restoration	\$400,000	\$400,000	Approved for substance and budget
Flow split management	\$150,000	\$287,500	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ¹
Aquatic vegetation restoration	\$200,000	\$149,500	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ²
Non-native animal species control	\$135,000	\$135,700	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ³
Decaying vegetation removal	\$750,000	\$139,600	Approved for substance and budget
Riparian improvement - riffle beetle	\$100,000	\$123,050	Approved for substance and budget
Gill parasite control	\$175,000	\$178,250	Approved for substance and budget
Restoration of riparian zones	\$200,000	\$411,125	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ⁴
Prohibition of hazardous material routes	\$10,000	\$10,000	Approved for substance and budget
Incentive program for LID/BMP storm water management	\$300,000	\$300,150	Approved for substance and budget
Household hazardous	\$30,000	\$31,625	Approved for substance and

¹ The Flow Split Management Work Plan will be revised to include more detail on the efforts that New Braunfels is taking independent of the HCP to repair culverts, gates, and Landa Dam. The Work Plan will additionally state that the final design plan for this project will require Science Committee approval prior to implementation.

² The \$4,000 budgeted for permitting within this Work Plan will be removed.

³ Language addressing a limit on live-bait will be added to this Work Plan for Landa Lake. This will address concerns raised about native bait species.

⁴ The Work Plan will indicate that where bank stabilization is necessary, it will be done in a manner that minimizes any impact in regards to cultural resources and habitat. Once an engineering plan has been developed, it will undergo Science Committee review and recommendation prior to implementation.

2013 Budget Chart

June 11, 2012

Measure	Allocated Amount for 2013 in 7.1 of the HCP	Estimated 2013 Cost as given in 2013 Work Plans	Status of Work Plan
waste program			budget
Management of public recreation use	\$0	\$0	Approved based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ⁵
Litter control and floating vegetation management	\$0	\$40,419	Approved pending the receipt of documentation of the reallocation of the money and HCP related activities previously allocated for this purpose in the NB city budget
Golf Course Management Plan	\$0	\$0	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ⁶
Education	\$0	\$30,000	Approved for substance and budget based on the changes provided by Nathan Pence at the June 5, 2012 meeting of the Implementing Committee ⁷
	\$2,450,000	\$2,236,919	
San Marcos/Texas State			
Texas Wild-Rice Enhancement and Restoration	\$250,000	\$226,550 ⁸	Approved for substance and budget
Sediment Removal	\$500,000	\$151,800	Approved for substance and budget
Control of Non-Native Plant Species	\$375,000	\$278,300	Approved for substance and budget
Management of Floating Vegetation Mats & Litter	\$80,000	\$92,000	Approved for substance and budget
Non-Native Species Control	\$35,000	\$35,075	Approved for substance and budget

⁵ The estimated budget for this Work Plan will be changed to \$0.

⁶ The estimated budget for this Work Plan will be changed to \$0.

⁷ This Work Plan will be edited to include information regarding the cooperation of New Braunfels and San Marcos with signage and other educational elements. Information about NB City projects in relevant education will also be included.

⁸ Of this amount, \$50,000 is allocated for 2012 work in the Year Zero Work Plan. This amount will be paid back to the EAA from the 2013 budget leaving \$176,550 for actual work in 2013.

2013 Budget Chart

June 11, 2012

Measure	Allocated Amount for 2013 in 7.1 of the HCP	Estimated 2013 Cost as given in 2013 Work Plans	Status of Work Plan
Sessom Creek Sand Bar Removal	\$25,000	\$25,000	Approved for substance and budget
Designation of Permanent Access Points/Bank Stabilization	\$500,000	\$469,200	Approved for substance and budget
Native Riparian Habitat Restoration	\$100,000	\$100,050	Approved for substance and budget
Management of Recreation in Key Areas	\$0	\$68,700 ⁹	Approved for substance and budget
Impervious Cover/Water Quality Protection	\$500,000	\$300,900	Approved \$300,900 for work in 2013 ¹⁰ . \$5,000 may be returned to the budget at a later date conditioned on a finding of the USACE Feasibility Study that the study is beneficial to the listed species and concurrence by the Science Committee
Management of Household Hazardous Waste	\$30,000	\$29,120	Approved for substance and budget
Prohibition of Hazardous Materials Transport Across the San Marcos River and its tributaries	\$0	\$0	Approved for substance and budget
Septic System Registration and Permitting Program	\$0	\$0	Approved for substance and budget
Minimizing Impacts of Contaminated Runoff	\$0	Included in Impervious Cover/Water Quality Protection	Approved for substance and budget
Diversions of Surface Water	\$0	\$0	Approved for substance and budget
Diving Classes in Spring Lake	\$0	\$0	Approved for substance and budget
Research Programs in			Approved for substance and

⁹ Of this amount, \$25,000 is allocated for 2012 in the Year Zero Work Plan for State Scientific Areas. The money will need to be repaid to the EAA from the 2013 budget. This leaves \$43,700 needed from surplus for work in 2013.

¹⁰ Of this amount, \$25,000 is allocated for 2012 in the Year Zero Work Plan for LID/BMP. The money will be repaid to the EAA from the 2013 budget. This leaves \$275,900 for work in 2013.

2013 Budget Chart

June 11, 2012

Measure	Allocated Amount for 2013 in 7.1 of the HCP	Estimated 2013 Cost as given in 2013 Work Plans	Status of Work Plan
Spring Lake	\$0	\$0	budget
Boating in Spring Lake and Sewell Park	\$0	\$0	Approved for substance and budget
Management of Golf Course and Grounds	\$0	\$0	Approved for substance and budget
Education	\$0	\$20,000	Approved for substance and budget
	\$2,395,000	\$1,796,695	
EAA			
Biological Monitoring	\$400,000	\$400,000	Substance Approved. Budget approval pending the receipt of documentation of the reallocation of the money and HCP related activities previously allocated (\$240,000) for this purpose in the EAA budget
Ecological Modeling	\$175,000	\$175,000	Approval pending the addition of language explaining the process for coordination with the Science Committee on the determination of what the modeling approach for 2013 should be.
Applied Research at USFWS National Fish Hatchery and Technology Center	\$750,000	\$750,000 ¹¹	Approved for substance and budget
Water Quality Monitoring (San Marcos Springs)	\$100,000	\$103,419	Approved for substance and budget
Water Quality Monitoring (Comal Springs)	\$100,000	\$105,086	Approved for substance and budget
SAWS ASR (Leasing)	\$4,759,000	\$3,703,290	Approved for substance and budget
SAWS ASR (O&M)	\$2,194,000	\$1,250,000	Approved for substance and budget
VISPO	\$4,172,000	\$4,172,000	Approved for substance and budget
Regional Municipal			Approved for substance and

¹¹ \$25,000 for 2012 funding is allocated in the Year Zero Work Plan. This will be paid back from the 2013 budget leaving \$725,000 for work completed in 2013.

2013 Budget Chart

June 11, 2012

Measure	Allocated Amount for 2013 in 7.1 of the HCP	Estimated 2013 Cost as given in 2013 Work Plans	Status of Work Plan
Water Conservation	\$493,250	\$493,250	budget
Refugia	\$1,678,597	\$1,684,175	Approved for substance and budget
Project Management	\$750,000	\$652,404	Approved for substance and budget ¹²
	\$15,571,847	\$13,488,624	
Total of all Measures	\$20,416,847	\$17,522,238	

¹² Estimated budget amount includes the original Project Management Work Plan and the Conservation Coordinator included in the Regional Municipal Water Conservation Work Plan for 2013.

NARRATIVE & BUDGET

HCP Measure 6.3.1 - BIOLOGICAL MONITORING

Long-term Objective: The major long-term objective of biological monitoring is to monitor changes to habitat availability and population abundance of the Covered Species that may result from Covered Activities. A concurrent objective is to continue data collection aimed at filling important gaps in the ecological knowledge of the Comal and San Marcos springs and river ecosystems. The collection of data aimed at filling data gaps through biological monitoring will be coordinated with the applied environmental research (HCP Measure 6.3.4) to be conducted at the USFWS National Fish Hatchery and Technology Center (NFH&TC) and conducted in a manner to inform the ecological model development described in HCP Measure 6.3.3.

Introduction/Overview: The Comprehensive and Critical Period Monitoring Program to Evaluate the Effects of Variable Flow on Biological Resources in the Comal and San Marcos Springs Aquatic Ecosystems (Variable Flow Study) was initiated in Fall 2000. The development of the Variable Flow Study was a collaborative effort starting as a prospective study within the Edwards Aquifer Optimization Program (EAOP) in the late 1990's. During the late 1990's, a Technical Advisory Group (TAG) for the EAOP was formed consisting of resource specialists / scientists from multiple entities (see BIO-WEST 2007). The TAG developed the framework for the Variable Flow Study and a workshop was held in May 2000 to discuss a proposed sampling protocol for both springs' systems. The workshop was attended by resource professionals from the Edwards Aquifer Authority, TPWD, USFWS Austin Ecological Services (ES), USFWS NFHTC, and scientists from the Edwards Aquifer Research and Data Center (EARDC), and Texas State University (TSU). Discussions were conducted at the workshop, and subsequently, comments were incorporated into a final sampling program which was further reviewed and accepted by the USFWS and TPWD during late summer 2000.

As discussed in HCP section 6.3.1, the Variable Flow Study will provide the core for biological monitoring associated with the HCP. As proven over the past decade and evident by the extensive use of this data for the preparation of the HCP, the Variable Flow Study has provided an excellent framework for tracking the Covered Species and associated habitat responses of both the Comal and San Marcos systems over time. However, to increase the robustness of the program and answer additional questions posed during HCP development, several additional components to the Variable Flow study will be added as described below. As specified in the HCP, the scope of the Variable Flow Study currently can be modified on a yearly basis as provided in the Funding and Management Agreement (FMA) with agreement by the USFWS. Additionally, it is proposed that upon development of the EARIP Adaptive Management Plan (AMP) science panel, a full review of all HCP measures and AMP activities (including biological monitoring) be undertaken by that entity.

Target for 2013: Continue the Variable Flow Study program along with implementing new study components as described below.

Protocol: The Variable Flow Study program consists of the on-going Comprehensive monitoring that is currently being conducted. A detailed description of activities is presented in BIO-WEST (2007) and summarized as follows:

- VARIABLE FLOW STUDY
 - Aquatic Vegetation mapping - GPS mapping - Conducted Spring and Fall.
 - Representative study reaches - 4 reaches at Comal Springs and 3 reaches at San Marcos Springs.
 - Texas wild-rice mapping - GPS mapping - Conducted annually (Summer)
 - Full System mapping at San Marcos
 - Fish sampling - Drop Netting - Conducted Spring and Fall.
 - Same reaches as aquatic vegetation mapping (note: the Spring Lake Dam reach at San Marcos is added for Drop Net sampling as a new activity)
 - All darters collected are visually examined for evidence of gill parasites
 - Fountain Darter specific sampling - Dip Netting and SCUBA surveys - Conducted Spring and Fall.
 - Dip netting involves timed surveys as well as Presence/Absence surveys in specified reaches throughout the spatial extent of both systems.
 - SCUBA surveys include area surveys in fixed locations in Landa Lake and Spring Lake.
 - Comal springs riffle beetle sampling - Cotton lure sampling - Conducted Spring and Fall.
 - Spring Run 3, Western Shoreline, and Spring Island area - Comal Springs
 - Comal Springs Riffle Beetle, Peck's cave amphipod and Comal Springs dryopid beetle sampling - Drift Net - Conducted Spring and Fall.
 - Spring runs and Western Shoreline - Comal Springs
 - Salamander sampling - Snorkeling and SCUBA surveys - Conducted Spring and Fall
 - San Marcos Salamander - 3 locations (1 below Spring Lake Dam [snorkel] and 2 within Spring Lake [SCUBA])
 - Comal Salamander - 3 locations (Spring runs 1 and 3, and Spring Island area)
 - Comal Springs Discharge measurements - Conducted Spring and Fall.
 - Conducted at Spring runs 1, 2, and 3, upper spring run reach, and Old Channel below Elizabeth Street.
 - Water quality - standard parameters and fixed-station temperature loggers
 - Standard parameters conducted spring and fall throughout each system.
 - Temperature data via continuous data loggers.
 - Fixed station photography - Conducted Spring and Fall.
 - Both Comal and San Marcos systems

The Variable Flow Study also consists of additional flow-triggered Critical Period Sampling to be conducted when flows reach predefined trigger levels (both high and low) (BIO-WEST 2007). This sampling consists of a repeat of all the study components described above in addition to water quality sampling for conventional parameters (nutrients, alkalinity, and total suspended solids) at 15 sites in the Comal system and 18 sites in the San Marcos system; additional Texas wild-rice physical habitat mapping; and predation/gut content studies associated with extreme low-flow events.

Additional components for inclusion in Variable Flow Study program for 2013 include:

- Full system – aquatic vegetation mapping – GPS. The full system vegetation mapping is being added to ensure the representative study reaches remain representative of the system as a whole as the HCP moves forward.
 - San Marcos (Spring Lake to confluence with the Blanco River) and Comal (Upper spring run reach to confluence with the Guadalupe River). This includes both the physical mapping in the field and map preparation using GIS.
 - Conducted in Spring 2013, then every 5 years.
- Expand fish sampling (Dropnet) in San Marcos to include the Spring Lake Dam reach. This measure is being added to maximize the efficiency of the aquatic vegetation data currently being collected and add robustness to the fountain darter data set for the San Marcos River.
 - Using the standard dropnetting techniques established for the Variable Flow Study, conduct dropnet sampling in duplicate within 3 main aquatic vegetation types in the Spring Lake Dam study reach.
 - Conducted Spring and Fall, and during any Critical Period Sampling.
- Additional flow partitioning within Landa Lake during each Variable Flow Study Comprehensive and Critical Period sampling effort. This measure is being added to provide a better understanding of the spring flow influence within Landa Lake as upwelling flow within Landa Lake is imperative to Comal Springs riffle beetle survival during low-flow events.
 - Using an Acoustic Doppler profiler or similar device, measure the flow patterns and current velocities from Spring Island through the upper portion of Landa Lake concurrently with Variable Flow Study discharge measurements at Comal Springs.
 - Conducted Spring and Fall.
- Macroinvertebrate food source monitoring within Variable Flow Study representative reaches. This measure is being added to better understand the food source base for fountain darters in each system and how that food base responds to varying flow conditions. It may turn out that fountain darter food sources are depleted long before aquatic vegetation dies off (meaning current HCP flow requirements may be presently under protective), or that food sources remain long after aquatic vegetation decay which may mean current requirements are over protective. Regardless, this component is currently a major unknown that has the potential to affect long-term biological goals for the fountain darter.

- Conduct macroinvertebrate sampling using a modified surber sampler, modified stovepipe sampler or similar device within each of the 7 study reaches (4 at Comal and 3 at San Marcos) to characterize food sources available for fountain darters.
- Samples will be collected in triplicate from 3 vegetation types (based on majority present or adjusted based on fountain darter habitat quality) within each of the 7 study reaches for a total of 63 samples per event. Activity includes macroinvertebrate sample processing.
- Additionally, the macroinvertebrate sampling will assist in gathering baseline data on the two non-listed macroinvertebrate species, the Edwards Aquifer diving beetle, and Texas troglobitic water slater that are covered in the HCP.
- Conducted during Spring and Fall Variable Flow Study monitoring.
- Fish Sampling – multiple gear types for native fishes – Spring and Fall. This component is being added to provide a more holistic fishery evaluation of the overall aquatic ecosystem. The information may assist in describing cause and effect relationships with fountain darter abundances over time.
 - Using seines and SCUBA perform fisheries surveys in both the Comal and San Marcos as follows.
 - Two locations within Spring Lake associated with San Marcos Salamander surveys (Big riverbed and hotel area) will be sampled for fish via SCUBA transect surveys in conjunction with the Variable Flow study sampling. Five locations spatially located between Spring Lake dam and the confluence of the Blanco River will be sampled by seining to evaluate and track native fish populations in the San Marcos River over time.
 - Similarly, one location in Landa Lake associated with fountain darter belt transect surveys will be expanded to include a transect survey for all fish via SCUBA. Additionally, 3 locations (Upper Spring Run, New Channel, and Old Channel) will be sampled via seines to evaluate and track native fish populations in the Comal River over time.
 - For seine samples, fish will be collected in each identifiable mesohabitat within a sample reach length of 40 times the mean wetted width (or one full meander wavelength). Physical measurements will be made in association with each seine haul and will include current velocity, depth, substrate composition, and instream cover (large woody debris, boulders, undercut banks, macrophytes, velocity shelters, etc.). Notes on climatic conditions and mesohabitat typing will also be recorded. Released fish will be identified, measured, and examined for disease and other anomalies. Voucher specimens will be preserved in 10% formalin. In all cases, fish sampling will continue as long as additional species are being collected. Seining (minimum 10 effective seine hauls) will be conducted in various habitats using a variety of seines sizes and seining techniques (e.g., riffles kicks). It should be noted that a seine haul where zero fish are collected is considered an effective seine haul if the haul was not impeded (i.e. snagged), allowing fish to escape. Examples of commonly used seines include a 9.1 m x 1.8 m x 7.6 cm (30' x 6' x 1/4") mesh seine for

- sampling pools and open runs and a 4.6 m x 1.8 m x 5.7 cm (15' x 6' x 3/16") mesh seine for sampling riffles, runs, and small pools. Seines will be constructed of delta weave mesh with double lead weights on the bottom line. Seine size used, seine haul length, site information, and personnel will be recorded. Fishes collected from each seine haul will be processed independently.
- Underwater observation transects will occur from downstream to upstream with 5 meter transects arranged parallel to the shoreline. Underwater observers will work each 5 m transect from the downstream position moving upstream (i.e., moving into the flow). Fishes within each transect will be identified and counted.
 - Spring and fall sampling in coordination with Variable Flow study sampling.
 - All non-native fishes collected during seine hauls will be removed from the system per scientific permit requirements.

Allocated funds for 2013: \$400,000 combined for Comal and San Marcos systems

Estimated 2013 Budget broken down per activity:

- Existing Variable Flow Study Comprehensive Sampling:
 - Total Cost: \$250,000
- Existing Variable Flow Study Critical Period Sampling: \$0 - As these events are flow-triggered and unpredictable relative to occurrence, funding for the Critical Period sampling component will be provided under EAA endangered species contingency funding.
- Full system aquatic vegetation mapping
 - Total Cost: \$35,000
- Expanded fish sampling (Dropnet) in San Marcos to the Spring Lake Dam reach
 - Total Cost: \$7,500
- Additional flow partitioning within Landa Lake during sampling efforts.
 - Total Cost: \$9,500
- Macroinvertebrate food source monitoring within representative reaches.
 - Total Cost: \$57,500
- Fish Sampling – multiple gear types for native fishes assessment
 - Total Cost: \$40,500 in 2013 with the potential for additional funding in other 4 years as full aquatic vegetation mapping won't be conducted

Bio-Monitoring Budget Justification

Comprehensive bio-monitoring efforts began with a collaborative effort that included input from the Edwards Aquifer Authority, Texas Parks & Wildlife Department (TPWD), USFWS, and scientists from the Edwards Aquifer Research and Data Center and Texas State University. All subsequent monitoring plan modifications were made in conjunction with Bio-West, USFWS and the TPWD. The original bio-monitoring plan included a comprehensive and critical period portion. The comprehensive portion was four regularly-scheduled seasonal monitoring events to capture average flow variation of low, high and two transitional periods. The critical period portion was a menu of specific activities for each ecosystem that was triggered by designated low-flow conditions.

The comprehensive monitoring activities were easy to include in a yearly budget and were a part of the regular budget from the outset (2000). However, the critical period sampling monitoring was more difficult. The thresholds, monitoring activities, and cost estimates were provided for specific events and an annual budget was presented for contract purposes based on a hypothetical estimate of specific events. Therefore, an Endangered Species Mitigation Fund was created from all fines received for compliance settlements and payment for critical period monitoring came from the fund. Also, high-flow triggers were added to critical period in recognition of habitat disturbance caused by flood scouring. Since 2005 the EAA spent \$400,000 for critical period monitoring as follows:

<u>YEAR</u>	<u>AMOUNT</u>
2005	0.00
2006	\$36,518.60
2007	0.00
2008	0.00
2009	206,701.24
2010	50,000.00
2011	107,428.33
Total	\$400,648.17

The 2012 EAA regular budget contains \$240,000 for comprehensive bio-monitoring and \$50,000 for critical period bio-monitoring. The 2013 bio-monitoring work plan includes \$250,000 for existing comprehensive monitoring efforts in the two ecosystems and \$150,000 for new monitoring efforts in the two ecosystems. As Table 7.1 identifies \$200,000 of bio-monitoring activities for each ecosystem, the EAA anticipated moving all of the bio-monitoring activities to the HCP budget, except the critical period bio-monitoring that will still be paid from the Endangered Species Mitigation Fund.

In addition, the EAA funds numerous other activities at its own expense that directly support the HCP:

- In 2012, the EAA approved a contract with southwest Research Inc. to begin development a new groundwater model to more accurately predict aquifer and spring discharge scenarios. The contract is for \$1, 090,852 and the EAA estimates it will expend at least \$250,000 in 2013
- The USGS has been collecting various hydrologic data for the EAA for decades. Because of the increased importance of timely accurate springflow data, the USGS regularly visits the monitoring station in Comal and San Marcos springs to confirm the proper reporting of flow data and recalibrate if necessary. This activity occurs on two-week intervals during severe drought and dropping springflow conditions.
- The USGS installed new flow gages on the old and new channels at Comal springs to better discern the flow regimes for each segment.
- In the last ten years, the EAA has conducted numerous dye traces in both ecosystems to better learn the hydrologic plumbing.
- Finally, four special focused studies were funded to answer specific questions that were raised during bio-monitoring activities:

BIO-WEST, Inc. 2002b. Comal Springs Riffle Beetle Habitat and Population Evaluation. Final Report. Edwards Aquifer Authority. 24 p.

BIO-WEST, Inc. 2002c. Comal Springs riffle beetle laboratory evaluation study: evaluation under variable flow conditions. Final Report. Edwards Aquifer Authority. 27 p.

BIO-WEST, Inc. 2002d. Fountain darter laboratory study: reproductive response to parasites and temperature fluctuations. Final Report. Edwards Aquifer Authority. 12 p.

BIO-WEST, Inc. 2004b. Aquatic vegetation laboratory study: Phase 1: Observations of water quality changes and plant growth under various flows. Phase 2: Effects of carbon dioxide level on aquatic plants found in the Comal and San Marcos Springs/River Ecosystems. Final Report. Edwards Aquifer Authority. 25 p.

In summary, bio-monitoring was established as a support mechanism for endangered species mitigation and the data collected since 2000 has been invaluable in developing the HCP. The existing and expanded bio-monitoring activities will play a pivotal role in adaptive management during the next seven years. The EAA recognizes and supports consistency and equity in HCP funding eligibility among the Implementing Committee members and does not wish to have special treatment.

Accordingly, the EAA prefers to include all bio-monitoring activities in the HCP budget and remove bio-monitoring expenses from the regular EAA budget, excepting critical period.

HCP Measure 6.3.3 - ECOLOGICAL MODELING

Long-term Objective: The long-term objectives of this measure are to develop a predictive ecological model for the individual Covered Species, to estimate potential adverse ecological effects from Covered Activities, and to quantify the magnitude of such effects if they occur. Additionally, the predictive tool will assist the Applicants in developing alternative approaches or possible mitigation strategies, if necessary.

Introduction/Overview: The other HCP measures are designed to continue tracking the ecological systems over time (biological and water quality monitoring), improve habitat and Covered Species conditions (restoration and non-native controls, etc.), and increase the understanding of the ecological interactions (applied research at the experimental channel, gill parasite research, Old Channel restoration and protection, etc.) relative to the Covered Species. These are all necessary and informative activities. However, until a repeat of the drought of record occurs or extended periods of drought (as modeled for the proposed HCP alternative) are encountered, none of these activities can predict what impacts are likely to occur, and ultimately, whether the proposed Action is protective. As such, there is a critical need to develop a predictive tool to evaluate potential scenarios using the best available data to date and the data collected via the AMP.

The development of mechanistic ecological models is a fast-developing field that has seen many successes and failures in the past decade. As repeatedly documented in the literature, the results coming out of any model are only as good as the data going in. As such, data collection and coordination amongst each HCP measure need to be designed to the degree practicable to provide inputs to the ecological models. This will be particularly important for the following HCP Measures: biological monitoring, applied research, Old Channel restoration and protection, gill parasite research, expanded water quality monitoring, non-native species control and monitoring on both systems, Texas wild-rice restoration and monitoring, and native aquatic vegetation restoration and monitoring on both systems.

Target for 2013: Develop the framework for a mechanistic ecological model for the fountain darter specific to Comal Springs through the initial development of a conceptual model and proof of concept model runs as described below.

Protocol: The development of a mechanistic ecological model for every individual component of a complex, karst driven aquifer is likely unattainable. However, the proposed effort focuses on the ecological aspects of the Covered Species and springs environment using a three-phased approach.

Phase 1 will be the preparation of a detailed conceptual model for the fountain darter at Comal Springs. The influence diagrams produced for the HCP will serve as a starting point for this exercise, followed by the development of a more detailed conceptual model. At this point, a group of scientists familiar with the fountain darter and the Comal system will be convened for a series of meetings/workshops focused on describing and defining the ecological linkages that could be

addressed within a mechanistic ecological model. Additionally, this group of scientists will also be determining the level and type of mechanistic modeling that may be necessary to accomplish defining and describing these ecological linkages in a manner supportive of the AMP. These discussions will occur concurrently with conceptual model development and are anticipated to be concluded by early spring 2013. The available data will be examined in detail and discussions will focus on how the ongoing HCP measures could be designed to further answer questions for data input into the ecological model. From the results of the series of meetings/workshops, the conceptual model and modeling approach will be determined and serve as the framework for mechanistic model development. Following agreement on a modeling approach, the contractor will perform monthly conference calls with the HCP applicants and program manager, as well as face-to-face meetings on a quarterly schedule.

Phase 2 will involve the development of the model framework and grid within the established model boundary. For the proof of concept exercise in 2013 the model boundary will include Comal Springs and the associated watershed areas directly affecting surface water runoff into Comal Springs. Groundwater flow dynamics will not be recreated for simulation, but rather MODFLOW or an updated EAA groundwater model will be linked to the ecological model to provide the groundwater discharge input. Additionally, a basic rainfall, runoff model will be incorporated to allow for the introduction of potential surface water contaminants into the springs environment at a larger spatial scale. The focus will be to incorporate those larger scale inputs into a local depiction of Comal Springs on a much finer scale. It is anticipated that cell size over the watershed would be approximately 40 m by 40 m, whereas the spring environments would be modeled on a 5 m by 5 m grid with specific areas including 1 m by 1m grids.

Phase 3 will be to build several of the key model linkages established during phase 1 into the model and run the model on a proof of concept level. At the conclusion of 2013, the proof of concept model runs will be presented to the HCP implementing committee and any established scientific body established during the AMP. It will be understood that not all of the model components (in fact, many of the key aquatic vegetation, gill parasite, Old Channel restoration and protection, etc. interactions) simply won't be known at the conclusion of 2013. Full model development for the fountain darter at Comal Springs will be completed in 2014. However, at the 2013 meeting, a decision will be made whether a proof of concept level approach should be extended in 2014 for development of a Comal Springs riffle beetle model. Expanding the fountain darter model to San Marcos Springs and adding a Texas wild-rice proof of concept model development would occur in 2015.

Modeling Protocol Process

A two-day workshop will be held with consultants that offer a particular model (such as EDYS) or a modeling approach (regression, neural networks, IBMs, etc.), modeling experts that understand ecological modeling, but are not promoting a model or approach, and local scientists such as Dr. Thom Hardy and Ed Oborny. All parties will be sent Section 6.3.3 (Ecological Modeling) from the HCP in advance of the meeting and be instructed that the goals of an ecological model are to address the requirements listed in that section. On the first day of the workshop, the consultants will make their presentations and answer questions by the modeling experts and local scientists. The second day the modeling experts will convene, debrief about the presentations from the previous day and prepare a report for the Implementing Committee that summarizes the model presentation and provides a group recommendation on the appropriate model or approach. The Implementing Committee will consider the report and make a determination as to if and to what extent the Ecological Modeling work plan and budget should be revised for 2013.

Allocated funds for 2013: \$175,000

Estimated 2013 Budget broken down per activity:

- Phase 1 - Development of conceptual model and meetings/workshops.
 - Total Cost: \$22,500
- Phase 2 - Establishment of model boundary and framework.
 - Total Cost: \$115,000
- Phase 3 - Inclusion of basic linkages and proof of concept model runs.
 - Total Cost: \$37,500

Allocated Amount	\$175,000
Money Advanced in 2012 as part of Zero Year Program	\$25,000
Money Available in 2013 ¹	\$150,000

¹ The \$25,000 advanced by EAA in 2012 will be reimbursed to EAA out of the \$175,000 Allocated Amount leaving \$150,000 for work in 2013.

2012 Stakeholder Committee

Name	Affiliation	Phone	Email	Representing	Alternate
Abbott, Mike	Texas State University	512-245-6652	MA01@txstate.edu	Texas State University	Andy Sansom
Adkins, Carl	Texas BASS Federation Nation		cadkins002@centurytel.net	Recreational Interest in the Guadalupe River Basin	
Alexander, Bruce	East Medina County SUD	830 709-3879	balexander@emcsud.dst.tx.us	Holder of initial regular permit issued by the EAA for retail public utility located west of Bexar County	Bob Lee
Benson, Buck	Alamo Cement/Pulman Law	210-222-9494	BBenson@pulmanlaw.com	Holder of initial regular permit issued by the EAA for industrial purposes	Leigh Leshin
Betz, Cary	TCEQ	512-239-4506	Cary.Betz@tceq.texas.gov	TCEQ	Herman Settemeyer
Biggers, Roger	New Braunfels Utility	830-629-8470	rbiggers@nbutexas.com	Retail public utility in whose service area the Comal Springs or San Marcos Springs is located	
Bower, Jim	City of Garden Ridge	210-650-8881	jmbmail@satx.rr.com	Holder of an EAA initial regular permit issued to a small municipality (population under 50,000)	Tony Zugay
Cooksey, Doris	CPS Energy	210-353-2077	dmcooksey@cpsenergy.com	CPS Energy	Louisa Eclarinal
Ruiz, Roland	Edwards Aquifer Authority	210 477-5143	rruiz@edwardsaquifer.org	Edwards Aquifer Authority	Rick Illgner
Faulk, Kelley	TX Dept. of Agriculture		Kelley.Faulk@TexasAgriculture.gov	TX Dept. of Agriculture	Mike McMurry
Finch, Calvin	San Antonio Water System	210-233-3649	calvin.finch@saws.org	SAWS	Patrick Shriver
Gilleland, Rader	Gilleland Farms	830-591-8760	rader@americanlumber.net	Holder of an initial regular permit issued by the EAA for irrigation	Adam Yablonski
Green, Renee	Bexar County	210-335-6782	rgreen@bexar.org	Bexar County	Kerim Jacaman
Hess, Myron	National Wildlife Federation	512 610-7754	hess@nwf.org	Environmental Interest from the Texas Living Waters Project	Tyson Broad
Howard, Melani	City of San Marcos	512-393-8448	mhoward@sanmarcostx.gov	City of San Marcos	
James, Jerry	City of Victoria	361-485-3230	jjames@victoriatx.org	Holder of a municipal surface water right in the	James Dodson

				Guadalupe River Basin	
Leathers, Gena	DOW Chemical	979-238-9953	GALeathers@dow.com	Holder of an industrial surface water right in the Guadalupe River Basin	
Loeffler, Cindy	TPWD	512-389-8715	Cindy.Loeffler@tpwd.state.tx.us	TPWD	Colette Barron
Middleton, Gary	South Central Texas Water Advisory Committee	361-576-1068	gary.middleton@suddenlink.net	South Central Texas Water Advisory Committee	Bob Keith
Mims, Con	Nueces River Authority	830-278-6810	cmims@nueces-ra.org	Nueces River Authority	Kirby Brown
Morrison, Michael	City of New Braunfels	830-221-4280	mmorrison@nbtexas.org	City of New Braunfels	Nathan Pence
Nelson, Matt	TWDB	512-936-3550	Matt.Nelson@twdb.state.tx.us	TWDB	
Patterson, Kirk	Regional Clean Air and Water	210 822-0157	jkirkpatterson@sbcglobal.net	Edwards Aquifer Region municipal ratepayers/general public	Carol Patterson
Pfannstiel, Ray Joy	Guadalupe County Farm Bureau	830-914-2134	ppfann@att.net	Agricultural Producer from the Edwards Aquifer Region	Herman Harris
Raabe, Steve	San Antonio River Authority	210-302-3614	sraabe@sara-tx.org	SARA	Mike Gonzales
Votteler, Todd	GBRA	830-379-5822	Tvotteler@gbra.org	GBRA	Bill West
Wassenich, Diane	San Marcos River Foundation	512-393-3787	wassenich@grandecom.net	Conservation Organization	Annalisa Peace
Taggart, Tom	Guadalupe Basin Coalition	512-393-8303	ttaggart@sanmarcostx.gov	Guadalupe River Basin Municipal Ratepayers/General Public	Gary Spence

***Highlighted Names pending appointment by the Stakeholder Committee

June 15, 2012

Nominations for the EAHCP Science Committee

Glenn Longely

Jackie Poole

Tom Brandt

Ron Green

Charles Kreidler

Robert Mace

Ed Oborny

Sam Vaugh

Shirley Wade

Doyle Mosier

Chad Norris

Thom Hardy

Robert Doyle

Tom Arsuffi