Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)

Thursday, November 17th, 2011 at 10:00 am
Guadalupe-Blanco River Authority, River Annex
905 Nolan
Seguin, TX 78155

AGENDA

I. Introductions

II. Public Comment

III. Discussion and Agreement on Agenda

IV. Approval of Minutes from July 18th and 19th, 2011, July 28th, 2011, August 2nd and 3rd, 2011, August 16th, 2011 and August 29th, 2011

V. Texas Commission on Environmental Quality (TCEQ) Rulemaking Process and Schedule

VI. Review and Discussion of Work Plan for Adaptive Management and Prioritization of Work Plan Elements and Creation of a Work Plan Work Group
   A. Instream Flows—Rivers, Streams, Tributaries and Riparian Zones
   B. Bays and Estuaries

VII. Review BBASC Meeting Rules and Discuss Potential Revisions, if Needed, To Guide the Work Plan Development Phase of the BBASC's Responsibilities

VIII. Review and Discussion of Proposed 2012 Meeting Dates and Discuss December Meeting Date, Time and Location

IX. Public Comment

X. Adjourn

AGENDA ITEM I

Introductions

AGENDA ITEM II

Public Comment

AGENDA ITEM III

Discussion and Agreement on Agenda

AGENDA ITEM IV

Approval of Minutes from July 18th and 19th, 2011, July 28th, 2011, August 2nd and 3rd, 2011, August 16th, August 29th, 2011 and October 11, 2011

Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)

Monday, July 18, 2011 & Tuesday, July 19, 2011

San Antonio Water System (SAWS) Customer Service Building, Room CR 145
2800 US Highway 281 North
San Antonio, Texas 78212

MINUTES

Members Present: Suzanne Scott, Chair; Dianne Wassenich, Vice Chair; Tyson Broad; Thurman Clements; Karl Dreher; Paula DiFonzo; Jennifer Ellis; Steve Fotiades; Chris Hale; Jerry James; James Lee Murphy; Mike Mecke; Mike Peters; Con Mims; Jack Campbell; Kim Stoker; Garrett Engelking; Bill Braden; Myron Hess (for Ken Dunton); Josh Gray (for Jay Gray); Walter Womack; Jennifer Youngblood.

I. Introductions:
Roll call was taken and a quorum was reached.

II. Public Comment:
There was no public comment at this time.

III. Discussion and Agreement on Agenda
The agenda was approved.

IV. Approval of Minutes from the June 1, 2011 Meeting
Minutes for the June 1, 2011 meeting were approved.

V. Discussion and Agreement on Interim BBASC Recommendations, Brian Perkins, HDR

Facilitator Presentation (Rozelle)
Marty Rozelle, the Rozelle Group, reviewed the BBASC purpose statement. She reviewed the process that will be used to review each of the gages and the guidelines for a productive group interaction. She reviewed some points about consensus: the group's meeting rules developed over a year ago defines consensus; consensus doesn't mean unanimity; it means your interests are met to some degree; means you don't have to like it. Red/Yellow/Green cards to indicate where people are. Red means stop. Can't move forward. Red is then asked what do you need to move forward? What would have to change to allow you to move forward? Need to share all relevant information. If it is going to affect things today or down the line, the group needs to know it.

TPWD Response to Subsistence Flows (Mayes)
Kevin Mayes, TPWD, discussed TPWD staff's role in the BBEST process and the TPWD memo generated in response to the BBEST report regarding low subsistence flows recommended in the report. Mr. Mayes responded to questions raised by members about specific issues raised in the response and why TPWD felt these concerns were so critical.

Report on Pulse Implementation Sub-Committee Recommendations
Committee chair Suzanne Scott stated that at the last meeting, members created a

subcommittee to review pulse requirements. The workgroup held several conference calls and guided Brian Perkins, HDR/Technical consultant, in preparing a series of concepts on how to approach ~~defining~~ formulating pulses exemptions. Mr. Perkins, presented these concepts and the results from the subcommittee. The two concepts suggested at the last meeting were as follows:

- Concept 1: Diversion Rate-Pulse Peak Ratio Method. Using the pulse magnitude vs. maximum diversion rate authorized, determine which pulses would apply. This idea lead to discussion of ~~Applicable to~~ on-channel reservoirs vs. ~~/off-channel reservoirs and~~ run of the river diversions and off-channel reservoirs;
- Concept 2: Permitting Test Method. Using the pulses as a test during the permitting process and not necessarily written into the permit.

Subcommittee members looked at the concepts in more detail and how to implement each. Mr. Perkins presented the results of applying each concept and showed how the results varied.

Mr. Perkins: Concept 1: All five tiers would be in recommendations, but when applicant came in, would be exempt from some or all pulses because the diversion rate of the applicant would be so small that they couldn't actually affect that pulse. Exemption test for each pulse. Therefore applicant wouldn't have to have that requirement in their permit.

Mr. Perkins: For on-channel reservoirs, have in theory a very large diversion/impoundment rate. Therefore, in theory, all pulses would apply. For Run of River however, if higher than ratio, pulse would apply. If lower, would not apply.

Members discussed the different concepts and the advantages/disadvantages of each. Members requested Mr. Perkins to look at the cumulative effects of evaluating multiple simultaneous projects. He reminded members of the effect on prior~~ity~~ appropriation on existing and new water rights. Members pointed out that prior appropriation system did not eliminate concerns about cumulative effects, and that multiple projects with pulse exemptions could result in affecting pulses.

Members asked BBEST Chairman Sam Vaugh to discuss the differences between the BBEST recommendations and the two concepts under consideration. Chairman Vaugh stated that the BBEST presented how they thought the pulses could be implemented to maintain a sound ecological environment and the BBEST charge did not extend to evaluating the permitting and operational intricacies as the BBASC has undertaken.

Chair Scott suggested a preliminary vote on the proposed concepts and members favored Concept 1. After further discussion, there was a general agreement to use Concept 1 and determine the standard for the prescribed ratio after further analysis and discussion.

Chair Scott discussed the efforts of the subcommittee to address concerns noted by member Mike Peters regarding the complexity of the tiered approach. They discussed the use of the 12 month rolling average to establish what hydrologic trigger applied, and how the hydrologic conditions set at the beginning of the season would be constant for that season. She talked about the subcommittees concern with lack of tools to manage this type of permit and the ongoing efforts to develop one.

Chair Scott said the subcommittee also discussed the tiers of base flows and the management of it. The subcommittee didn't have a specific recommendation on this issue, but did note

Comment [TB1]: As discussed at BBASC meeting of Oct 11, 2011, the references the pulse exemptions to on-channel reservoirs should be removed.

several things relating to this: BBEST recommended 3 tiered system of base flows based on habitat considerations, the instream flow recommendations for the San Antonio recommended 3 tiered system based on habitat conditions, and Dr. Hardy stated that 3 tiered base flows was necessary for habitat/variability reasons—that some adjustments could be made to the numbers in the boxes, but not to the 3 tier structure.

Continuation of Gage by Gage Review and Discussion

Members evaluated options, using the BBEST recommendations as a starting point, regarding BBASC discussion and follow up analysis. They discussed concerns and conditions, and noted concerns or preliminary approval on each. **No formal decisions were made on recommendations at this meeting. These discussions and preliminary decisions will be revisited prior to adopting recommendations for each site.**

Gage: GUADALUPE at COMFORT

Subsistence Flows

BBEST recommendations: 2cfs – 10 cfs
Q95
TPWD high concern based on ~~considered~~ this site ~~to~~ haveing minimal habitat

Members **AGREED** to use the Q95 values for fall, winter and spring, and the BBEST numbers for the summer season.

50 % Rule

- Mr. Perkins explained that during a dry hydrologic condition when flow falls below the base flow numbers, the permit holder could divert ½ the flows present down to subsistence.

Members discussed applying the 50% rule to the Q95 numbers. No decision was made.

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

- Mr. Perkins explained the proposed three tier approach to base flows as follows:
  - Wet Hydrologic Condition 25% of the time
  - Average Hydrologic Condition 50% of the time
  - Dry Hydrologic Condition 25% of the time

Three levels of baseflow determined at the beginning of the season based on a twelve month rolling average of stream flow. During Wet and Average base flows, a new water right cannot divert below the base flows. During the dry conditions, there will be some diversions below ~~subsistence~~ base dry (as yet to be determined). ????

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the 2nd day's meeting. Mr. Perkins points out that BBASC doesn't need to recommend all 5 tiers, could recommend 3 (or other) instead. (Differentiate high flow pulse from overbank flows). Members acknowledged a need to make a distinction between high flow pulses and overbank flows. Another member noted there are no overbank flows at this gage.

Gage: GUADALUPE at SPRING BRANCH

Comment [TB2]: Proper definition of 50% rule needs to inserted: Seasonal subsistence flow plus 50 percent of the difference between inflow and the seasonal subsistence…as per 4.1.1.3c

Comment [DCH3]: Per suggestion the following sentence (4.1.1.3c of the report) will be included where noted: Under dry hydrologic conditions, if inflow is less than the seasonal base value and greater than the seasonal subsistence value, then the seasonal subsistence flow plus 50 percent of the difference between inflow and the seasonal subsistence value must be passed, and the balance may be impounded or diverted to the extent available, subject to senior water rights.

Comment [E4]: Although this is what Brian actually said (42.00), I suggest either striking it or correcting it b/c he misspoke (never divert below subsistence)

Subsistence Flows

BBEST recommendations: 1.3 cfs – 6.6 cfs
Q95, except for summer which is BBEST
Annual Average Across Seasons
TPWD: high concerns, ~~considered~~ based on this site ~~to~~ havinge minimal/limited habitat

Members **AGREED** to an annual average across the seasons.

50 % Rule

Members agreed to apply the 50% rule to 18 cfs ~~for all seasons~~. The 50% rule is defined: Under dry hydrologic conditions, if inflow is less than the seasonal base value and greater than the seasonal subsistence value, then the seasonal subsistence flow plus 50 percent of the difference between inflow and the seasonal subsistence value must be passed, and the balance may be impounded or diverted to the extent available, subject to senior water rights.

Comment [TB5]: Proper definition of 50% rule needed here

Formatted: Font: Georgia

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers
Concept 1: % of authorized diversion rate (% to be determined)
Specify Overbank Flows

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session. Members did not need to make a distinction between high flow pulses and overbank flows since there are no overbank flows at this location.

Gage: BLANCO at WIMBERLY

Subsistence Flows

BBEST recommendations: 6.7cfs – 7.9 cfs
Q95
TPWD: high concerns, ~~considered~~ based on this site ~~to~~ havinge minimal habitat

Members **AGREED** to use the Q95 values for all seasons.

50 % Rule

Members agreed to use the 50% rule to the seasonal Q95 numbers as recommended by the BBEST.

Comment [TB6]: Proper description needed

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members **AGREED** to the hydrologic conditions as presented by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers (no overbank flows)
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to use the BBEST recommendation.

Gage: SAN MARCOS RIVER at LULING

Subsistence Flows

BBEST recommendations: 73 cfs – 78 cfs
Q95 – Seasonal values for fall, winter, and spring
TPWD: moderate concerns, no habitat modeling available

Members **AGREED** to use the Q95 values for fall, winter and spring, and the BBEST numbers for the summer season.

50 % Rule

Members **AGREED** applying the 50% rule to the Q95 values for fall, winter and spring, and the BBEST numbers for the summer season as recommended by the BBEST.

Comment [TB7]: Proper description needed

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members **AGREED** to the hydrologic conditions as presented by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers (top 3 tiers overbank flows and pulses)
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session.

Members discussed whether to apply Concept 1 to all 5 tiers, whether to reduce the number of tiers, and the liability, or lack of liability of overbank flows. Members talked about the liability and potential financial penalties resulting from property damage caused by these flows. They debated whether these requirements will obligate water right holders to not implement flood control, allow flood flows that result in downstream flooding and a liable situation for the water right holder. Members also discussed the biological benefits of overbank flows that naturally occur. Members discussed the potential of having flood control built into discussion on strategies.

Gage: PLUM CREEK at LULING

Members discussed the water quality issues present at this gage.

Subsistence Flows

BBEST recommendation: 1.0 cfs
Q95 – Seasonal values for fall, winter, and spring

Members **AGREED** to use the BBEST recommendation.

50 % Rule

Members **AGREED** applying the 50% rule to the BBEST recommendation.

Comment [TB8]: This is a correct description that could be used thru the rest of the minutes.

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members **AGREED** to the hydrologic conditions as presented by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session. Members had the same concerns regarding the number of tiers as were expressed for the gage at San Marcos at Luling.

Gage: SANDIES near WESTHOFF

Mr. Perkins noted:
TPWD high level of concern
No water temperature concerns
Many DO violations

Subsistence Flows

BBEST recommendations: 1.0 cfs
Q95

Members **AGREED** to use the Q95 values for all seasons.

50 % Rule

Members **AGREED** to applying the 50% rule ~~to the Q95 values for all seasons.~~ as recommended by the BBEST

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members **AGREED** to the hydrologic conditions as presented by the BBEST.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers (top 3 tiers overbank flows and pulses)
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session. Members **AGREED** to apply Concept 1 to the 5 tiers.

Gage: GUADALUPE at GONZALES

Mr. Perkins presented the additional information available from the evaluation of this site. He talked about the supplemental studies done by BBEST member Dr. Thom Hardy on habitat relationships and the adjustments that Dr. Hardy would make to the ~~BBSET~~ BBEST recommendations for base flows. Mr. Perkins presented the results from HDR's additional analysis on base flows and the evaluation of the mid basin project located here.

(2:57:00) Full BBEST: Mid-Basin firm yield = 13,150 acft firm yield
Dry Base down 40cfs and base ave and base wet down 40cfs= 13,525 acft firm yield
Dry Base down 40cfs, base ave and base wet decreased proportionally = 13,650 acft firm yield

GBRA completed some additional work on the data available at this location. Mr. Tony Smith, consultant for GBRA, presented the results of this work to members. GBRA presented their recommendation based on the results of their evaluation of the data used by the BBEST is one level of subsistence, one level of base dry and one level of pulses at this location based on their interpretation of best available science. GBRA is recommending the

Formatted: Font: Not Bold

Formatted: Indent: Left: 0.25"

TCEQ East Texas structure (one level of subsistence, one level of base dry and one level of pulses) for this location.

BBEST member Dr. Norman Johns presented the inflow analysis on the impacts of applying the TCEQ structure to the Guadalupe at Gonzales. His analysis showed that the TCEQ structure applied to this project ~~leaves~~ causes some change, a decline, in inflows particularly in the summer. Dr. Johns noted that the analysis shows a decrease in the habitat quality (Oysters and *Rangia*).

Members had a very lengthy discussion about the Mid-Basin project and balancing for human water supply needs.

Member Jim Murphy stated that bottom line for GBRA is that this project will not harm the estuary or instream. Based on BBEST #s. BBEST: 13,xxx aft. TCEQ structure: 25,xxx. Charge of BBASC is to look at human needs. MDP is most realistic plan. This project 25,000 acft, combining with groundwater adding additional 23,000 to 25,000 acft, used conjunctively. No other plans as close to be built. This project cost if $2-$4 Million. Human needs project that can be built with TCEQ East Texas structure without harm. This one will be built. If we are going to look at human needs, this is the place to do it.

Another member noted that yield impact is at base flow tiers, not pulse.

Subsistence Flows:
BBEST recs: no red, 16 green. Lost Jim
No vote on Q95 since no reds on BBEST
50% rule: 2 red, 2 yellow, 18 green

More discussion on 50% rule. Thoughts from Sam Vaugh re: habitat curves showing that there is better quality of habitat at lower flows at this location. Questions from member asked about the other two legs of the stool that are the other two pieces of the science picture. Mr. Vaugh reported not having much data on those other legs (water quality, temperature). Kevin Mayes tries to address why this is counterintuitive, says he would have to delve into the curves. Perhaps because habitat is being moved from one area to another.

Re-vote on 50% rule: 4 reds (??)

Base Flows: 6 reds
Base Flow, one tier structure: 9 reds, 8 yellow, 4 green

More discussion about why people were voting red. Chair Scott noted that all the science the group has seen so far has pointed to the need for three tiers of base flows, that the system needs that variability. Vice-Chair Wassenich notes that the BBASC would like to build such a project, and that she believes we could build, size it and operate it in such a way (3 tiers, 50% rule etc.) where we could have the project but not take more water from the system at times it really needs it.

Mr. Vaugh goes through additional figures to show where yield gain sits within the flow curves as well as where the environmental impacts are. He notes the flat spots in the curves.

Marty asks if anyone would change their vote. No changes.

Comment [E9]: There is a major portion of notes missing here. All the discussion about the Mid-Basin project, balancing, where the yield impacts are, the scientific basis for various viewpoints, as well as all the voting on the gage. Did TCEQ's tape end before the meeting was over? I tried to fill in what I could.

Formatted: Font: Not Bold

July 19, 2011 - Day 2 Session

Introduction
Chair Suzanne Scott called the second day of the meeting to order. Roll Call was taken and a quorum was reached.

Public Comments: The BBASC were presented with a resolution by the Rockport-Fulton Chamber of Commerce urging members to recommend freshwater inflows sufficient to maintain the health of the bays and estuaries and to support endangered whooping cranes. The resolution is attached to these minutes.

Ron Outen spoke about there being no difference between human and environmental needs, that they are one in the same. Bays are the economic engine of significant economy. Not just for Aransas Co, but for San Antonio and other communities served.

Committee facilitator Marty Rozelle, Rozelle Group, led a discussion on the activities of the previous day session. A member noted being confused about differences between Region L Mid-Basin project and the Mid-Basin project being talked about here, and not being sure whether we were getting an apples to apples comparison. Another member raised concerns about how curves/graphs were being presented. Chair Scott wanted to ask more questions of Ed Oborny about one tier of base flows and the impacts of that vs. the importance of more tiers. Another member noted concerns about the bays not getting enough freshwater inflow at the right times.

Member Mims noted he didn't want to see this process erode surface water projects in Region L plan. So when talking about Mid-Basin project, would like to see how the BBEST recommendations affect the Region L project. A handout was distributed showing the various versions of the Mid-Basin project and various yields based on various environmental criteria. This analysis was discussed in depth by members, looking at yields, costs, reservoir sizes, and environmental criteria.

It was noted that doubling the size of the Mid-Basin Project reservoir would allow you to keep the yield of the reservoir at 25,000 acft and meet the full BBEST environmental flow recommendations with an increase from $3.32 per 1,000 gallons to $3.68 per 1,000 gallons.

GBRA noted that their internal cost figures were higher and their customers wouldn't pay such an increase as well as additional concerns about trying to shut down permitting in the basin.

Chair Scott asked Ed Oborny to go into some detail about justifications of three tiers of base flows vs. one tier of base flows. Technical consultant Ed Oborny explained how the projects evaluated during the BBASC review are to determine what effect future projects may have on the basin. He walked thru an example to show how the (a?) project was evaluated and how the results can be applied. He emphasized that when looking at analyses, that we have been just looking at one project. One project may not make a difference in the variability, but when you do multiple projects, you probably will start to impact it. You have to look at cumulative effect.

Members also discussed the justification for the percentages used throughout the recommendations (Hydrologic conditions).

Chair Scott stated that it is the BBASC's charge to consider the human needs in their ultimate recommendation.

Continuation of Gage by Gage Review and Discussion

Gage: GUADALUPE at GONZALES cont.

Subsistence Flows

BBEST recommendations: 180 cfs – 210 cfs
Q95
TPWD: low/moderate concern

Members **AGREED** to use the BBEST recommendation.

50 % Rule

Members **AGREED** applying the 50% rule to the BBEST recommendation.

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.
GBRA recommendation: one level of base dry

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members and members

Hydrology Conditions

BBEST recommendations: 25%/50%/25% Baseflow 12 mo. moving average

Members **AGREED** to the hydrologic conditions as presented by the BBEST.

Tier Flow Volumes

BBEST recommendations values for dry, average, and wet baseflowss
Dr. Hardy adjustments: 40 cfs to dry base flow & proportionate adjustment to wet and average base flows

Members **AGREED** to use Dr. Hardy's recommendation for dry/average/wet volumes

Pulse/Overbank Flows

BBEST recommendation: 5 tiers (top 3 tiers overbank flows and 2 pulses)
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session. Members **AGREED** to apply Concept 1 to the 5 tiers.

Gage: GUADALUPE at VICTORIA

Mr. Jerry James discussed his concerns with the 50% rule, the addition of Dr. Hardy's adjustments, and the potential impact to future permits of the City of Victoria.

Subsistence Flows

BBEST recommendations: 110 cfs – 160 cfs
TPWD: moderate concern

Members **AGREED** to use the BBEST recommendation.

50 % Rule

Members **AGREED** applying the 50% rule to the BBEST recommendation.

Base Flows

BBEST recommendations: 3 tiers 25%/50%/25% Baseflow 12 mo. moving avg.
GBRA recommendation: one level of dry base flow

Members **AGREED** to use the three tier approach as described including the values recommended by the BBEST and members and members.

Hydrology Conditions

BBEST recommendations: 25%/50%/25% Baseflow 12 mo. moving average

Members **AGREED** to the hydrologic conditions as presented by the BBEST.

Member James Lee Murphy stated that GBRA were of the opinion that the group is not considering human needs as is the charge of the BBASC, and is more concerned with the effects to the environment. He added that the decisions of the BBASC will hinder any possibility of a project being developed for the next 15 years using the present engineering, and showed a lack of confidence in the TCEQ methodology. He requested that the record state that GBRA believes the BBASC failed in its charge to evaluate the structure in human needs.

Formatted: Font: (Default) Georgia

Comment [E10]: I think if we are going to include this (which I think should be included, for the record) we also need to include documentation here of the balancing efforts. That is why I have tried to add some detail of some of these discussions.

Chair Scott stated that she confirmed with Mr. Todd Chenoweth, TCEQ. Mr. Chenoweth stated that the TCEQ did not have a methodology in place for determining "wet, dry and average" conditions. The TCEQ does not have a preference for the necessity of separating a base flow into different hydrological conditions, or how a flow regime must be broken up. The TCEQ would like to see recommendations on these issues from the BBASC. If the BBASC recommends different flows for "wet, dry and average conditions" then the TCEQ would like to see the BBASC's recommendations on how to define those terms for the basin. Mr. Cory Horan, TCEQ, confirmed that TCEQ does not have a specific methodology in place for this basin and will weigh the recommendations and comments of the SAC, BBEST, BBASC and others received throughout this process in the development of standards for this basin. Members were reminded that the purpose of the BBASC to balance environmental flows with human needs.

Tier Flow Volumes

BBEST recommendations values for dry, average, and wet baseflows
Dr. Hardy adjustments: reduce dry base value by 50 cfs, wet base by 75 cfs and average base flows by something between (50 cfs – 75 cfs)

Members **AGREED** to use Dr. Hardy's recommendation for dry/average/wet volumes

Members will further discuss the use of Dr. Hardy's recommendation for dry/average/wet volumes since three members had strongly feelings against the recommendation.

Pulse/Overbank Flows

BBEST recommendation: 5 tiers (top 3 tiers overbank flows and 2 pulses)
Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to Concept 1, to use a percentage of the authorized diversion rate and will determine what percent at the second day session. Members **AGREED** to apply Concept 1 to the 5 tiers.

Gage: GUADALUPE at CUERO

Mr. Perkins noted that the Cuero gage is located downstream of the gage at Victoria and upstream of the gage at Gonzales. He added that members should bear in mind the groups' decision to reduce the flows at both these gages when considering recommendations for this

gage. Members discussed the geologic differences in the locations.

Subsistence Flows

BBEST recommendations: 86 cfs – 130 cfs
Dr. Hardy adjustments (50-75 cfs shifts for all levels)
TPWD: moderate concern with subsistence flows

Members **AGREED** to use the BBEST recommendation.

50 % Rule

Members **AGREED** applying the 50% rule to the BBEST recommendation.

Chair Scott announced that after consideration of the Guadalupe at Cuero gage, the facilitators will lead a discussion to determine what the "yellow vote actually means." Members who voted red or yellow must make their concerns known so the BBASC can direct the BBEST and/or contractors to complete any work needed to address those concerns before the formal decision is made at the August 3, 2011 meeting on the BBASC recommendation.

VI. Discussion and Agreement on Strategies to Meet Environmental Flow Standards, Brian Perkins, HDR

San Antonio Basin

Dr. Norman Johns presented the results of his additional work on the mid-basin project presented during the previous day session. He analyzed the project using the TCEQ structure and showed the variations in the results. Members asked numerous questions about the methodology, decision points, and values derived. Ed Oborny stated that the Instream Flow Program did not look at the environmental conditions using the 50% rule because the program does not look at implementation.

Mr. Perkins will perform an additional iteration where the subsistence flows are reduced from 80 cfs to 60 cfs. This additional analysis may result in a change in attainment level. However, with the 50% rule applied, the change may be minimal. Dr.? Oborny stated that existing analysis indicates more iterations are needed. Members postponed voting on this item.

Formatted: Font: (Default) Georgia, Highlight

Mr. Perkins gave an overview of the work done on the Guadalupe at Cuero gage before members returned to voting on their recommendation for this gage.

Gage: SAN ANTONIO at GOLIAD

Chair Scott noted that the instream flow committee report for SB2 was an interim report and the review will not be complete until August.

Structure

BBEST structure
SB2 (best available science) structure (Texas Instream Flow Program)

Members **AGREED** to use the SB2 recommendation.

Subsistence Flows with/without 50% Rule

SB2 recommendation: 80 cfs
Alternate recommendation: 60 cfs with 50% rule

Members **AGREED** to use the alternate recommendation of 60 cfs with the 50% rule.

Base Flows and Hydrologic Conditions

Recommendation: 3 tiers 25%/50%/25% Baseflow, seasonal average

GBRA recommendation: one level of dry base flow

Members **AGREED** to the three tier 25%/50%/25% base flow based on seasonal averages.

High Flow Pulses

Recommendation: as presented on the handout

Concept 1: % of authorized diversion rate (% to be determined)

Members **AGREED** to recommendation as presented on the handout...brief explanation of handout or better identify

Overbank Flows

Recommendation: as presented on the handout

Members **AGREED** to recommendation as presented on the handout

Gage: SAN ANTONIO at FALLS CITY and SAN ANTONIO at ELMENDORF

Members agreed to use the same recommendations at the Falls City and Elmendorf gages as was agreed to for the gage at Goliad.

VII. Meeting Dates, Times and Locations

The next meeting will be held at 1:00 on Tuesday, August 2, 2011 and at 8:30 on Wednesday, August 3, 2011 at SAWS.

IX. Public Comment

X. Adjourn

Rockport Fulton
Chamber of Commerce

Resolution concerning the health and productivity of the bays and estuaries in and surrounding Aransas County Texas:

Whereas, the main mission of the Rockport-Fulton Chamber of Commerce is to promote the profitability and growth of businesses in Aransas County,

Whereas, the well being, profitability and growth of these businesses is dependent on the one million visitors, including Winter Texans, who regard the city of Rockport and the town of Fulton as a prime destination for the enjoyment of vacation time and water based recreational activities which include fishing, boating, kayaking, and the enjoyment of beaches and waterfronts,

Whereas, these activities are dependent on the health of the county's bays and estuaries,

Whereas, an endangered species, the Whooping Crane, winters in the Aransas National Wildlife Refuge and surrounding areas in Aransas County,

Whereas, a high number of these waterfowl died as a result of the drought of 2009 due to the lack of sufficient blue crabs, one of their main food sources,

Whereas, the blue crab is dependent on sufficient freshwater inflows,

Whereas, the numbers of redfish, speckled sea trout and flounder have declined in periods of drought to the extent that local fishing guides are forced to other areas of the coastal bend in order to satisfy catch requirements of their clients,

Whereas, the harvest of oysters and shrimp normally taken in these bays has been much reduced,

Whereas, the legislative intent of Senate Bill 3 was to provide for sufficient fresh water inflows to provide for the viability of our bays and estuaries and comply with the Texas Water Code,

On this 21st day of June, 2011, then be it resolved that the Rockport- Fulton Chamber of Commerce does support and urges the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee to recommend freshwater flows which are sufficient to maintain the health of these bays and in particular provide for support of the endangered Whooping Crane which winters in the Aransas National Wildlife Refuge.

Diane Pabst

President/CEO

United States Chamber of Commerce
ACCREDITED

404 Broadway, Rockport, TX 78382 • 1.800.242.0071 • 361.729.6445 • Fax 361.729.7681
www.rockport-fulton.org

Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)

Monday, July 28, 2011

New Braunfels Utilities Service Training Room
355 FM 306
New Braunfels, Texas 78131

MINUTES

Members Present: Steve Raabe (for Suzanne Scott, Chair); Dianne Wassenich, Vice Chair; Bill Braden; Tyson Broad; Jack Campbell; Thurman Clements; Rick Illgner (for Karl Dreher); Paula DiFonzo; James Dodson (for Ken Dunton); Jennifer Ellis; Stephen Fotiades; Josh Gray (for Jay Gray); Chris Hale; Jerry James; Everett Johnson; Mike Mecke; Mike Peters; Con Mims; Tommy Hill for (James Lee Murphy); Steve Clouse (for Robert Puente); Doris Cooksey (for Kim Stoker); and Micah Voulgaris (for Jennifer Youngblood).

I. Introductions:
Roll call was taken and a quorum was reached.

II. Public Comment:
There was no public comment at this time.

III. Discussion and Agreement on Agenda
Members made minor changes to the agenda and the agenda was approved as amended.

IV. Approval of Minutes from the July 6, 2011 Meeting
Minutes for July 6, 2011 meeting will be emailed to members and considered for approval at the next meeting.

V. Discussion and Agreement on Interim BBASC Recommendations, Brian Perkins, HDR

1. Review and Discussion of BBEST Environmental Flow Recommendations for Bay and Estuary(Dr. Norman Johns, BBEST)
Dr. Norman Johns presented a quick review of the BBEST criteria for bays and estuaries. He noted the two sets of criteria (the spring criteria, G1 and the summer criteria, G2), the support documentation in the report that discussed how the numbers were derived and how they relate to salinities in the bay. He discussed the suite of criteria for each G1 and G2 defined by volume of inflow in the cumulative three month period, and with regards to low flows the differentiation in the criteria is more related to the response of the bay to the inflows. He talked about how the BBEST recommended attainment levels based on these criteria for use in rating the different projects. He cautioned members that if they choose to adjust these levels for the higher flow volumes (or criteria), adjustments should be made in the middle volumes such that the ratio of the lowest to highest volumes remains the same. He said this ratio would apply if the source of the volumes changes such as applying the Region L WAM. He noted the intent was to evaluate applications using these criteria and not using the criteria as special conditions in a permit.

2. Review and Discussion of Texas Parks and Wildlife Department (TPWD) Response to BBEST Report Regarding Bay and Estuary (Dr. Norman Boyd, TPWD)

Dr. Dan Opdyke, TPWD, briefly highlighted some of the concerns discussed in the TPWD comment letter regarding the estuary inflow criteria. He said the BBEST recommendations used a habitat approach based on salinity levels related to only two species and TPWD was concerned that additional species were not considered. He recommended pulses that pass the final gage should be allowed to flow into the estuary. BBEST Chairman Vaugh clarified that the BBEST intended for the instream flow criteria to be extrapolated to the saltwater barrier. Vice Chair Wassenich noted that if the BBASC chose to accept the BBEST recommendation, then a statement needed to be included in their recommendation to clarify.

Member Everett Johnson pointed out there are diversions between the saltwater barrier and Victoria, TX, and flows that pass Victoria will not necessarily flow to the bay. Members requested information on the flow passing at the last saltwater barrier on the Guadalupe River to better understand what the true freshwater inflow is.

Dr. Norman Boyd, TPWD, presented the results of some additional studies of data from the Guadalupe and San Antonio Bay area during the drought of 2008-2009 and the subsequent recovery years. He talked about the drought and its relative severity compared to historic records. He discussed the sources of freshwater for the area, the salinity trends seen at the gages, and talked about the other species impacted by lack of freshwater inflows. He talked about how salinity affects the catch rate particularly with shrimp. BBEST Chairman Vaugh noted that the BBEST studies indicate that the inflows are there and it is up to the BBASC to decide whether to recommend to explicitly protect them.

3. Development of the Bay and Estuary Recommendation

Technical consultant Brian Perkins, HDR, presented a flowchart on the structure decision process similar to the one used for instream flow recommendations to assist members in defining the BBASC estuary recommendations. He explained how the decision points on the flowchart are points where members need to decide if the instream flow recommendation is adequate, or if a specific estuary inflow recommendation is needed; and if so, whether it should be considered during the evaluation process of the application or as a special condition in the permit.

Group facilitator Susan Springer, Rozelle Group, presented the decision points according to the flow chart and asked members to vote accordingly. She reminded members that all preliminary recommendations will be reviewed and finalized at the next meeting.

Members evaluated:

Explicit Estuary Standards Necessary?

Those members who voted "no" expressed concern as to whether additional recommendations are necessary and the decision should be delayed until the instream recommendations have been evaluated to determine if they are adequate.

If Estuary Standards are Adopted, what Form is Recommended

Members discussed how TCEQ presently handles these applications, noted that bay and estuary standards are already imposed if the application is located within 200 miles of the coast and the question should be whether these are adequate.

Model Evaluation:
This approach was recommended by the BBEST.
Permit Requirement:
No recommendation

Adoption of BBEST Criteria as Presented

~~Members voted to G1 season (*rangia*), G2 season (oyster), including all levels in the suites and attainment frequencies associated with them.~~
Members were asked to consider the format of estuary recommendations, if the group agrees to recommend specific estuary standards. The group considered whether the estuary recommendations should be based on model evaluations, as recommended by the BBEST, or through a permitting option, to be applied as a special condition as TCEQ evaluates water right applications.

First Vote : no decision
Second Vote: no decision

Members asked what other options are available. BBEST Chairman Vaugh listed ~~how members can vary the recommendation within the BBEST structure~~options including instream standards only, BBEST recommendations with adjustments, or current State Methodology, and members discussed other options.

Members who voted "no" suggested additional discussion to resolve concerns. An issue for discussion includes what additional restrictions result from these estuary criteria on applications for a new water right. Chairman Vaugh presented an example of how the criteria can be applied. Dr. Johns stated that the Bay and Estuary criteria needs the pulses included in the instream flow criteria. Chairman Vaugh emphasized that the BBEST instream standards apply below the last gage to the estuary. Dr. Johns briefly compared the current State Methodology with the BBEST recommendations and Chairman Vaugh presented oyster harvests computed from freshwater inflow time series using equations from the State Methodology7 updated for Region L. Members discussed the impact of these recommendations on future projects such as the mid basin project and the need to consider these projects on a regional basis to better manage water resources.

Additional Proposal

Member Steven Fotiades proposed using the baseline under the BBEST estuary criteria, and as long as a proposed project does not result in additional negative impact to the estuaries, the project can be approved for a new permit. If the proposed project has a negative impact, it would need to be modified until no negative impact resulted from the project.

Members proposed to table a vote on this proposal until the next meeting.

4. Pulses, Concept 1

Concept 1: Diversion Rate-Pulse Peak Ratio Method. Using the pulse magnitude vs. maximum diversion rate authorized, determine which pulses would apply. Applicable to on-channel/off-channel reservoirs and run of the river diversions;

Mr. Perkins distributed in the member packets a series of graphs generated since the last meeting to help determine an acceptable percentage to apply in the diversion rate - pulse peak ration method. He applied a series of increasing percentages to the Goliad, San Antonio

Comment [DCH1]: Suggested revision per comment below.

Comment [TB2]: Some additional information re 'no decision' might be helpful for first and second vote. As is, is a bit confusing.

Comment [DCH3]: Comment from Sam Vaugh

Comment [DCH4]: Comment from Sam Vaugh

Comment [TB5]: As discussed at BBASC meeting Oct 11,2011, pulse exemption does not apply to on –channel reservoirs

and mid-basin projects to see the effect on yield. He said that pulses would come into play with larger water rights where the ratio is greater than 10%. He also looked at the cumulative effect of multiple projects. Vice Chair Wassenich noted the flat lines on the flow frequency curves and whether these periods show where there is not enough variability in the flows for the environment. Members suggested a need for a review of the seasonal graphs.

Members discussed limiting the number of projects allowed under this proposal and how to define the restriction (number of projects, volume, or cumulative percentage). Mr. Perkins provided examples of cumulative effects using this method. Members suggested using a 10% factor with the stipulation that with additional projects, if the flat lying portion of the flow frequency curve increases by 5% or more than the application of the 10% rule must be re-evaluated. Members considered varying the percentage as there was little difference to the yield with the lower percentages or simplifying the recommendation to exempt small water right holders.

Members voted on the following percentages
5%, 10%, 15% and 30%, no decision
Members re-voted and agreed on 10%

VI. Discussion and Agreement on Strategies to Meet Environmental Flow Standards, Brian Perkins, HDR

1. Discussion NWF Strategies Report

Mr. Perkins reviewed BBASC discussions from previous meetings and summarized the three strategies under consideration: Waste water dedication, Dry year option, and Purchase of underutilized water rights. He discussed the volumes of additional water provided under each option and presented maps indicating the facilities earmarked under each strategy. He concluded that the most effective strategies, wastewater dedication and conversion of underutilized water rights, would lead to modest changes in categorical attainment in both the G1 and G2 criteria suites and there is added benefit if water is stored when available for later use.

Members discussed the strategies presented, sources of funding for these strategies, the charge of the BBASC under SB3, and steps necessary to protect any water dedicated to the environment to ensure it is delivered to the estuaries. Members talked about the success of San Antonio in their conservation efforts and wanted to make sure the work plan discusses the additional effort needed to develop these strategies.

Members voted and approved by consensus to include in the work plan general information about the strategies emphasizing members' support of both municipal and agriculture water conservation and including a more detailed approach in outlining each strategy.

VII. Meeting Dates, Times and Locations

The next meeting will be held on Tuesday, August 2-3, 2011 at the SAWS Customer Service Building, Room CR145 in San Antonio. The following meeting is tentatively scheduled for 10:00 a.m. on Tuesday, August 23, 2011, at the GBRA River Annex in Sequin.

Agenda Topics

- Results of the firm yield runs using the preliminary recommendations at the Goliad gage and the mid basin project (note all previous analysis of the Concept 1 used the 10% factor), Brian Perkins;

- Flow numbers since January 2011 at the saltwater barrier, Tommy Hill
- Additional Proposal using the BBEST baseline, Stephen Fotiades

IX. Public Comment

Dr. Liz Smith, BBEST member and gulf coast resident talked about the scientific approach of the BBEST in developing their recommendations and the importance of preserving inflows to the coastal areas. She thanked the BBASC for their efforts in this process.

X. Adjourn

Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)
Tuesday and Wednesday, August 2-3, 2011
San Antonio Water System (SAWS)
2800 US Highway 281 North
San Antonio, Texas 78212

MINUTES

Members Present: Suzanne Scott, Chair; Dianne Wassenich, Vice Chair; Richard Fritz (for Bill Braden); Tyson Broad; Jack Campbell; Thurman Clements; Paula DiFonzo; Rick Illgner (for Karl Dreher); Liz Smith (for Ken Dunton); Jennifer Ellis; Garrett Engelking; Stephen Fotiades; Chris Hale; Jerry James; Everett Johnson; Mike Mecke; Mike Peters; Con Mims; James Lee Murphy; Hope Wells (for Robert Puente); Doris Cooksey (for Kim Stoker); Walter Womack; Jennifer Youngblood.

I. Introductions:
Roll call was taken and a quorum was reached.

II. Public Comment:
There was no public comment at this time.

III. Discussion and Agreement on Agenda

IV. Approval of Minutes from the July 6, 2011 Meeting
Minutes for July 6, 2011 meeting will be considered for approval at the next meeting.

V. Discussion, Appropriate Action and Approval of BBASC Instream Flow Recommendations for the 16 Gage sites, Brian Perkins, HDR
At the last meeting, members were given a chart summarizing the preliminary voting on the recommendations for the 16 specified sites. Minor changes were made to the document and the revised document was distributed to the members.

Facilitator Marty Rozelle, The Rozelle Group, discussed the voting process for finalizing instream flow recommendations at the Tuesday session and Estuary recommendations at the Wednesday session. She explained that if no quorum is reached, 75% of the vote is needed to approve the recommendation.

The notes below are intended to reflect discussions surrounding gage considerations votes by the group. Formal votes have been noted and attached to these minutes. In all voting instances below G=Green vote/supports R=Red vote/does not support.

Concept 1 use of a Percentage Factor
Ms. Rozelle reminded members of the group's decision to use 10% as the factor for Concept 1. Members discussed their concerns with the 10% factor and other issues raised during previous meetings and what impact these decisions would have on inflows. Members were reminded that this decision would apply to all gages.

Mr. Cory Horan, TCEQ, stated that for suspension of consensus, 75% of the voting membership needed to agree which equates to 19 members in agreement.

Voting on Concept 1 with the 10% factor resulted in the following:
Initial Vote: 3R, 16G
Second Vote: 3R, 18G

Members discussed the use of a 20% factor for Concept 1. Mr. Perkins compared the impact of the 20% factor vs. the 10% factor on the different projects. Member Jim Murphy stated that the on-channel reservoirs have the biggest impact on sediment transport not the run of the river diversion, and limiting construction of future on-channel reservoirs is the best way to protect the sediment and nutrient flow in the river

Voting on Concept 1 with the 20% factor resulted in the following:
Initial Vote: 12R, 11G

Members proposed to re-vote on Concept 1 with the 10% factor. Voting on Concept 1 with the 10% factor resulted in the following:
Third Vote: 5R, 18G

Members who opposed the 10% factor did not feel there was a significant difference in the environmental impact of using 10% vs. 20% to justify a reduction in the yield of the reservoir nor the increase in cost. Other members cautioned that there was not a full evaluation of the environmental impacts, only a yield assessment due to the time constraints.

Members considered voting to suspend consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members), however no vote was taken.

Vice Chair Wassenich proposed adopting a high percentage factor to be applied to a finite number of projects such as the 4 existing proposed projects in the Region L plan. Members discussed which projects to specify.

Members considered voting on the proposal to recommend Concept 1 with a factor of 20% to one new appropriation to be located in either basin, with a diversion of greater than 500 cfs, and applying Concept 1 with a factor of 10% to all other new appropriations. This decision would be revisited in the next Bay/Basin Stakeholder process and such would be included in the work plan. After discussion, this proposal was considered a preferential application of the rules and would be challenged legally. Other proposals considered were applying the higher factor to only to run of the river diversions, ban~~d~~ any new on-channel reservoirs or require new on-channel reservoirs to pass all pulses.

Concept 1
Members proposed to re-vote on Concept 1 with various factors to determine which factor would be applied to all gages. Voting on Concept 1 with various factors resulted in the following:
Initial Vote using 30% Factor: 16R, 7G
Second Vote using 20% Factor: 13R, 10G
Initial Vote using 15% Factor: 6R, 17G
Fourth Vote using 10% Factor: 6R, 17G
Initial Vote using 5% Factor: 10R, 13G
BBEST Recommendation (no Concept 1): 10R, 13G

Members considered other alternatives including additional studies, and higher standards during those studies. Chair Scott noted that the discussion about Concept 1 revolved around yield and environmental impacts forgetting that initially Concept 1 was introduced to simplify

the permit process for the smaller diverters. Mr. Murphy urged members to consider suspension of consensus so that those members who have strong positions will be represented in the final report.

Members proposed to re-vote on Concept 1 using a 20% Factor with 5 tiers for all gages. Once approved, members will consider the number of tiers to recommend. Members **APPROVED** by **CONSENSUS** using Concept 1 with a 20% Factor and 5 tiers for all gages.

Second Vote using 20% Factor: 23G

Consideration of the 5 Tier Approach

Members proposed to vote on retaining 5 tiers for all gages. BBEST member Dr. Norman Johns explained that Concept 1 exempts the upper level pulses from rigorous permit enforcement. However, the pulses still occur and are only diminished at most by the maximum diversion rate. Members decided that a **vote is not necessary**.

Consideration of Restrictions for New Reservoirs

Members considered voting on restricting main stem on-channel reservoirs that inhibit sediment transport and restrict pulse flows. It was noted that this was consistent with the Region L Plan. Steve Fotiades suggested applying Concept 1 to run of the river diversions and not at on-channel reservoirs where the 5 tiers would apply. Members discussed various changes to the proposal and **tabled the proposal for a later date**.

Consideration of Base Flows

Members considered the issues relating to base flows and discussed the preliminary decisions recorded from previous meetings. Members were asked to consider two tiers vs. three tiers of baseflows. Chair Scott explained the proposed three tier approach to base flows based on the following hydrologic conditions:

- Wet Hydrologic Condition 25% of the time
- Average Hydrologic Condition 50% of the time
- Dry Hydrologic Condition 25% of the time

where the three levels of baseflow are determined at the beginning of the season based on a twelve month rolling average of stream flow. Members noted that hydrologic conditions are included in the base flows under SB2 and the SB2 technical overview document clearly notes the importance of multiple tiers of baseflows. Chair Scott noted the additional work performed by the BBEST and BBEST member Dr. Thom Hardy. Dr. Johns suggested that members consider the number of tiers before defining the hydrologic conditions. Members discussed the differences between applying 1 tier vs. three tiers of base flows and the effects of each. They talked about how the flow structure was developed for the SB 2 flows and stressed the need for variability in both the BBEST and SB2 process. Members questioned why it was necessary to reduce yield when the BBEST recommendation supports the present TCEQ process. Members proposed to apply three tiers of base flow from the gage at the Guadalupe River at Comfort downstream to Sandies Creek near Westhoff. This would include the first 6 sites on the list. Members **APPROVED** by **CONSENSUS** to three tiers of base flow to these gages.

Formatted: Font: (Default) Georgia, (none)

Initial Vote Three Tiers for the Specified Reach: 22G

Tommy Hill, GBRA, gave an update on the affects of the drought on Guadalupe basin water supplies, river flows, and data related to the saltwater barrier.

Members considered applying three tiers of base flow to the specified sites on the Guadalupe River at Gonzales, Victoria, and Cuero. Member Con Mims proposed for the specified sites on the Guadalupe River at Gonzales, Victoria and Cuero, the adoption of the TCEQ structure

with one base flow. Members had previously requested data for the flow over the saltwater barrier and felt that any decisions needed to wait until that data was presented. Members discussed the recommendations in the Region L plan as they related to various requests of members. Members discussed the gage readings at the saltwater barrier and suggested discussions with the USGS who owns the gage.

Members proposed to apply a three tier "structure" of base flow (no numbers) to the last three gages specified on the Guadalupe River at Gonzales, Victoria, and Cuero.

Initial Vote applying three tiers at
Gonzales, Victoria, and Cuero: 5R 18G

Mr. Mims proposed to apply one tier for the base flow at Gonzales and three tier "structure" of base flow at Victoria and Cuero:

Initial Vote applying one tier at Gonzales,
And three tiers at Victoria, and Cuero: 20R 3G

Mr. Everett Johnson proposed that GBRA install a gage below the saltwater dam with the condition that no flow below 150 cfs defined as subsistence flow for inclusion in the BBASC report. Members decided to defer the vote until the second day session.

VI. Adjourn

Wednesday, August 3, 2011 – Session II

Members Present: Suzanne Scott, Chair; Dianne Wassenich, Vice Chair; Richard Fritz (for Bill Braden); Tyson Broad; Jack Campbell; Thurman Clements; Paula DiFonzo; Rick Illgner (for Karl Dreher); James Dodson (for Ken Dunton); Jennifer Ellis; Liz Smith (for Garrett Engelking); Stephen Fotiades; Chris Hale; Jerry James; Everett Johnson; Mike Mecke; Mike Peters; Con Mims; James Lee Murphy; Hope Wells (for Robert Puente); Doris Cooksey (for Kim Stoker); Walter Womack; Jennifer Youngblood.

I. Introductions:
Roll call was taken and a quorum was reached.

Marty Rozelle, The Rozelle Group, presented a recap of the previous days' activities. She discussed the numerous votes taken for the application of Concept 1 with various percent factors. Members approved the following:

- Concept 1 with 20% factor, tiers for all gages approved
- Three tiers for baseflows for gages located between Comfort downstream to Sandies Creek

She summarized the remaining issues that should be addressed. Since members were not all in agreement, she reminded members of the option to vote to invoke the suspension of consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members discussed the adopted rules, how the suspension of consensus applies, and how it should be applied.

Mr. Murphy stated there are issues that GBRA cannot yield on and in these instances the group can agree to disagree and still move forward with a consensus. These areas are multiple tiers for base flows, multiple tiers on pulse flows, and additional set asides for bays and estuaries beyond what was recommended for instream flows. He said GBRA intends to live with the rules that result from this process but, it is the statutory right of GBRA to express their opinion in the rulemaking process.

Members discussed the decisions made during the Region L planning regarding the mid basin project and discussed how to move forward considering the special interests of individual members. Members discussed how to represent minority opinions in the final documentation.

In discussion how to approach consensus, vice-chair Wassenich stated: "All of this works only if people really are all trying to come to consensus."

What follows below reflect subsequent discussion in exact quotes:

Jennifer Ellis: "Frankly, I guess that's where my concern lies. If we've, are we all, here around this table, working to that goal or are we not. And Jim (directed to member Jim Murphy), I have concerns, you know. You told me yesterday that you felt it was not in GBRA's best interest to come to consensus, and that likely it was better not to. And that's very concerning to me. I recognize that, in the Trinity basin, that strategy worked very effectively for the Trinity River Authority (TRA). And I feel like, in making my decisions here today, that's an important consideration."

Jim Murphy: "In response I will say I've tried not to apply the Trinity River Authority model, and I was one of the initial architects of the approach that the TRA took in that basin, and I'm

Formatted: Highlight

Comment [E1]: Cory, there was an important conversation here that I think should most definitely be included here, in quotes. I would have added it, but the tape is missing from this morning and from the prior day, so I wasn't able to. It was when I stated that Jim Murphy told me that it wasn't in GBRA's best interest to reach consensus at the end of the meeting the day before and his response that he was one of the chief architects of the strategy used in the Trinity basin and that he was proud of it. I request that this be added to the minutes in exact quotes.

Formatted: Underline

quite proud that they were able to affect the process in what I believe to be a positive way. And I note that because here GBRA has taken a different approach. They have not tried to challenge the BBEST science. We've attempted to rely on what the BBEST did, examine their assumptions, and see if we can live with them. I think that's turned out to be a far more harmonious approach as the Trinity river both BBEST and stakeholders were testy; they made our meetings look like choir get-togethers. But as far as your question, I want to put this on the table, and I said yesterday and I meant that GBRA is not opposed to consensus but consensus has to represent our views. If we have a serious disagreement on a particular point we can't go along to get along. We're not in a position to do that because we have a statutory responsibility to provide water supply. So we can't do that. For example, there's some areas, and I know we've spent a long of time talking on this but it's not time wasted. We're voting on 16 gages but the issues are the same, for example, GBRA can never yield on the issue of 3 base flows. There's no reason for 3 criteria, 3 tiers for base flows. There isn't a whole lot of room for compromise but we can have a consensus if we agree to disagree on those points. I don't see that as being an anti-consensus. A further point that we're not in a position to yield on is do we need additional set asides for bays and estuaries beyond what was recommended for instream flows. We don't agree on that and that's not going to change. We're not going to go along to get along on these issues. The reason it keeps coming up is that we vote again on 16 different gages. But I will point this out too, where I have held up green cards, on gages where I don't believe there is going to be a project built. Well, that's fine, but doesn't mean necessarily that we go along with the methodology or that we're going to stand up in public and say yes we do think that 3 tiers are necessary at Comfort or wherever. It's jus, I think we have a fundamental disagreement. The way I read the minutes, and I gave my copy to Erin (Newberry, SARA) is consensus doesn't mean unanimity, we just want to reflect all the view points as I said yesterday. Our position is unique because GBRA happens to be the only folks that are planning in the near term a large off channel storage, a large reservoir. But, if the other folks have their views and they're reflected in the report, that's great. But we want to make sure that consensus doesn't become a rubric by which, when we go the commission, and we're arguing over the rules, we're saying well, the group agreed unanimously or we had consent that we viewed that *X*, and when we go to argue otherwise we're in the position of saying GBRA is arguing that it says it's going against its own consensus. I don't know how much simpler I can make it than that. But, I go back to what I said yesterday, we ought to make sure we reflect viewpoints and the perspectives of all the members. And to me that's consensus."

Comment [DCH2]: Insertion of meeting transcript based on comment above.

V. Discussion, Appropriate Action and Approval of BBASC Instream Flow Recommendations for the 16 Gage sites, Brian Perkins, HDR Cont.

Gage: GUADALUPE at GONZALES

Members continued the discussion on the proposal to apply a three tier "structure" of base flow (no numbers) to the last three gages specified on the Guadalupe River at Gonzales, Victoria, and Cuero. Brian Perkins walked through the proposed three tiers of base flows at the Gonzales gage showing how the values impact available flows for future water rights. Vice Chair Wassenich noted members had already considered the three tier base flow for the Gonzales gage using Dr. Hardy's numbers. Mr. Perkins showed the results of using those adjustments to the baseflows.

Vice Chair Wassenich proposed to apply three tier "structure" of base flow using Dr. Hardy's numbers to the Gonzales gage on the Guadalupe River which will decrease the magnitudes by 40 cfs~~%~~. Result on a vote on the above proposal was as follows~~:~~:

Formatted: Font: (Default) Georgia, (none)

Initial Vote for Three Tiers with Dr. Hardy's Numbers: 4R 19G

Members discussed the importance of this location to both the environment and human needs.

Steve Raabe distributed a handout showing all the analyses on the Mid-Basin Project. He presented the additional work completed on the Region L mid-basin project comparing the project as it is depicted in the Regional L plan, and the comparable analysis in the BBASC using the BBEST criteria and the resulting impact on cost. It also included the additional variations applied by HDR.

Mr. Murphy distributed a handout on GBRA's position on environmental flows and made a statement regarding the handout.

Dr. Johns distributed a handout and reviewed the environmental impacts/inflows based on TCEQ standards at the East Texas structure.

Gage: GUADALUPE at GONZALES, CUERO, & VICTORIA
Chair Scott proposed to apply at the Gonzales, Cuero, and Victoria gages on the Guadalupe, an average for one tier structure (no numbers) of base flow in the winter and fall seasons and three tiers structure (no numbers) of baseflows in the spring and summer seasons. Members noted that the BBEST criteria does not propose any criteria for the winter and fall season and discussed other options. Was there a Vote?

Comment [DCH3]: No vote was taken at this point.

Chair Scott proposed to apply at the Gonzales, Cuero, and Victoria gages on the Guadalupe, an average hydrologic condition (in the middle) for one tier of base flow in the winter and fall seasons and three tiers of baseflow for the spring and summer seasons with the 50% rule on all seasons and Dr. Hardy's adjustments.
Result of a vote on the above proposal was as follows:

Initial Vote for One Tier/Three Tiers with Dr. Hardy's adjustment: 16R 7G

Members considered applying at the Gonzales, Cuero, and Victoria gages on the Guadalupe, the wet hydrologic condition for the one tier of base flow in the winter and fall seasons and three tiers of baseflow for the spring and summer seasons with the 50% rule on all seasons and Dr. Hardy's adjustments. BBEST Chair Vaugh cautioned members that variations that are being proposed have not been evaluated to understand whether the result is more or less water in the stream.

Members proposed to apply at the Gonzales gage (only), the three tiers with reductions based on Dr. Hardy's numbers and the 50% rule. Result of a vote on the above proposal was as follows:

Initial Vote for Three Tiers with Dr. Hardy's Numbers & 50% rule: 4R 19G

Suspension of Consensus
Vice Chair Wassenich suggested that a consensus could not be reached and proposed a vote to end consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members).

Initial Vote to Suspend Consensus: 6R 17G
Vote does not pass

Members discussed their different positions and noted that the disagreement was conceptual and not with the data itself.

Members proposed to consider a proposal to apply less than a 3 tier structure.
Initial Vote for less than 3 tier structure: 0R 24G (2 members changed their votes to G)
Initial Vote for above one tier: 0R 24G

Members directed Mr. Perkins, San Vaugh, and Dr. Johns to review options for the 1 tier winter/fall seasons and 3 tier spring/summer seasons, multiple models for the 2 tier structure (dry/average, wet/dry), and for one tier use wet, average, and dry. All will be run with the 50% rule, and pulses with 20% rule and Dr. Hardy's numbers.

Gages: SAN ANTONIO RIVER
Members discussed the preliminary decisions made for the gages in the San Antonio River during previous meetings. The preliminary decision made during the July 18-19, 2011 meeting for gages at Goliad, Falls City and Elmendorf in the San Antonio River included the SB2 structure, subsistence flows of 60 cfs with the 50% Rule; three tier base flows (25%, 50%, 25%) based on seasonal averages, high flow pulses and overbank flows as presented in the summary table provided. Members discussed the larger gap between the wet base flow and the first high flow pulse, and the lack of any biological connection for an intermediate pulse. Members discussed whether results of ongoing or future studies can result in revisiting the TCEQ rules.

Gage: SAN ANTONIO RIVER at GOLIAD
Members proposed that the instream flow recommendations with the modified 60cfs subsistence, 50% rule in place, average ISF baseflows with the addition of a second high flow pulse between the wet baseflow and first high flow pulse from the instream, other tiers remain, and Concept 1 at 20%. Results of the vote on the above proposal were as follows:
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as modified above: 0R 21G 3 Abstained

Gage: SAN ANTONIO RIVER at FALLS CITY
Members proposed the instream flow recommendations adopted for the Goliad gage be applied at the Falls City gage with slight modifications.
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as modified above: 20G 1 Abstained 3 Absences

Gage: SAN ANTONIO at ELMENDORF
Members proposed that the instream flow recommendations adopted for the Goliad gage be applied at the Elmendorf gage with the following site specific modification:
The addition of a second high flow pulse between the wet baseflow and first high flow pulse.
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as modified above: 20G 1 Abstained 3 Absences

Gage: CIBILO CREEK at FALLS CITY
Members proposed the instream flow recommendations adopted for the Goliad gage be applied at the Cibolo Creek at Falls City gage with the following site specific modification:
The addition of a second high flow between the wet baseflow and first high flow pulse
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as modified above: 21G 3 Abstained

Gage: MEDINA RIVER at BANDERA
Members proposed the instream flow recommendations for the Medina River at Bandera gage using the following:

The subsistence flow values at Q95 levels, the 50% Rule, 3 tiers on the base flow, remaining BBEST tier recommendations, Concept 1 with 20%.

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 22G 2 Abstained

Gage: MEDINA RIVER at SAN ANTONIO

Members proposed the instream flow recommendations adopted for the Medina River at Bandera gage with site specific adjustments:

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 22G 2 Abstained

Gage: MISSION RIVER at REFUGIO

Members proposed the instream flow recommendations adopted for the Medina River at Bandera gage with site specific adjustments and the following modifications:

Subsistence flows for summer not less than 1cfs

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 22G 2 Abstained

Mr. Murphy prefaced the following votes with the statement that GBRA did not object to the criteria previously considered for the lower gages on the Guadalupe not because GBRA felt they were necessary but because projects are not going to be built at those gage locations.

Gage: GUADALUPE RIVER at COMFORT

Members proposed an instream flow recommendation with BBEST recommendations throughout, Concept 1 with 20%, 50% Rule in place, subsistence flows adjusted to Q95 seasonal with BBEST summer level.

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: GUADALUPE RIVER at SPRING BRANCH

Members proposed the instream flow recommendations with three tier BBEST baseflows, Q95 annual number for all seasons for subsistence flows (18 cfs), Concept 1 with 20%, 50% Rule in place.

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: BLANCO RIVER at WIMBERLEY

Members proposed to adopt the BBEST recommendations except for Q95 levels for winter, spring and fall subsistence flows with BBEST level for the summer, 3 base tiers, 5 high flow pulses, Concept 1 with 20%, 50% Rule in place.

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: SAN MARCUS RIVER at LULING

Members proposed the instream flow recommendations with BBEST recommendations except for Q95 levels for winter, spring and fall subsistence flows with BBEST level for the summer, 3 base tiers, 5 high flow pulses, Concept 1 with 20%, 50% Rule in place.

Members **APPROVED** the above proposal by the following vote:

Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: PLUM CREEK near LULING

Members proposed the instream flow recommendations with BBEST recommendations

except for Q95 levels for winter, spring with summer and fall at 1 cfs, 3 base tiers, 5 high flow pulses, Concept 1 with 20%, 50% Rule in place.
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: SANDIES CREEK near WESTHOFF
Members proposed the instream flow recommendations with BBEST recommendations except for Q95 levels for all seasons except summer which is 1 cfs, 3 base tiers, 5 high flow pulses, Concept 1 with 20%, 50% Rule in place.
Members **APPROVED** the above proposal by the following vote:
Initial Vote for recommendation as proposed above: 21G 3 Abstained

Gage: GUADALUPE RIVER at GONZALES
Mr. Perkins presented the additional analysis completed during lunch. He explained the different parameters used and the results from each variation for comparison. Members discussed the results and the impact on the environment and potential diversions.

Members considered whether or not to suspend consensus, additional variations in the recommendation for the Gonzales gage, and requesting the EFAG for an extension for additional time. Members decided to postpone further discussion until after consideration of bay and estuary recommendations.

VII. Discussion, Appropriate Action and Approval of BBASC Environmental Flow Standards Recommendations for Bays and Estuaries
Dr. Norman Johns discussed an inaccuracy in his previous analysis and the impact on the numbers previously presented. BBEST Chair Vaugh noted that in determination of whether the estuary was a sound ecological environment, this may impact this determination based on present day conditions.

Mr. Perkins reviewed the BBASC estuary recommendation structure decision process and the preliminary decisions made by members for each decision point.

<u>If Estuary Standards are Adopted, what Form is Recommended</u>
Mr. Perkins reviewed the preliminary vote taken on how TCEQ should handle future applications. He reviewed how TCEQ presently handles these applications, noted that bay and estuary standards are already imposed if the application is located within 200 miles of the coast. He discussed the difference between the estuary baseline and stream baseflows, and presented examples showing how future water right applications could impact the estuary baseline. He noted the problems with the baseline and talked about how to compensate for those problems. He recalled the suggestion to adopt the BBEST criteria with an acknowledgement that there are issues with the baseline historically and permits could still be granted as long as they do not make the baseline worse.

Ms. Kathy Alexander, TCEQ, asked whether the standards under consideration were intended to be included as part of the water availability analysis that TCEQ uses to evaluate water right permit applications. Mr. Perkins stated that with this proposal, the BBASC would provide TCEQ with a spreadsheet model in which TCEQ would input the baseline of regulated flows entering the estuary derived from the WAM model without the application represented. TCEQ would then run the WAM model with the application included and compare the resulting baseline to that derived before the application was included. This would determine the effect of the application on the estuary baseline.

Ms. Alexander noted that this approach is used in the Trinity and San Jacinto Basins to determine compliance with the standards. She added that it would be helpful if the BBASC included in their report the specific frequencies at which the baseline should be met with the TCEQ WAM modeled flows.

Members discussed the concerns raised about the present conditions of the bays and estuaries and potential recommendations to only maintain the "status quo".
Member Tyson Broad proposed ~~noted~~ that based upon the size of the authorization requested and ultimately approved, the applicant would be required to mitigate for the authorized use of that right by setting aside a percent of the authorized amount for use by an acceptable means of the applicant's choosing to meet/reach the attainment criteria of the bays and estuaries. Members discussed how to relate a single increment in the attainment criteria to acre-feet per year and whether the proposal can be implemented.

Members discussed whether to delay further discussion on the bay and estuary recommendations and reconsider recommendations for the remaining three gages on the Guadalupe. With discussion of postponing any decisions on the proposed mitigation concept until the next meeting, several members encouraged the group to consider an additional meeting the first part of next week so that adequate time remained to complete the report.

Chair Scott questioned the legality of proposing mitigation requirements on future water rights to compensate for historical issues. Members discussed the need for storage in the bay system so that water could be stored and later released when the bays and estuaries need the flow. Members noted that the BBEST found that historically the bays and estuaries were a sound ecological environment and as long as there is not a full utilization of authorized water use, then the instream flow criteria recommended is adequate to maintain those conditions and these strategies should be included in the work plan for future attention.

Comment [TB4]: Not sure this is correct

Members proposed to set aside 10% of reservoir firm yield that would be released during dry times for the bays and estuaries. Mr. Murphy shared with members that GBRA was already looking into assisting environmental flow needs by dedicating a portion of their future water rights and consented to allow this to be mentioned in the report. He added that he could agree to dedicating a portion of a water right to environmental flow needs if TCEQ could guarantee that the water would make it to the bays and estuaries.

After additional discussion, members refined the proposal to consider the instream flow recommendation with a 1331 wet condition, and all previous conditions 50% Rule, Concept 1 with 20%, and dedicating a 10% portion of diversion and/or storage firm yield from any new project toward environmental flows.

Members considered for inclusion in the two pending GBRA permits a combined total of 10% of the appropriation authorized to be dedicated to the environment. Members discussed the need for a more generic approach to the recommendation to address smaller permit requests for diversion and/or storage.

Members considered recommending that any new water right granted would include a provision to dedicate 10% of the authorized right to the environmental needs of the bays and estuaries.

Gage: GUADALUPE RIVER at GONZALES, CUER~~V~~O, & VICTORIA
Members proposed a "conceptual" instream flow recommendation with a 1331 wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water

right granted in the San Antonio and Guadalupe Basins dedicates a 10% portion "set aside" of the authorized right (diversion and/or storage firm yield, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays.

Result of a vote on the above proposal was as follows:
Initial Vote for recommendation as proposed above: 4R 19G

Mr. Murphy stated that the group should move forward with a vote on the 1331 recommendation and study the proposed mitigation strategies further. He contended that there was no science and it was not known whether the set asides would benefit estuaries.

Members proposed a "conceptual" instream flow recommendation with a 1331 wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water right granted in the San Antonio and Guadalupe Basins dedicates a 5% portion "set aside" of the authorized right (diversion and/or storage firm yield, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays.

Result of a vote on the above proposal was as follows: Initial Vote for recommendation as proposed above: 2R 17G 4 Abstain

Mr. Perkins provided examples of applying the 20% rule and how it affected the required pulses, yield, and ultimately GBRA's proposed project. Members asked for clarification of what the potential impact of the proposal at the Victoria gage would be on applications to amendment existing permits to move diversion points upstream/downstream on the Guadalupe River. Members agreed new environmental flow rules would not impact a change in use, change in location of use, or change in diversion location and would only apply to new authorizations or authorizations that increase the amount of water to be diverted or impounded. *Did we agree to this of just discuss?*

Members asked for clarification as to whether the new rules would apply to the purchase of existing downstream senior water rights with the intent to move the diversion point and use of the authorized water upstream to an area with lower cumulative flow. Ms. Alexander explained that these types of amendments are covered under the existing statutory authority which allows TCEQ to place special conditions in those water right permits. Applications for these types of amendments are reviewed for impact to the environment which may result in a flow restriction, and analyzed for impact to other water rights which can result in special conditions to the amendment to protect senior and existing water right holders.

Gage: GUADALUPE RIVER at GONZALES, CUER~~V~~O, & VICTORIA
Members discussed the different modifications to the original proposal, the resulting effects of each, and individual member's concerns.

Members considered the instream flow recommendation with a 1331 wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water right granted in the San Antonio and Guadalupe Basins dedicates a 5% portion "set aside" of the authorized right (diversion and/or storage firm yield, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays and that any request for authorizations of 200 acre-feet or less would be exempt.

Formatted: Font: (Default) Georgia, (none), Highlight

Comment [E5]: Please check tape on this

Comment [DCH6]: We made no interim or formal agreements at this point, discussion only.

Formatted: Font: Italic

Mr. Murphy urged members to reject the idea of environmental flow "set asides". He stated that it is the job of the permitting process to determine how much water is available and to only permit that amount. He added that is how water is reserved for the environment, not using numbers that are arbitrary and unjustified.

Members proposed the instream flow recommendation with a 1331 structure wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water right granted in the San Antonio and Guadalupe Basins dedicates a 5% portion "set aside" of the authorized right (diversion and/or storage based on diversion rate, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays and any request for authorizations of 200 acre-feet or less would be exempt.

Result of a vote on the above proposal was as follows:

Initial Vote for recommendation as proposed above: ~~1R~~ 4R 18G ~~2~~ 4 Abstain

Members discussed their differences and the compromises that have been made from the environmental perspective and the resulting ~~benefits~~ effects to the rivers and to the estuaries and bays.

Referencing discussion regarding the above proposal, Ms. Ellis stated: "I recognize that you voted green on Everett's (member Everett Johnson) proposal. So that's the first time I've seen a green card from you. So that indicated to me that you're willing to come to consensus on something. This is a proposal that was not acceptable to many, many people in this room. I'm wondering, if we can just talk through this, what you think you might be able to give back as far as some environmental protection. You're saying absolutely no on a set aside idea. What might you be able to give back at this point that might be able to bring this group together and get this done so we can go home. The thing that you voted green on was a lot of compromises:

- No B&E criteria at all, completely taking all B&E protections and throwing them out, relying solely on the river gages to provide what the B&E needs
- Concept one at 20%, not 5%, not 10%, but 20%. That was an idea to try to simplify things and became a topic about yield, we indulged that, we went up to 20%.
- We don't have any cumulative cap on that (concept one at 20%). That concern was never addressed. So we gave on that.
- Now we've given up base average, base dry, in 2 different slots here.

What can you give that would show, that would give some indication that you are willing to provide some protections that you are looking to get your yield for your project, and we all understand that and we're trying to work with you here. But what are you willing to give? GBRA has, and I'm reading my TPWD magazine here, it says (refrencing TPWD magazine) "GBRA: leaders in stewardship of the Guadalupe River basin. All the way down to San Antonio Bay." What can you give. What can you give to show that you care about the fact that we have an endangered species down there. That we have a lawsuit that's threatening what we're doing here. What can you give us? What are some ideas?"

Mr. Murphy responded: "To answer your question I'll start out this way: I've been in about 100 mediations and even a couple of juries. And when people get tired, they just want to get a deal done. Beginning even before this process, even through Region L, we agreed to go from no environmental flows to accepting that we'd have to lower our application recognize that some of that water will have to be left in the river for the environment. We've compromised down to summer, and that was turned down. Then we compromised to lowering the yield. Again that was turned down. I said I'd abstain on Everett's initial vote (referenced above). So we lowered our expections in theory down to 22~~K~~,000 acre-feet. I think that's enough compromise. I see no benefit from the environmental perspective, other than to agree to just because. First of all by reducing these amounts. I don't' see any benefit to

Comment [DCH7]: Corrections to the outcome of this initial (i.e. not final) vote. Corrected per audio transcript.

Formatted: Font: (Default) Georgia, (none), Highlight

Formatted: (none), Highlight

Formatted: Font: (Default) Georgia, (none), Highlight

Formatted: Highlight

bays and estuaries either way. Moreover, I see absolutely no practical way to administer environmental set asides other than as a permittee saying "I really can't divert whatever my permit amount is, I just have to divert less. If it's a 20K acre-foot permit then I'll just divert 17K acre-feet." And quite frankly this is just an issue of what I'm willing to give up now is that I'm willing to suspend consensus and just move on. Environmental flow set asides is an issue better addressed not at 8:00 at night in a stakeholder group. That's something TCEQ, if they think it's a good idea they can put together a stakeholder group and we'll discuss set asides."

Comment [DCH8]: Insertion of meeting transcript based on comment below.

Formatted: English (U.S.), Highlight

Members proposed the instream flow recommendation with a 1331 structure wet condition, [and all previous conditions with the 50% Rule for winter/fall only, Concept 1 with 20%], with no "set aside".

Comment [E9]: Cory, I would like quoted piece added here of when I listed what we, from the environmental perspective, had given up so far, and asked Jim Murphy what he was willing to give.

Formatted: Highlight

Formatted: (none), Highlight

Result of a vote on the above proposal was as follows:
Initial Vote for recommendation as proposed above: 7R 10G 4 Abstain

Mr. Murphy reiterated that from the work of the BBEST, the bays and estuaries are considered to be sound ecological environment based on historical conditions, and there are only concerns by some that the bays and estuaries are imperil. GBRA does not agree that the bays and estuaries are in peril.

Suspension of Consensus

Vice Chair Dianne Wassenich proposed a vote to suspend consensus and allow the group the ability to move forward with agreement of 75% of the membership (19 members).

Members **APPROVED** the above proposal by the following vote:
Initial Vote for Suspend Consensus: 21G

Formatted: English (U.S.)

Gage: GUADALUPE RIVER at GONZALES, CUERVO, & VICTORIA

Members proposed the instream flow recommendation with a 1331 structure wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water right granted in the San Antonio and Guadalupe Basins dedicates a 5% portion "set aside" of the authorized right (diversion and/or firm yield storage, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays and any request for authorizations of 200 acre-feet or less would be exempt. This "set aside" would be applied to all 16 gages.
Result of a vote on the above proposal was as follows:
Initial Vote for recommendation as proposed above: 2R 17G 2 Abstain

Members proposed the instream flow recommendation with a 1331 structure wet condition, [and all previous conditions 50% Rule, Concept 1 with 20%], provided that any future water right granted in the San Antonio and Guadalupe Basins dedicates a 10% portion "set aside" of the authorized right (diversion and/or firm yield storage, whichever is less) for the environmental needs of the bays and estuaries assuming TCEQ has the structure in place and can assure that those waters will reach the bays and any request for authorizations of 200 acre-feet or less would be exempt. This "set aside" would be applied to all 16 gages.

Result of a vote on the above proposal was as follows:
Initial Vote for recommendation as proposed above: 3R 19G

VII. Discussion, Appropriate Action and Approval of BBASC Environmental

Flow Standards Recommendations for Bays and Estuaries Continued

If Estuary Standards are Adopted, what Form is Recommended

Mr. Perkins reviewed where the group had left previous discussion.

Members considered to use the BBEST criteria with the provision to allow projects to be permitted even though the baseline (either Region L or TCEQ baseline) already violates that criteria. Mr. Murphy noted that it was his impression that no explicit estuary standards are necessary because members just voted to add 10% instream flow standards.

Members discussed that there is no guidance on when the "set aside" would be released and this should be addressed. It was noted that at the last discussion, members did not want to make the baseline lower than Region L numbers.

Members proposed to vote on whether explicit estuary standards are necessary. Mr. Perkins explained that a no vote would imply that the instream flow standards adopted at the 16 gages are sufficient to protect the bays and estuaries and no additional restrictions are necessary.

Result of a vote on the above proposal was as follows:

Initial Vote for recommendation as proposed above: 3R 19G

Suspension of Consensus

Members proposed a vote to suspend consensus allow the group the ability to move forward with agreement of 75% of the membership (19 members).

Members **APPROVED** the above proposal by the following vote:

Initial Vote for Suspend Consensus: 1R 21G

Members proposed to vote on whether explicit estuary standards are necessary. Mr. Perkins explained that a no vote would imply that the instream flow standards adopted at the 16 gages are sufficient to protect the bays and estuaries and no additional restrictions are necessary.
Result of a vote on the above proposal was as follows:

Second Vote for recommendation as proposed above: 4R 18G

Members suggested adding to apply a flow limit to determine when the "set asides" would be released. Members added that the TCEQ would apply the recommendation.

Revised Vote for recommendation as proposed above: 3R 19G

Chair Scott asked if the group can just give some guidance to when the 10% "set aside" already approved will be released instead of voting on additional criteria. Members discussed where in the criteria, the agreed upon 10% "set aside" will have the most benefit.

NEXT MEETING

Members talked about scheduling additional meetings to allow time to complete the report. The next meeting is scheduled for Tuesday, August 16 at San Antonio Water System (SAWS). The following meeting is scheduled for Tuesday, August 23, 2011 at Seguin.

Members created a work group that supported the 10% "set aside" dedicated to the bay and estuaries to provide additional information to the full group. The work group will focus on providing guidance on the volume and timing for release of these ""set aside" flows The work group members include Dr. Norman Johns, Paula DiFonzo, James Murphy, Vice Chair Wassenich, and Tyson Broad.

Members created a work group to better define strategies. The group will discuss the 3 strategies analyzed by the National Wildlife Federation as well as other strategies proposed. The group will consist of members Tyson Broad, Jennifer Ellis, Mike Mecke, Jerry James, Walter Womack, Kim Stoker, James Lee Murphy, and Vice Chair Wassenich.

ADJOURN

BBASC Final Votes

Vote Issue	USGS Stream Gage	Vote	Abstentions	Notes
1st vote Concept 1 @10%	All Gages	3 16		
2nd vote Concept 1 @ 10%	All Gages	3 18		
Jerry James @ 20%	All Gages	12 11		
3rd vote Concept 1 @ 10%	All Gages	5 18		
Allow one new appropriation w/ 500 cfs diversion rate or greater @ 20% and other new appropriations live w/ 10% and revisit in BBASC workplan		No Vote Taken		
Concept 1 votes continued				
Concept 1 @ 30%	All Gages	16 7		
Concept 1 @ 20%	All Gages	13 10		
Concept 1 @ 15%	All Gages	6 17		
Concept 1 @ 10%	All Gages	6 17		
Concept 1 @ 5%	Concept 1 @ 5%	10 13		
No Concept 1 w/ BBEST recommendations	All Gages	10 13		
Jerry permit simplicity - Assuming 5 tiers of pulses, Concept 1 @ 20%	All Gages	0 23		
Concept 1 only applies to run of the river diversions - in the interest of allowing sediment transport	All Gages	TABLED		
3 tiers of baseflows	**Guadalupe @ Comfort** **Guadalupe @ Spring Branch** **Guadalupe @ Wimberley**	**0**		
	San Marcos @ Luling **Plum Creek near Luling** **Sandies Creek near Westhoff**	**22**		

3 tiers of baseflows w/o numbers for Guadalupe @ Gonzales, Cuero and Victoria	Gonzales, Cuero and Victoria	5 18		
1 tier of baseflows @ Gonzales w/ 3 tiers @ Cuero & Victoria		20 3		
3 tiers of baseflows w/ Hardy numbers	Guadalupe @ Gonzales	4 19		
Suzanne's suggestion for Gonzales Cuero & Victoria - 1 tier during winter/fall - 3 tiers in summer/spring -all with 50% rule and Hardy numbers	Gonzales, Cuero and Victoria	16 8		
Same as previous vote but w/ wet conditions for winter/fall		No Vote		
Gonzales 3 tiers baseflows w/ Hardy numbers & 50% rule		4 20		
Suspend Consensus		failed 4 red - 17 green		
Anything less than 3 tiers of baseflows at Gonzales		0 24		
Anything more than 1 tier of baseflows at Gonzales		0 24		
60 cfs subsistence, TIFP baseflows, interim BBEST pulse between wet base and 1st TIFP pulse (1-1520 winter, 2-1570 spring, 1-1640 summer, 1-2320 fall), concept 1 and 50% rule	**SAR @ Goliad**	0 **21**	3 abstentions	**Adopted**
60 cfs subsistence, TIFP baseflows, interim BBEST pulse between wet base and 1st TIFP pulse (1-1520 winter, 2-1570 spring, 1-1640 summer, 1-2320 fall), concept 1 and 50% rule	**SAR @ Falls City**	0 **20**	1 abstention, 3 absences	**Adopted**
Vote Issue	**USGS Stream Gage**	**Vote**	**Abstentions**	**Notes**
60 cfs subsistence, TIFP baseflows, interim BBEST pulse between wet base and 1st TIFP pulse (1-1520 winter, 2-1570 spring, 1-1640 summer, 1-2320 fall), concept 1 and 50% rule	**SAR @ Elmendorf**	0 **20**	1 abstention, 3 absences	**Adopted**

TIFP recommendations, Concept 1 @ 20%, 50% rule, interim pulses between wet baseflow and 1st TIFP pulse (570 winter, no interim in spring, 390 summer, 190 fall)	**Cibolo Creek near Falls City**	0 **21**	3 abstentions	**Adopted**
BBEST Baseflows, Q95 w/ summer BBEST, 50% rule, concept 1 @ 20%	**Medina River @ Bandera**	0 **22**	2 abstentions	**Adopted**
BBEST Baseflows, Q95 w/ summer BBEST, 50% rule, concept 1 @ 20%	**Medina River @ SAR**	0 **22**	2 abstentions	**Adopted**
BBEST Baseflows, Q95 w/ summer BBEST, 50% rule, concept 1 @ 20%	**Mission River @ Refugio**	0 **22**	2 abstentions	**Adopted**
BBEST recommendations, 50% rule, concept 1 @ 20%	**Guadalupe @ Comfort**	0 21	3 abstentions	**Adopted**
	Guadalupe @ Spring Branch	0 **21**	3 abstentions	**Adopted**
	Blanco @ Wimberley	0 **21**	3 abstentions	**Adopted**
	San Marcos @ Luling	0 **21**	3 abstentions	**Adopted**
	Plum Creek near Luling	0 **21**	3 abstentions	**Adopted**
	Sandies Creek near Westhoff	0 **21**	3 abstentions	**Adopted**
Baseflows - 1331 Wet	Guadalupe @ Gonzales	4 16	4 abstentions	
Apply 1331 Wet to Cuero, Gonzales & Victoria, with any authorized future permit throughout entire basin impose a 10% of firm yield or 10% of authorized annual diversion, whichever is less, set aside dedicated to B & E. Assuming TCEQ provide a mechanism to get set aside to B & E. **Concept Vote**	**CONCEPT VOTE**	4 19		
Same as above but w/ 5% instead of 10%	**CONCEPT VOTE**	2 17	4 abstentions	
Everett's proposal - Summer w/o 50% rule;	Gonzales, Cuero and Victoria	8	2 abstentions	

no diverting below 400 in summer; spring, fall, winter w/ 50% rule		11		
Same as above but spring & summer w/o 50% rule	Gonzales, Cuero and Victoria	7 12	2 abstentions	
Permits of 200 AF or less exempted, 1331 Wet, 5% on both		1 18	2 abstentions	
1331 Wet w/ summer & spring w/o 50% rule, no diversions below spring & summer baseflows		7 11	4 abstentions	
Motion to Suspend Consensus		0 22		**Consensus Suspended**
Apply 1331 Wet w/ any authorized permit w/i entire basin, TCEQ require 5% of firm yield or 5% of authorized annual diversion, whichever is less, to be dedicated for the B &E. Assuming TCEQ provide a mechanism to allow dedications to B & E. Permits of 200 AF or less exempted	Gonzales, Cuero and Victoria	2 17	2 abstentions	
Vote Issue	**USGS Stream Gage**	**Vote**	**Abstentions**	**Notes**
Apply 1331 Wet w/ any authorized permit w/i entire basin, TCEQ require 10% of firm yield or 10% of authorized annual diversion, whichever is less, to be dedicated for the B &E. Assuming TCEQ provide a mechanism to allow dedications to B & E. Permits of 200 AF or less exempted	**Gonzales, Cuero and Victoria**	**3** **19**		**Consensus Suspended, motion passes with 75% of BBASC members voting for motion**
Explicit standards for B & E		3 19		Green vote was for explicit standards
Vote to Suspend Consensus	B & E explicit standards	1 21		**With 75% vote consensus is suspended**
Explicit standards for B & E		4 **19**		**Explicit standards**

				passed w/ 75% of vote

Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)

Tuesday, August 16, 2011
San Antonio Water System (SAWS)
2800 US Highway 281 North
San Antonio, Texas 78212

MINUTES

Members Present: Suzanne Scott, Chair; Dianne Wassenich, Vice Chair; Everett Johnson; Robert Puente; Tim Andruss (for Thurman Clements); Rick Illgner (for Karl Dreher); Josh Gray (for Jay Gray); Paula DiFonzo; Stephen Fotiades; Chris Hale; Tyson Broad; Jerry James; Walter Womack; James Lee Murphy; Mike Mecke; Mike Peters; Doris Cooksey (for Kim Stoker); Con Mims; Jack Campbell; Liz Smith (for Garrett Engelking); Bill Braden; Jennifer Youngblood; James Dodson (for Ken Dunton), Jennifer Ellis

I. Introductions
Roll call was taken and a quorum was reached.

II. Public Comment
Heather Beckel read a resolution signed August 3, 2011, by the Commissioner's Court for Aransas County supporting the BBASC in their efforts to ensure adequate freshwater inflows to the bays and estuaries that are supporting the livelihood of those who live there. (the resolution is appended to these minutes)

III. Discussion and Agreement on Agenda
The agenda was revised to reflect the addition of a review of the geomorphology discussion from the BBEST report under item VI. The agenda was approved as revised.

IV. Approval of Minutes from the July 6, 2011 Meeting
Minutes for the July 6, 2011 meeting were discussed and minor revisions made. Minutes for the July 6, 2011 meeting were approved as amended.

V. Discussion, Appropriate Action and Approval of BBASC Environmental Flow Standards Recommendations for the Bays and Estuaries, Brian Perkins, HDR
Chair Suzanne Scott discussed the Bays and Estuaries workgroup and how it was established to evaluate guidelines for implementing the 10% set-aside of the authorized water right (diversion and/or firm yield storage, whichever is less) to support the environmental needs of the bays and estuaries.

Report by Bays and Estuaries Work Group
Member Tyson Broad, Chair of the Bays and Estuaries Work Group, ~~presented~~ gave a presentation on the efforts of the work group. Work group members participated in a lengthy conference call to determine when and how the dedicated set-aside could be distributed to best meet the needs of the bays and estuaries, and to develop a guidance document to implement those decisions. He talked about the initial concept paper presented to the workgroup and the concepts and concerns that resulted. Mr. Broad took the workgroup's comments and created a proposal for how such bay and estuary standards could be structured

Comment [TB1]: No chair was formally named

and adopted to accomplish the twin objectives of recognizing the need for some level of additional water supply development while also acknowledging the need for pursuing strategies to attempt to attain the BBEST recommendations for the estuaries. The ultimate goal of the workgroup is not to make the estuary baseline worse.

Members discussed the concepts presented and the implementation of the three steps proposed. Members discussed including an advisory group created to oversee this process to see how the recommendation is applied.

Member James Lee Murphy presented GBRA's comments on the results and recommendations of the Bays and Estuaries Workgroup that had been provided earlier via email. He stated that in general GBRA's main objection is the 10% set-aside for environmental purposes, which is in effect a penalty on new permits, to address potential impacts on the bays and estuaries that are not supported by the work of the BBEST.

Members decided that they were not prepared to vote on this issue (8R) and that additional discussion was needed.

Members proposed to recommend to TCEQ the formation of a consensus based stakeholder advisory group to provide TCEQ recommendations on any new appropriation applications subject to the 10% set-aside previously adopted for a comprehensive integrated management approach to bays and estuaries inflows to work toward achieving the BBEST attainment frequencies, and the results of the work performed in accordance with the recommendations of the BBEST and BBASC through the work plan would be provided to that group for use in their recommendations.

Results of the vote on the above proposal were as following.
Initial Vote on the Formation of an Advisory Group: 1R 23G

Suspension of Consensus
Members decided that a consensus could not be reached and proposed a vote to suspend consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members **AGREED** to suspends consensus by the following vote:
Initial Vote for Suspend Consensus: 0R 24G

Members proposed to recommend to TCEQ the formation of a consensus based stakeholder advisory group to provide TCEQ recommendations on any new appropriation applications subject to the 10% set-aside previously adopted for a comprehensive integrated management approach to bays and estuary inflows.

Members **APPROVED** the above proposal by the following vote:
Second Vote on the Formation of an Advisory Group: 1R 23G

Members clarified their intent that the guidance was to be used solely by the advisory group or also by TCEQ to evaluate new water right applications. Members reviewed the document discussing comments and concerns. *Could you all check notes regarding this discussion.*

Formatted: Font: (Default) Georgia, Highlight

Formatted: Font: Italic

Results of the vote on the above proposal were as following.
Initial Vote on Additional Guidance for TCEQ/Advisory Group: 1R 21G 2Abstain

Suspension of Consensus
Members agreed that a consensus could not be reached and proposed a vote to suspend consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members **AGREED** to suspend consensus by the following vote:
Initial Vote for Suspend Consensus: 0R 23G

Members considered the remaining items proposed in the handout.
Members accepted the results of the initial vote prior to suspending consensus.
Initial Vote on the above proposal: 1R 21G 2Abstain

VI. Discussion, Appropriate Action and Finalize Recommendations of BBASC Instream Flow Recommendations for the 16 Gage Sites, Brian Perkins, HDR
Chair Scott asked members if there were any concerns with the recommendations previously approved for the 16 gages in light of recent decisions and discussions. Concern was that members were still comfortable with the 1,3,3,1 structure wet condition and 10% set-aside applied to the gages on the Guadalupe River at Gonzales, Cuero, and Victoria, considering the additional review of the 10% set-aside by the workgroups. No issues or concerns were raised by members.

Review of the Geomorphology Discussion from the BBEST Report
Chair Scott reviewed the geomorphology discussion in the BBEST report and how the BBASC intended to revisit this discussion considering the recent SAC guidance document on geomorphology.

BBEST Chair Sam Vaugh stated that part of the basis for the BBEST recommendation of 5 tiers of high flow pulses was the geomorphology discussion and some "rule of thumb" concepts geared to not change the sediment transport volume by more than 10% (Chapter 6 of the BBEST Report). The SAC developed a supplementary document to address the discussion based on this concept which said "SAC believes this 10% criteria is poorly justified". He added the SAC's suggestion for a comprehensive literature research to see if viable quantitative alternatives were available would be a great work plan item. He mentioned that the SAC is presently working on new guidance document on geomorphology. BBEST Chair Vaugh stated that the BBEST had included further study on geomorphology in their recommendations and Dr. Tom Hardy was presently preparing the scopes of work. He said it was up to the BBASC to determine whether to include additional studies in BBASC work plan.

Members stated that this was a priority issue and under Section 1.1 (BBASC comments on the BBEST report) of the BBASC report and suggested that a statement could be added to address the concerns of the BBASC, the additional comments received from the SAC and the recommendations made to address these issues later in the work plan. Members considered requiring a geomorphologic assessment of the impact of a large scale water supply project as part of the water right application process. Members were reminded to prioritize the work plan and rank recommendations as requested by the SAC.

Members questioned whether additional study is needed prior to mandating future applicants perform a geomorphologic assessment. Members considered putting language under Section 4.3 (Water Right Permit Conditions) of the BBASC work plan that, for large projects in excess of 80,000 acre-feet of storage and/or a diversion rate greater than 3200 cfs, a

geomorphological assessment should be done up front and the assessment based on the latest guidance from the Science Advisory Committee (SAC).

Members proposed a vote to determine if the group wanted as a permit condition for applications for large projects a requirement for a geomorphologic assessment of the potential impact, and creation a workgroup to refine the recommendation.

Results of the vote on the above proposal were as following.

Initial Vote on permit condition on geomorphologic impacts: 12R 11G 1Abstain

Chair Scott said the issue would be a line item study as part of the work plan.

VII. Discussion and Agreement on BBASC Recommendations Regarding Strategies

Chair Scott discussed the Strategies Work group which met to discuss the potential strategies evaluated by the National Wildlife Federation (NWF) as well as other strategies identified to improve the basin's catchment, its rivers and the ways we affect these resources. She presented a draft consensus document developed by the work group entitled "Strategies to Meet Potential Environmental Flows Standards." She noted the work group found that individual strategies are most effectively applied in conjunction and can produce additional beneficial flows to the bays and estuaries. The work group prepared a list of potential strategies that could be explored and agreed on the following:

- Endorsement of members representing municipalities, utilities, river authorities, and other water users to explore the feasibility of implementing specific strategies during the adaptive management/work plan;
- Need for additional science to better link specific quantity of inflow to measurable improvements to the quality of the environment;
- Acknowledgement of the potential for state rules and laws that could impede the implementation of the strategies and need to recommend steps in the work plan to address these obstacles;
- Encourage TCEQ, TWDB, TPWD, and Regions L and J water planning groups to aggressively promote the implementation of these and other water use management strategies, to help achieve these recommended flow standards while the work plan is being completed.

Members discussed the recommendations and strategies presented, and considered modifications and additions to the document. Issues of discussion included the following tools to implement the identified strategies:

- Update of the TCEQ Water Availability Models (WAM)
- Better data management of wastewater return flows;
- Better data on and accountability of exempt uses of surface water and riparian diversions for domestic and livestock use;
- Better streamflow gaging system of the canals, bays, saltwater barrier, and lower stretches of the river;

Mr. Murphy favored the list of strategies present and suggested that the strategies be listed under a single section header. He urged that maximum flexibility be maintained for the applicant, the proposed strategies remain voluntary, and owners are compensated for any water rights surrendered.

Chair Scott went through the list of 16 proposed strategies and made the appropriate revisions in response to comments.

Mr. Murphy presented his response to the committee regarding the proposed strategies. He said that there was an urgent need to develop new sources of water supply from outside of the basin to meet the anticipated population growth. He said that the BBASC should not limit their recommendations to conservation, better management or limitation of existing water rights as a strategy for securing environmental flows for the future.

Members also discussed the narrative in the introduction of the document and made changes in response to comments. Mr. Murphy noted that he had numerous comments on the language of the document and would reserve his comments until the draft work plan. He explained that he needed to make sure the record correctly reflected what strategies and portions of the narrative GBRA could and could not support.

Members proposed to accept the document "Strategies to Meet Potential Environmental Flows Standards" as revised.

Results of the vote on the above proposal were as following.
Initial Vote on the document, "Strategies to Meet Potential Environmental Flows Standards" as revised for inclusion in the draft report: 1R 21G

Suspension of Consensus
Members decided that a consensus could not be reached and proposed to vote to invoke the suspension of consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members).

Members **AGREED** to suspends consensus by the following vote:
Initial Vote for Suspend Consensus: 0R 22G

Members proposed to approve the document "Strategies to Meet Potential Environmental Flows Standards" as revised.

Members **APPROVED** the above proposal by the following vote:
Second Vote on the above proposal: 1R 21G

Strategies
Members proposed to accept the strategies numbered 1 through 15 as amended. Results of the vote on the above proposal were as follows:
Initial Vote on strategies 1 thru 15, as amended: 0R 22G

VIII. Discussion and Appropriate Action regarding BBASC Final Report Workgroup
BBASC technical consultant Brian Perkins reviewed the draft Recommendations Report indicating the status of each section. Members noted the need to address Regions J and N water planning groups as well as Region L.

Members formed a Final Report work group to assist in the editing of the final report document. Work group members included: Vice Chair Wassenich, Paula DiFonzo, Josh Gray,

Steven Fotiades, Jennifer Youngblood, Doris Cooskey, and Jennifer Ellis.
Members were asked to review the draft document and send any comments or edits to Chair Scott. Chair Scott will then send all the edits to the work group for consolidation before forwarding the edits to the technical consultants. Edits can be submitted electronically as a "Word" document using track changes or as a hard copy. Comments should be submitted by Friday August 19, 2011.

Mr. Perkins will submit all remaining report sections ready for review to Chair Scott for inclusion in the draft document for distribution.

X. Review of Remaining Meeting Dates, Times and Locations
The Final Report Work Group will meet on Tuesday, August 23, 2011 at 10:00 a.m. The next meeting of the full BBASC committee is scheduled for Friday, August 26, 2011 at 9:00 a.m. at a location to be determined.

The vote for the final report is scheduled for the August 26, 2011 meeting. Vice Chair Wassenich noted that all members are invited to attend the Final Report Work Group meeting on August 23, 2011. Members will receive electronically a "track-changes" version of the final report before August 26, 2011.

Public Comment
BBASC facilitator Marty Rozelle commended the group on their efforts.

ADJOURN

*****Comments not included below have been incorporated into previous meeting minutes

Public Comments submitted to the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Stakeholder Committee

>>> "Butch and Julie Findley" <bfindley@centurytel.net> 8/12/11 6:49 PM >>>
To the chairs of the BBASC:

Please enter my comments for the upcoming BBASC for the Guadalupe, San Antonio, Mission, Aransas, and Copano Basins.

I urge you to put some teeth into ensuring that fresh water is released into the bay system. As I am sure you are aware, Texas is experiencing a drought of historic proportions. During the last drought, the whooping cranes at Aransas National Wildlife Refuge suffered a tragic loss in their population. While their population has rebounded over the last two years, I am extremely worried over what will happen this winter. Scientists know that the water level and salinity affects blue crab populations and availability, and as a critically endangered species, we are bound by law to protect their habitat.

While SB3 is a great step forward in the freshwater allocation process, the fact still remains that water rights for this watershed have already been over-allocated.
Please take the wildlife into consideration.

Thank you.

Sincerely,
Julie Findley

THE STATE OF TEXAS §
§
COUNTY OF ARANSAS §

COMMISSIONERS' COURT

RESOLUTION #R27-2011

WHEREAS, The legislative intent of Senate Bill 3 (SB3) is to provide a process to achieve a balance between the water needs of population and economic growth, with the requirements for fresh water inflows necessary to maintain the viability and productivity of the states' rivers, bays, and estuaries; and

WHEREAS, The residents of Aransas County depend heavily on bays and estuaries within our county, for their economic survival; and

WHEREAS, The Bay and Basin Area Stakeholders Committee (BBASC) is responsible under SB3 for recommending to the TCEQ, freshwater inflow levels necessary to achieve the balance within the legislative intent of SB3.

NOW, THEREFORE, BE IT RESOLVED, The Commissioners' Court of Aransas County strongly support the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bay and Basin Area Stakeholder Committee (BBASC) issuing recommendations to the Texas Commission of Environmental Quality (TCEQ), that will achieve the objective of insuring fresh water inflows more than sufficient to provide for the viability of our rivers, bays, and estuaries of SB3 and is required under the Texas Water Code.

RESOLVED AND PASSED by **Aransas County Commissioners' Court** on **August 3, 2011.**

C.H. "BURT" MILLS, JR., County Judge

JACK VHANEY, Commissioner Pct. 1

LESLIE CASTERLINE, Commissioner Pct. 2

CHARLES SMITH, Commissioner Pct. 3

RUSSEL COLE, Commissioner Pct. 4

ATTEST:
Peggy L Friebele
PEGGY L. FRIEBELE, County Clerk

Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee (BBASC)

Monday, August 29, 2011

New Braunfels Utilities Service Training Center
355 FM 306
New Braunfels, Texas 78131

MINUTES

Members Present: Suzanne Scott, Chair; Dianne Wassenich, Vice Chair; Richard Fritz (for Everett Johnson); Hope Wells (for Robert Puente); Kim Stoker; Thurman Clements; Jay Gray (for David Crow); Josh Gray (for Jay Gray); Paula DiFonzo; Karl Dreher; Stephen Fotiades; Chris Hale; Tyson Broad; Jerry James; Walter Womack; James Lee Murphy; Mike Mecke; Mike Peters; Con Mims; Jack Campbell; Garrett Engelking; Bill Braden; James Dodson (for Ken Dunton*);* and Jennifer Ellis.

I. Introductions:

Roll call was taken and a quorum was reached.

II. Public Comment:

Cory Horan, TCEQ announced that he had received numerous public comments via email urging the BBASC to consider the freshwater inflow needs of the bay and estuaries. He added that the emails would be entered into public record as an attachment to the minutes of today's meeting. Chair Suzanne Scott noted that if time permits, a few of the comments would be read at the end of the meeting.

III. Discussion and Agreement on Agenda

The agenda was approved as written.

IV. Approval of Minutes from the July 18th and 19th, 2011; July 28th, 2011; August 2nd and 3rd, 2011; and August 16th, 2011 Meetings

Members agreed to consider the above minutes as well as the minutes for today's meeting at the October work plan meeting. Members chose not to include draft minutes in the final report. Remaining meeting minutes will be appended to the final report once approved.

V. Discussion, Appropriate Action Regarding the Environmental Flows Standards and Strategies Recommendations Report from the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholders Committee (GSA BBASC)

Chair Scott presented an overview of the efforts of the Final Report Subcommittee consisting of Chair Scott, Vice Chair Dianne Wassenich, Paula DiFonzo, Stephen Fotiades, Jennifer Youngblood, Jennifer Ellis, Josh Gray, and Doris Cooksey. Also in attendance were Tyson Broad, Walter Womack, James Murphy, Steve Raabe, Brian Perkins, BBEST Chair Sam Vaugh, Erin Newberry and Brian Mast. She stated that comments on the draft report had been received and the suggested edits were entered into a "track changes" document distributed prior to the meeting.

Chair Scott reviewed the charge of the BBASC. Members went through the clean version of the draft document, section by section; discussed the additions and revisions made by the

final report subcommittee for comment and approval.

Table of Voting Results
Members voted on whether to include a table showing the results of the vote taken for each recommendation in the final report. Members APPROVED the inclusion of the table.

Signatures for Final Report
Members considered whether to include signatures of all stakeholders on the final report.
Results of Initial Vote: 4R 20G

Members considered allowing the Chair and Vice Chair of the BBASC sign for the Stakeholders.
Results of Initial Vote: 6R 18G

Members discussed the intent of the signatures to the report and whether the narrative should be changed so as not to imply full agreement with the report. Members postponed any further discussion until later in the meeting.

Acknowledgements
Members considered the addition of an acknowledgement page to reflect the efforts and financial support of entities and individuals outside the BBASC, and to recognize Brad Groves, who passed away during his term as a member. Members APPROVED the inclusion of acknowledgement page.

Table of Contents
Chair Scott discussed the significant changes made to the Table of Contents. She noted that explanations of the terminology used (subsistence flow, base flow, and high flow pulses, etc.) were moved forward in the report so that those terms would be defined prior to use in the report.

Appendix
Members AGREED not to include the DRAFT minutes not yet considered for approval and a notation will be added to the transmittal letter stating the DRAFT minutes will be reviewed and approved at the October meeting.

Chair Scott stated that an Appendix I was added to address the comments and questions submitted to TCEQ by GBRA regarding the BBEST report. The BBEST responses to these comments will be included as well.

Chair Scott also discussed the following additions:
- Narrative discussion the issues addressed by the BBASC before receipt of the BBASC report.
- An additional reference map showing the basins, areas of interest, etc.

Section 1.2 (*GSA BBASC*), Para.1
Members agreed to delete "a fair and equitable balance of" from the description of interest groups.

Section 2.2 *Surface Water Rights*
Members asked to clarify that water rights listed equal or exceed 20,000 acre-feet.

Section 3.0 *Development BBASC Recommendations*
Members discussed changes made throughout the section and the expansion of 3.1.4. *GSA BBASC Responses and Requests on the GSA BBEST Report*.

Section 3.1.4
Bullet 2: Members requested the addition of Kerrville to the list of monitoring locations.

Members requested an additional bullet to address that the BBASC commissioned the time series analyses to address interest in how often the BBEST criteria would be met with respect to freshwater inflows to the estuary. Members acknowledged that further detail is located in Section 3.3.

Section 3.2 Consideration of Present and Future Water Needs Related to Water Supply Planning

Members requested that the narrative reflect that all data referenced is 2007 so that any comparison would be relative to a common time frame.

Section 3.2.1 Regional Economies Dependent on Water
Members discussed the reference to the economic data since it was not finished in time to present to the full BBASC and as referenced in the narrative there was no reference to the economic impact to the fishing industry.

Members AGREED to the following
- To include "While these three economic subsectors represent about one quarter of one percent of the regional economy, they are locally quite significant." in Section 3.2.1 of the final report.
- To move power generation under "direct uses" instead of "less direct uses".

Section 3.2.3 *Regional Water Plan Strategies and Costs*
Members AGREED to add to the 2nd paragraph: "As each of these water management strategies relies on existing surface water rights may not require a new appropriation of surface water, it is assumed by the BBASC that such strategies will not be affected by environmental flow standards adopted pursuant to SB3."

Section 3.3.1.2 *Baseline Simulation*
Table 3.3-2: Members discussed the need to reference definitions of the acronyms used in the tables either by including the definitions or referencing Appendix D for further detail. Members decided to add a footnote "Terminology regarding the estuary recommendations are further defined in Appendix E2 of this report and throughout the BBEST Recommendation Report".

Section 3.3.1.3 *Initial Simulations for Large-Scale Firm Yield Projects*
P. 49, last paragraph: After Figure 3.3-7, the sentence was corrected to read "no instream flow criteria and three actual instream environmental criteria were applied to both the *Mid Basin Project* and the San Antonio River Project."

Additional Analysis
P. 70, below Table 3.3-19: Members decided to change "best available science" to "best available equations and data" in the following sentence to read: "In support of the analyses performed by members of the GSA BBEST Estuary Subcommittee, Sam Vaugh of the GSA

BBEST used best available equations and data to perform simple quantitative analyses estimating potential effects of changes in freshwater inflow on oyster harvest in the Guadalupe Estuary."

P. 70, Bullet "d": Members decided to add "Equations show" each of the scenarios…

Members suggested substituting "water supply" for "human needs" throughout the document to address human economic needs when expressing Human vs. environmental needs.

P. 67, last bullet: Members changed text to read "a change in the attainment performance"

Section 4.1.1.4 *High Flow Pulses*
Bullet "d": Members decided to change "peak" to "exceeding the specified peak, Qp, trigger value, equivalent to the specified peak value, Qp, in the environmental flow standards."

Section 4.1.2 Guadalupe River at Comfort
P. 84, Bullet "d": Members discussed the following phrase which was used in several gage recommendations, "Recognition that limiting water available for diversion or impoundment in upstream areas preserves water available for diversion and impoundment in downstream areas." Members AGREED to remove bullet "d" from this gage.

Section 4.1.3 Guadalupe River near Spring Branch
P. 86, Bullet "d": Members discussed the following phrase which was used in several gage recommendations, "Recognition that limiting water available for diversion or impoundment in upstream areas preserves water available for diversion and impoundment in downstream areas." Members AGREED to remove bullet "d" from this gage.

Section 4.1.4 Blanco River near Wimberley
P. 88, Bullet "d": Members discussed the following phrase which was used in several gage recommendations, "Recognition that limiting water available for diversion or impoundment in upstream areas preserves water available for diversion and impoundment in downstream areas." Members AGREED to remove bullet "d" from this gage.

Section 4.1.6 Plum Creek at Luling
P. 92, Sentences were added to address water quality and to state that the BBASC did not discussion or address those issues.

Section 4.1.7 Guadalupe River at Gonzales
Chair Scott noted that the BBASC recommendation by vote was documented in the section for this gage as well as additional language added on *P. 96, last paragraph under 4.1.7*: "In order to balance environmental and human needs, the 10% dedication to environmental flows as a permit condition was adopted by the BBASC in lieu of a three-tier base flow structure during Fall and Winter for Guadalupe River at Gonzales, Guadalupe River at Cuero, and Guadalupe River at Victoria. A single tier base flow was recommended for the fall and winter."

Members agreed to add "*adopted by* ***a vote of 19 to 3***", in the above sentence.

Section 4.1.8 Sandies Creek at Westhoff
Members noted that the order of placement of this gage was changed due to geography.

Section 4.1.9 Guadalupe River at Cuero
Members noted that the language used for Guadalupe River at Gonzales should be applied to this gage.

Section 4.1.10 Guadalupe River at Victoria
Members noted that the language used for Guadalupe River at Gonzales should be applied to this gage.

San Antonio Basin Gage Sites
Members reviewed the specified sites located in the San Antonio Basin and discussed the revisions proposed by the subcommittee. Revisions were accepted with minor clarifications.

Section 4.2 *GSA BBASC Recommendations for Estuary Freshwater Inflow Standards*
Members were presented with the latest changes made to the draft report prior to the meeting.

Section 4.3.2 Ten Percent Dedication to Environmental Flows (10% Rule)
Members discussed the use of the word "assuming" with respect to TCEQ's means of dedicating water to the estuary. Members considered using "BBASC recommends TCEQ provide".

Results of Initial Vote: 2R 22G

Suspension of Consensus
Members decided that a consensus could not be reached and proposed a vote to invoke the suspension of consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members **AGREED** to suspend consensus by the following vote:

Initial Vote for Suspend Consensus: 0R 24G

Members **APPROVED** the above proposal which will also apply under Section 4.4.4 by the following vote:

Second Vote on the language change: 2R 22G

Section 4.4.2 Additional Support and Funding for TCEQ South Texas Watermaster Program
Members voted on whether to include the GSA BBASC recommends that funding for the Watermaster program be increased to accommodate the additional manpower and tools that will be necessary to support an increase in expected workload.

Results of Initial Vote: 2R 22G

Suspension of Consensus
Members decided that a consensus could not be reached and proposed to vote to invoke the suspension of consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members to suspend consensus by the following vote:

Initial Vote for Suspend Consensus: 0R 24G

Members **APPROVED** the above proposal which will also apply under Section 4.4.2 by the following vote:

Second Vote on the language change: 3R 21G

Members considered additional language which states that the recommendations represent the decision of the BBASC and that if additional time was available, members "believe" that a

consensus could be reached. Some members noted the fundamental disagreements that exist, and agreed that additional time would not resolve these issues.

Approval of the Recommendations and Report
A motion was made to approve the recommendations and the report for subsequent submittal to TCEQ and the Environmental Flows Advisory Group (EFAG).

Initial Vote on the above: 3R 21G

Suspension of Consensus
Members decided that a consensus could not be reached and proposed to vote to invoke the suspension of consensus to allow the group the ability to move forward with agreement of 75% of the membership (19 members). Members **AGREED** to suspend consensus by the following vote:

Initial Vote for Suspend Consensus: 0R 24G

Members considered the motion to approve the recommendations and the report for subsequent submittal to TCEQ and the EFAG.

Second Vote for the above: 3R 21G

Members Con Mims and Paula DiFonzo commended Chair Suzanne Scott and Vice Chair Dianne Wassenich on their efforts.

Chair Scott thanked members for their work and reminded the members that the BBASC is still charged with delivering a work plan. Future meetings will be held to develop the work plan.

VI. Status Report on BBEST Technical Support for Work Plan, Sam Vaugh
BBEST Chair Sam Vaugh presented a status report on the BBEST technical support for the work plan. He stated that Section 6 of the recommendation report included a list of areas previously identified by the BBASC for additional study and/or monitoring during the next year. The members of the BBEST, in support for the BBASC, have already begun work on these 36 areas based on individual member's expertise. The BBEST will deliver scopes of work for each area which will address the "who, what, when, where, why, and cost" for each area with special attention to data gaps and needs for additional data or understanding identified by the BBASC. BBASC members will be able to use the scopes of work to prioritize these areas so that when funds whether public or private become available, these areas can be considered as directed by the BBASC. The BBEST will have the Scopes of work ready by the next meeting and will support the BBASC for the following six months during the work plan phase of their charge.

Signatures for the Recommendation Report
Members discussed how to address report signatures as earlier discussions were not approved by consensus. Members AGREED to limit signatures to the BBASC Chair and Vice Chair.

X. Discuss Future Meeting Dates, Times and Locations
Chair Scott noted that she will make a presentation on the recommendation report to the EFAG at their September 8, 2011 meeting and all members are invited to attend. The meeting is at 10 a.m. at the Capitol, Room E1.012. Mr. Horan will send an announcement regarding the EFAG meeting to members including directions on how to access the meeting on the internet.

The next meeting will be held on Wednesday, October 5, 2011. Members will be notified with the time and location.

XI. Public Comment

Public comments received via email were presented to members and are attached to these minutes.

XII. ADJOURN

*****Comments not included below have been incorporated into previous meeting minutes

Public Comments submitted to the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Stakeholder Committee

>>> <arandc@csl.edu> 8/24/11 10:00 AM >>>
To whom it may concern,

I am writing in order to urge you the BBASC and TCEQ to provide sufficient freshwater flow for the bays, fisheries, and wildlife along Rockport and Aransas coasts.

My wife and I came down for several days this past February for the purpose of seeing the whooping cranes at Aransas National Wildlife Refuge and visit the areas around the refuge. It is a beautiful area and provides the wintering grounds for the only naturally wild flock of whooping cranes in the world. These cranes and the wetlands where they live are a priceless treasure! As they need sufficient fresh water flows into the bays in order to have a good blue crab population for their winter diet, I hope that you will act to ensure that they receive the fresh water that not only helps them to survive at their current numbers but enables to thrive as a growing flock. I believe that it will be good not only for the whooping cranes but for the larger economy of the region as well. For that matter, my wife and I plan on coming down again next January and spend more than a few days there. We hope to do so for many years to come.

Sincerely,

Charles P. Arand
597 Woodlyn Crossing
Ballwin, MO 63021

>>> barbara BOEHME <sbgbarbara@yahoo.com> 8/24/11 6:40 PM >>>
We must have some fresh water for the life of the bay and all of its inhapitants, icluding the indangered whooping crane
look what happened in the drought year of 08-09...it can happen this year again as we are heaking for the same with this la nina
please consider this in your vote.
Barbara boehme
new Braunfels, TX

>>> "Beverly Trifonidis" <beverly@rockportartcenter.com> 8/24/11 1:13 PM >>>
This is a crucial vote and as a homeowner in Rockport, Texas and who has been coming to Rockport for 57 years over my lifetime, I urge you to vote to change the regulations to allow sufficient fresh water to reach the coast and protect the estuaries.

1. I have personally witnessed how the lack of fresh water has decreased the blue crabs in the area near the Aransas National Wildlife Refuge from boating in this area, and the dire impact this had on the Whooping Cranes several years ago.
2. The ANWR and the local estuaries are some of the most important eco systems in the United States.
3. ANWR is one of the top birding destinations in the world and the only one that is the major natural home in the US to the Whooping Crane.
4. People live and work in this coastal area because of the prevalence of wildlife, and tourists come here from all over the world for that reason.

I will be paying attention to how this decision is made and it will be at the top of my criteria for how I vote in the next election. This is one of the most important decisions to be made for our State welfare, given the importance of the entire Texas coast estuary system.

I am forwarding this message to my Representative Todd Hunter, as well.

Beverly Trifonidis
beverly@yant.net
361 205 1798

>>> "Bill Forbes" <bforbes@care2.com> 8/16/11 12:34 PM >>>
BBASC Chairs Diane Wassenich and Suzanne Scott,

Please read Sandra Postel's book Rivers for Life. You will see that Texas and the US are considered behind in their policy towards instream rights for wildlife. It is sad that we have to look to Africa for the best river management policies. You might also read Robin Doughty's Return of the Whooping Crane. To think they have made this remarkable comeback and are threatened again is equally sad. As Aldo Leopold wrote in Marshland Elegy and other works, we live in kinship with cranes and other species, some of whom have been on the planet millions of years longer than we have. We need to stop merely mitigating so these species populations don't drop too far near the point of extinction (if we even know where that point is - see the Northern spotted owl updates). We need to plan for the simultaneous thriving of other species - it doesn't take that much sacrifice. The impacts of lack of adequate fresh water flows into Texas bays and estuaries on the local economy, the whooping cr anes and the coastal way of life are unacceptable. Please make my comments part of the public record for the BBASC for the Guadalupe, San Antonio, Mission, Aransas and Copano Basins. Thank you.

Regards,

Bill Forbes
Nacogdoches, Texas

>>> brenda hutchens <blouhutch@yahoo.com> 8/24/11 3:49 PM >>>

Those who are fortunate enough to live on the coast or the along waterways of South Texas can see the results of the drought and extreme temperatures this summer. Some waterways are depleted by evaporation, beaches exist where they have not before, marshlands are arid. As the stewards of these great natural resources on which birds, fish and wildlife depend, we must intervene in whatever way that we might to provide fresh water to these waterways. This problem will not correct itself. We can be sure that we will "pay" now or "pay" later and the "cost" (not only monetary) may be more than we want to bear if not addressed soon. Thank you for your attention and consideration.

Brenda Hutchens
Concerned Rockport, Texas homeowner

>>> Charles R Shamel <chuckshamel@clearwire.net> 8/24/11 3:57 PM >>>

Though I m sure you have many voices speaking on behalf of the users of water from the Guadalupe and San Antonio Rivers I would add a few words for those who have no voices, the wildlife that lost their lives in the last drought when the rivers did not flow marshes became hyper-saline and those that will perish in the next drought, not to mention the losses to fishing and tourism industries.

We know you are listening to the needs of agriculture, city planners, developers and electric providers in Victoria and along the Austin San Antonio corridor who expect population to double in the not too distant future. Human users have possible alternatives of either limiting their use of surface water and underground aquifers, discouraging population from immigrating to places of limited water resources, or of finding alternate technologies to make electricity and desalinate water for human use. There are no such alternatives for the wildlife and fishing industries dependent on river flow for a healthy bay and estuary.

Ranchers and farmers need to shift to dry land techniques or better water conservation practices. Power companies need to focus on solar, wind and using gulf wave action to generate electricity. The folks wanting to move to Texas need to know the cost of their water and plan to xeriscape as in West Texas or pay for green lawns and swimming pools. We already are willing to pay $1.25 for 20 ounces of drinking water in a plastic bottle, an idea you could not have imagined 30 years ago. We all need to realize that water and living space are limited resources and if we are to have quality of life for all, we must share wisely with all stakeholders whether we were given a voice or not.

--

Chuck
152 Dustin Ln.
Rockport, TX 78382

>>> "CJ Wax" <cjwCurlew@cobridge.tv> 8/25/11 6:29 AM >>>

To All

I am writing to urge the BBASC to remember that Coastal Communities and a number of unique species depend on a flow of freshwater into our Bays and Estuaries for their very survival. Water rights that are approved upstream cannot be rebuilt downstream and as the population continues to grow throughout the state; proper management and allocation of these rights will become a more critical issue over time. An upstream water right should not be approved if its execution endangers the vitality of a community or species downstream. The minimum flow must be established at the bottom of the watershed to ensure the health of the coast, it's bays, fisheries, wildlife and population.

Our last drought of 08-09 brought this reality into sharp relief as we saw the devastation to the Whooping Crane population; the reduction in freshwater flows had a direct impact in the production of young blue crabs that they rely on for their survival. That is just one example of the impact reduced flows can have. There is no effective difference between a reduced flow resultant from drought or a reduced flow resultant from over-committing the freshwater in our rivers. We need to remind our selves that man's interaction with the environment can have just as devastating impact on our lives as mother nature's.

The bays and estuaries of the Texas coast host many critical species of fish and wildlife plus a significant coastal population. Their numbers may not match those of larger population centers higher up in the watershed but their rights should be protected just as vigorously.

CJ Wax

Mayor

City of Rockport

>>> "Jason D. Hawn" <jhawn@hawnventures.com> 8/23/11 3:32 PM >>>
I write this to encourage the BBASC and TCEQ to take a stand for our Texas Bay system and Texas' overall ecological health. You are truly in a position to ensure that our natural estuaries have the proper balance of fresh water to be healthy long into the future. It is imperative that you take a long-term approach to ensure that the bay systems receive the needed fresh water inflows that have made them what they are today over the past millennium.

I have personally experienced the decline in the health of our overall bay system. I am excited to see the results of the opening of Cedar Bayou but know that the added inflow of saltwater from the Gulf will need to mix with a health flow of freshwater. No scientific report can take the place of the historical knowledge those on the ground or water in this instance.

Please know that I appreciate your service and attention and would be happy to share my experiences and knowledge with you should it help.

Best regards,

Jason D. Hawn
Hawn Ventures L.L.C.
jhawn@hawnventures.com
512-658-8517
512-380-9957

>>> "Jim Mixon" <ibrealtor@msn.com> 8/24/11 2:41 PM >>>
Dear Ladies,

I live in the Rockport community and have been very aware of the small amount of fresh water that reach our Bay Systems. Some of this fault lies with Mother Nature at the moment but our situation is becoming more dire. Our Bay Systems need fresh water in order to produce the blue crabs which feed our flock of Whooping Cranes. Our Bay Systems need fresh water in order for the oysters in our bays to populate. I could go into great detail here but will not. Please protect this area with a proper allocation of water from all of the river systems that help us out here.

Sincerely,

Jim Mixon
Republican County Chair
po box 2107
rockport, tx
78381

>>> "John Kafka" <jkafka@chamberlinltd.com> 8/24/11 4:40 PM >>>
Dear Sir/Madam,

I am a home owner on Key Allegro in Rockport. My family and I consider Rockport and the surrounding bay system one of the great treasure of Texas. Clearly ,Rockport would be just another city in Texas without the bay system and the incredible and unique wildlife that it supports. I have been traveling to Rockport for nearly 25 years and purchased a home there in 2000. Since then, we have seen many changes to the wildlife system which have not been positive. One of the most devastating changes has been the reduction of fresh water in flow into the bays themselves and the resulting negative impact to both the fisheries and other wild life, particularly the whooping crane.

I don't have the time to go into all of the things that I have witnessed over the past 10 years while being a homeowner and spending lots of time on the water but suffice it to say that fresh water flowing into the bays is a critical element if we are to pass onto our children and grandchildren a healthy bay system that has simply been entrusted to us to pass onto future generations. Therefore, I urge you to make sure that BBASC and TCEQ take the necessary measures to provide for significant and adequate water for the bays, wildlife and fishery. This is also of great importance to the to the economic health of the coastal community.

I know there must be much pressure from various interests. I pray that you will have both the wisdom and the courage to make the right decisions.

God Speed,

John Kafka

John M. Kafka
President/CEO

Chamberlin Roofing & Waterproofing
7510 Langtry
Houston, TX 77040
713-880-1432 (main)
713-425-9030 (direct)
713-828-1881 (cell)
713-880-8255 (fax)
jkafka@chamberlinltd.com

>>> "Kara Mills" <karamills@sbcglobal.net> 8/24/11 4:17 PM >>>
Hello –
I am writing to implore you to find a solution for the coastal communities & estuaries to continue receiving the upstream water that they need to survive. If we allow the magnificent Whooping Crane to become extinct, what other smaller fish and wildlife will be the next that will be facing extinction? The decisions that are made by you are critical to keeping the coast that we all love alive.
Thank you for your consideration of this matter.
Kara Mills
Rockport TX

>>> "Kathy David" <KATHY@SEASHORESIGNS.COM> 8/23/11 4:25 PM >>>
As the BBASC finalizes its recommendations for the Guadalupe, San Antonio, Mission, Aransas and Copano Basins to the Texas Commission on Environmental Quality (TCEQ) on in stream flows for the Guadalupe and San Antonio river basins, I urge you to provide adequate water for the bays, fisheries, wildlife, and coastal communities. Adequate fresh water flow is of great importance to healthy bays, whopping crane population and the economic future of the Aransas Coast. We must help to protect nature.
Regards, Kathy David

Kathy David
Texas Coast Signs DBA
SeaShore Signs & Graphics
PO Box 1763
Rockport, TX 78381
361-737-6885
kathy@seashoresigns.com
www.seashoresigns.com

>>> "Lee Hutchinson" <lee@csidedecorating.com> 8/24/11 2:05 PM >>>

Dear members of BBASC and TCEQ ,

I appeal to you as the decision makers that may forever effect the water for the bays, estuaries. Fisheries, wildlife, and ultimately our coastal communities. I plead with you to support all measures to provide adequate fresh water for filtration and sustained life.

My family members all have Rockport-Fulton as our alma mater, enjoying every aspect that being raised on the coast affords. We have noticed a decline in the fish and wildlife of the area over the last several years. We took particular notice when the numbers of whooping cranes was so significantly reduced last year. Healthy bays and whooping cranes are the economic future of the Aransas coast.

Warm regards,

V. Lee Hutchinson
www.csidedecorating.com
323 East Market St.
Rockport, TX 78382
t.361.729.9588
f.361.729.1056

>>> Paul Gonin <pggonin@gmail.com> 8/24/11 4:02 PM >>>
I am writing to request that the BBASC and the TCEQ adopt strong measures to ensure that adequate fresh water inflows are assured in the future, for the Aransas and related bay and estuary systems. As a resident of Georgetown, TX, I am well aware of the demands made on our Texas rivers, especially in times of drought like we are now experiencing. I am also very aware of the importance of fresh water flows into our bays, to maintain the right balance of salt and fresh waters for the development of shellfish and other marine life. A healthy marine environment is critical for the endangered whooping cranes, but is also vital for the fishing and tourism industries on which the coastal economy is so dependent.
Thank you,
Paul Gonin
110 Powder Creek Cv
Georgetown, TX 78633

>>> "Ray Kirkwood" <ray_kirkwood@wildblue.net> 8/24/11 3:32 PM >>>
The recommended freshwater inflows are insufficient to sustain the health of our bays. You must remember that the mission of this study is to safeguard the health of the bays as well as the rivers..

The salinity of Aransas Bay yesterday was approaching 40ppt. This is too high for Blue crab & it is too high for Whooping cranes to drink. I do not want to spend another winter watching dehydrated Whooping cranes starve as they did in 2008 & 2009. It may be too late for this winter, but you can help prevent a recurrence in the future.

Ray Kirkwood

>>> shirley blackman <shblackman01@yahoo.com> 8/24/11 2:13 PM >>>
Dear Diane, Suzanne, and Cory,
Many of our beloved Whooping Cranes died two years ago because of a drought. We are experiencing another drought this year. The endangered Whooping Cranes are just one of the many fish and wildlife that need our help to survive. They need the life giving fresh water from the rivers into the bays.
PLEASE……Vote NO on the nuclear plant in Victoria.
Sincerely,
Shirley Blackman

>>> shirley blackman <shblackman01@yahoo.com> 8/24/11 3:08 PM >>>
Dear Diane, Suzann and Cory

For centuries Whooping Cranes have been flying 4,000. miles from Canada to winter in Texas. There is no way to warn them that their lives are in danger if they continue to come. We were in a drought two years ago and again this year. Lack of fresh water killed many of the wintering Whooping Cranes in 2008-9. We need more, not less, fresh water from rivers into the bays. We in Aransas County do not have a vote on our water allocation. All we can do is ask your help to insure the survival of the already endangered Whooping Cranes and the survival of fish and wildlife on the coast. Please help us by bringing more water from the river into the bay.

Sincerely,
Clint Blackman
2201 Cape McCan
Rockport, Tx 78382

>>> "Tom Callan" <tcallan23@gmail.com> 8/24/11 2:20 PM >>>
Ladies:

I have watched and to a very limited extent participated in the process BBASC and BBEST have followed in the last few months. As Chairman of the City of Rockport's Water Quality Committee and as a Director of the Rockport-Fulton Chamber of Commerce I have spoken with a number of our local organizations and government officials about how serious the allocation of fresh water to our bays is to the future of Aransas County, its people and its economy. As you may be aware, Aransas is one of the smallest, if not the smallest county in the state. Yet the town of Fulton and the City of Rockport by virtue of our natural resources, draw around one million visitors each year. These communities are a vacation mecca because of their climate, coastal facilities, including a nationally recognized "Blue Wave" beach park, the ski basin at Little Bay, proximity to the Aransas National Wildlife Refuge, numerous waterfowl and upland birds, and the welcome received from our local businesses. The hotel, motel, and fishing industries, including guide services, are dependent on healthy bay systems. Without this particular resource, maintained and nurtured by those in government and the private sector, the economic life of Aransas County will be put in extreme jeopardy.

Now is the moment to finally recognize that the bays and the habitat they provide can be strangled by upstream demand for water. Surely the peoples of Aransas County and others along the Texas Coast, are just as deserving of consideration and allocation of water as those entities through which it flows.

Best regards,

Tom Callan
Phone 361-729-7077
Mobile 361-205-3369

>>> <AngaleeDeF@aol.com> 8/25/11 10:51 AM >>>

I am writing as a TAP supporter. I strongly urge you to ensure that there is adequate water supplied to our South Texas bays. The whooping cranes have suffered greatly in the past two years due to the drought, as well as other wildlife indigenous to the area. It is ever so important to not be short sighted about this great need. It affects the future health of all of us. Thank you for your help in this matter.
Angalee DeForest

Angalee DeForest
DeForest Fine Art
PO Box 1030
Rockport, TX 78382
361-727-9728
www.deforestfineart.com

>>> Duane Keilstrup <dvictork@gmail.com> 8/25/11 11:45 AM >>>
Please, in the name of our heritage of waterways and beautiful birds and healthy fisheries, please, save our Texas coast and wildlife for generations to come. Act now in the name of all God's creation and our planet before it's too late.

Thank you.
Respectfully,
Dr. Duane V. Keilstrup
Arlington, TX

>>> Rolf and Penny Hong <aurora2@boreal.org> 8/25/11 2:51 PM >>>
Dear Council and TCEQ,

"Not all things that can be counted, count. Not all things that count, can be counted.
Albert Einstein.

We are residents of Rockport, Texas and members of The Aransas Project (TAP). We strongly support the position of TAP with regard to insuring improved water management policies that provide significant water inflows to sustain the communities, wildlife and water fowl of our Texas Coast.

Of particular weight to us is the presence each winter of the migrating Whooping Cranes from Woods Buffalo Refuge in Canada. We and our community, including substantial numbers of "winter Texans", were stunned by the heart-breaking loss of 24+ Whooping Cranes to starvation in the drought 2008-2009. Water policies must cover both conditions of drought as well as other less severe times.

We fully support a Final Report which calls for timely review and frequent communication with the Coastal Communities to insure that sustainable water inflows are provided to our communities.

Best regards,
Penny & Rolf Hong

>>> "Art Dohmann" <artdohmann@gmail.com> 8/25/11 3:00 PM >>>
Dear Committee,
My name is Art Dohmann. I now live in Goliad County but previously lived in Calhoun County for many years.
I am writing you concerning the environmental flows associated with the Guadalupe River feeding San Antonio Bay. I am and have been concerned that the water rights already granted, if exercised, will not allow sufficient fresh water inflow to the bays and estuaries.
I experienced the drought of the 1950's and its massive negative effect on the health of the bays and estuaries and on the economic stability of the Gulf Coast. I experienced first hand the negative impact, living in Port Lavaca.
In the 1950's, the Guadalupe River had a very minimal flow, like that of a small creek. This was a personal observation. In 2000, Region L brought out computer results that showed that the Guadalupe River had a significant flow and would be able to supply SA with 80,000 acre feet per year of water. This was proven to be wrong and the project was cancelled.
Eleven years later (2011), water developers are again using computer models to claim that there is an abundant amount of water to meet environmental flow needs and to allow even more water to be permitted. Responsible leaders need to stand up and put a stop to this type of reckless behavior.
If any of you come through Cuero on Hwy 183, please carefully look to the south and observe the low flow on the Guadalupe River. It is still greater than it was during the drought of the 1950's but it is rapidly shrinking to that of a creek stream. Salinity in all of the Gulf Coast Bays is on the rise and approaching a critical point where significant long term environmental damage may occur.
I urge you to make responsible decisions to maintain the necessary environmental flows to protect our bays and estuaries for future generations and to protect the health of our ecology.
Art Dohmann

>>> blair brown <lapercha10@gmail.com> 8/25/11 4:48 PM >>>
Dear Sir / Madam,
I am writing in support of policies which prioritize conserving enough water from Texas rivers to support healthy ecosystems in our bays and estuaries. These are our very finite resources for the long-term. The biology supported by habitats in our rivers, estuaries, bay and gulf is irreplaceable, much of it already in precarious state, and should not be endangered further by short-term gain for self-serving projects and or parties.
Please do all you can to create environmentally responsible policies which will proactively ensure healthy water flow from rivers to the bays.
Sincerely,
Blair Brown *, Advisory Board, RavenStar Outdoor Education, EduKudos!*
Blair Brown Concepts *"If you think education is expensive, try ignorance."* Derek Bok

>>> "Les Sorenson" <les.sorenson@sbcglobal.net> 8/25/11 7:07 PM >>>
As a lifelong resident of Rockport (71 yrs.) I urge you all to consider the freshwater needs of our bays and coastal areas.
Sincerely,
Les Sorenson

>>> pat fahrenthold <pfahrenthold@sbcglobal.net> 8/27/11 5:02 PM >>>
Please find a balanced approach to water distribution and allotments. It's easy for communities to panic in a time of extreme drought, like to the one we are in now, but there is enough water for everyone with careful management and stewardship.

Some ideas for ways to use water better:
Limit housing development that would take water from the Guadalupe, San Antonio, Mission, Aransas and Copano Basins.

Prohibit any intensive water-use industry that would use water from the Guadalupe, San Antonio, Mission, Aransas and Copano Basins. Exceptions could be made for industries that return at least two-thirds of the water they use as treated wastewater to the rivers.

Mandate the use of treated wastewater for landscape watering and toilets in new construction. "Purple pipes" for treated wastewater are becoming common in new construction.

Recapture condensation runoff from air conditioners in commercial buildings for landscape gardening and flushing toilets.

Provide incentives, either tax exemptions or rebates, for homeowners who install rain water catchment systems.

Everyone in the BBSAC read "The Big Thirst" by Charles Fishman for many more great ideas for sensible, reasonable water use.

Thank you for listening,
Pat Fahrenthold
617 Columbia Ave.
San Marcos TX 78666

>>> David Davidson <ddavidson2314@earthlink.net> 8/31/11 6:55 PM >>>
I am commenting on the water flows in the San Antonio River system. I am principally interested in maintaining enough flow so that the Whooping Cranes food supply in San Antonio and associated estuaries are sufficient during periods of low rainfall, like is being experienced in Texas in 2011.

Whooping cranes have been endangered since I was a child, and thanks to the US Fish and Wildlife Service and many concerned Texans, the numbers have slowly grown. However, the numbers are still far below that number required for their long term survival. I have actually worked on some of the plans that have been formulated towards long term survival, and I have donated funds to buy conservation easements for Whooping Crane habitat on the Texas Coast.

Unless sufficient water is guaranteed for San Antonio Bay and associated estuaries, all this time and money will have been wasted and the Whooping Cranes numbers will not continue to at least be stable, and if denied water long enough, Whooping Cranes will probably become extinct, a huge loss to Texas' natural resources and heritage.

I urge TCEQ to ensure enough water to supply the Whooping Crane feeding grounds adequately for continued recovery of the Whooping Crane population.

Sincerely yours, David L. Davidson, 117 Elm Spring, San Antonio, TX 78231

AGENDA ITEM V

Texas Commission on Environmental Quality (TCEQ) Rulemaking Process and Schedule

AGENDA ITEM VI

Review and Discussion of Work Plan for Adaptive Management Elements and Prioritization of Work Plan Elements and Creation of a Work Plan Work Group

A. Instream Flows – Rivers, Streams, Tributaries and Riparian Zones
B. Bays and Estuaries

MEMO

Date: November 10, 2011

To: Guadalupe, San Antonio, Mission and Aransas Rivers and Mission, Copano, Aransas and San Antonio Bays Basin and Bay Area Stakeholders Committee (G-SA BBASC)

From: Steven J. Raabe, P.E., Director of Technical Services, San Antonio River Authority

Subject:: Work Plan Subjects for Adaptive Management – Instream Flows (Rivers, Stream, Tributaries, and Riparian Zones)

At its October 11, 2011 meeting, the G-SA BBASC discussed combining and reorganizing the work plan subjects for adaptive management to eliminate redundancy and to group similar or compatible activities together. Ken Dutton volunteered to perform that work for the bay and estuary work plan subjects.

Since no one was identified at that meeting to perform a similar task for the Instream flow work plan subjects, the San Antonio River Authority, at its own cost, asked Ed Oborny with Bio-West to review the instream flow work plan subjects and suggest ways to combine or reorganize the work plan subjects. We thought that Ed Oborny, through his roles as lead technical consultant to the Lower San Antonio River Instream flow study and his membership on the Environmental Flows Science Advisory Committee, would bring valuable insight into the reorganization of the work plan subjects for the G-SA BBASC to consider. The detailed write-ups have yet to be revised in order to allow the G-SA BBASC to decide if this is the direction the group would like to pursue.

We offer this information for the G-SA BBASC to use as it chooses and stand ready to provide additional assistance if the G-SA BBASC desires.

Guadalupe, San Antonio, Mission, & Aransas Rivers and
Mission, Copano, Aransas, & San Antonio Bays
Basin & Bay Area Stakeholders Committee (BBASC)

Work Plan for Adaptive Management

Instream Flows - Rivers, Streams, Tributaries, and Riparian Zones

					Flow Regime Component									
HYDROLOGY		**ID#**	**Subject**	**Primary BBEST Member(s)**	**Subsistence**	**Base**	**Pulse**	**Hydrology**	**Source(s)**					
Surface Water	Studies	2 & 3	Quantify Surface Water Use (Exempt reservoirs and diversions for Domestic & Livestock (D&L Uses)	Magin, Gonzales				X	BBASC					
		4	Effects of Conservation & Drought Management	Eckhardt				X	BBASC					
		5	Predictability in Surface Water Permitting	Vaugh				X	BBASC					
	Monitoring	10	USGS Streamflow Gaging & Water Quality Monitoring	Magin, Gonzales	X	X	X	X	BBEST					
		21	Gaging & Other Studies in Lower Guadalupe & San Antonio Rivers	Vaugh			X	X	BBASC					
Groundwater	Studies	1 & 8	Impacts of Groundwater Withdrawls (from Alluvial Gravels and on Upper Basin Streamflows)	Eckhardt	X	X		X	BBASC					
	Monitoring	New	No Activities but periodic evaluation of data collected by the EAA and GMDs											
BIOLOGY														
Instream	Studies	6	Intensity & Duration of Floods Affecting Logjams & Habitat	Vaugh			X		BBASC					
		13	Biomonitoring Protocal development for Fish and Macroinvertebrates	Bonner					BBEST					
		20	Fish Community Use of Floodplain Environments	Bonner			X		BBEST					
	Monitoring	13	Biological Sampling and Monitoring (Fish and Macroinvertebrates - ecological soundness, instream flow needs, and flow recommendation validation)	Bonner	X	X	X		BBEST					
Riparian	Studies	7	Impacts of Invasive Species (flora & fauna, aquifer recharge)	Smith			X	X	BBASC					
		18	Riparian Vegetation Mapping	Smith			X		BBEST					
	Monitoring	New	Establish long-term monitoring riparian transects											
		19	Water table monitoring in the Riparian Corridor	Smith	X	X	X	X	BBEST					
WATER QUALITY														
	Studies													
	Monitoring	11	TCEQ Clean Rivers Program Water Quality Monitoring	Gonzales, Magin	X	X	X		BBEST					
		12	Real Time Monitoring System	Gonzales, Magin	X	X	X		BBEST			Hydrology	Surface Water	
GEOMORPHOLOGY														
	Studies	9	Instream & Riparian Sediment Deposition	Hardy			X	X	BBASC					
	Monitoring	17	Geomorphic Monitoring	Hardy			X	X	BBEST					

Texas Instream Flow Program - Lower San Antonio River and Cibolo Creek

BIOLOGY		**BBEST linkage**	**Subject**	**Source**
Instream	Studies	13,20	Life history research on focal species	TIFP
		9, 13	Macroinvertebrate community / substrate disturbance evaluation	TIFP
		13	Seasonal fish habitat sampling	TIFP
	Monitoring	13	Specific flow/temperature driven sampling for fish and mussels	TIFP
		13	Long-term annual fisheries montoring	TIFP
		7,9,18,19	High flow pulse effects on riparian communities	TIFP

			Guadalupe, San Antonio, Mission, & Aransas Rivers and											
			Mission, Copano, Aransas, & San Antonio Bays											
			Basin & Bay Area Stakeholders Committee (BBASC)											
			Work Plan for Adaptive Management											
Riparian	Studies	7,9,18,19	Development of a mechanistic ecosystem model of ecological interactions of high flow pulses and riparian communities	TIFP										
	Monitoring	New	Long-term annual monitoring of select riparian transects.	TIFP										
		n/a	Long-term (every 10 year) limited tree-ring coring analysis to assess riparian productivity relative to total annual volume	TIFP										
WATER QUALITY														
	Studies	n/a	Water Quality Modeling for Cibolo Creek, if warranted	TIFP										
	Monitoring	12	Specific water temperature and dissolved oxygen monitoring at Cibolo Creek during subsistence flow conditions	TIFP										
GEOMORPHOLOGY														
	Studies	n/a	2d hydraulic modeling to evaluate channel change with discharge	TIFP										
	Monitoring	17	Long-term (every five years) select channel cross-sections within study sites to assess potential changes in channel configuration.	TIFP										
Potential Instream Flow Program Type Studies														
Guadalupe River												Biology	Instream	
San Marcos River														
Blanco River														
Medina River													Riparian	
Mission River														
Aransas River														
												Water Quality		
												Geomorphology		

Guadalupe, San Antonio, Mission, & Aransas Rivers and
Mission, Copano, Aransas, & San Antonio Bays
Basin & Bay Area Stakeholders Committee (GSA BBASC)

Work Plan for Adaptive Management

Compilation of Preliminary Scopes of Work
October 11, 2011
PART II: Bays and Estuaries
Updated November 11, 2011

Bays & Estuaries
Table of Subject Items

Topics Moved, Combined, or "In Development"

Bays & Estuaries – Subject Item #1

Role of Cedar Bayou in the Exchange of Water and Meroplankton to the Guadalupe Estuary

What: Scouring of Passes

Why: Identified by GSA BBASC. The coastline of Texas has a nearly continuous set of barrier islands that separate the coastal bays and estuaries from the open Gulf of Mexico. The number of passes or points of seawater exchange between coastal bays and the open Gulf are limited. These passes are maintained by the natural exchanges of water between the bays and Gulf that result from freshwater inflows and tidal exchange. This water movement removes sediments from the passes to allow for the free exchange of water. Since the construction of several deep water passes that are dredged and maintained to depths needed by large sea-going vessels, the number of natural passes have decreased, since most of the water exchange tends to occur through the path of least resistance in the deeper channels rather than traveling across broad bays and through shallower natural passes. Many estuarine species of finfish, shellfish and other ecologically important species move between the bays and the Gulf of Mexico through these passes, and their life-cycles are dependent on these points of exchange.

Where: The best known example of a natural pass that remains within the Guadalupe-San Antonio Bay and Basin region is Cedar Bayou, a natural pass that has historically separated San Jose and Matagorda Islands. This pass has been closed by natural sedimentation several times, and has been re-opened through manmade and natural processes on several occasions. The pass closed in early 2008 and has remained closed since. The Army Corp of Engineers has recently issued a permit that would allow for re-opening of Cedar Bayou once a funding source has been found.

How: When Cedar Bayou is re-opened, a study is needed to determine the rates of water exchange through the opening, the ability of this flow to remove sand at the Gulf exchange point to keep the pass open, and to quantify the exchange of early life history stages of fish and shellfish through this pass, to help quantify its value to the regional estuarine ecology.

Who: Studies could be carried out by state agencies (TPWD, TWDB) and/or university/state partnerships such as the Mission-Aransas National Estuarine Research Reserve, or through an RFP through Texas Sea Grant to university investigators.

Cost: $75,000 [basis: 1 fte for 12 months over 2 years plus field work expenses]

Bays & Estuaries – Subject Item #5

EVALUATION OF SEDIMENT TRANSPORT AFFECTING THE GUADALUPE ESTUARY DELTA -

This study aims to evaluate sediment transport and loading entering the Guadalupe Estuary, primarily into Mission Lake, over a range of hydrologic conditions. This is particularly important during peak inflow periods, when the largest pulses of sediments are brought in that contribute to accretion of a prograding delta system in Mission Lake. This new sediment accretion should offset the potential sediment that is lost to the lower, older Delta which is undergoing subsidence and decay. This project builds on previous work in Guadalupe Estuary by TWDB and the Bureau of Economic Geology, Univ. of Texas at Austin, and a current joint project by the USGS /TWDB that is evaluating sediment input of the Trinity River into Trinity Bay. The objectives of this work are:

1. Collect flow and sediment transport data in the Guadalupe River above Mission Lake, and calculate loadings to Mission Lake proper with its prograding delta.
2. Evaluate the range in sediment concentrations over major inflow hydrographs to determine inflow vs. sediment loading relationships.
3. Determine from in situ field measurements, the current rate of subsidence occurring in the lower (older) portion of the Guadalupe Delta, and calculate whether current sediment diversion into Mission Lake offsets this subsidence.

Why: Sediment delivery from the Guadalupe River to the estuary is necessary to maintain the shallow-water marshes, especially in the upper estuary, deltaic reaches. Concentrations of riverborne suspended sediment are affected by natural conditions (soil erosion and streambed re-suspension) and can also be affected by upstream human activities (construction, timber harvesting, certain agricultural practices, and hydraulic alteration). The lower Guadalupe Delta consists of abandoned distributary channels and lakes below the South fork of the Guadalupe River. This portion of the Guadalupe Delta has been gradually cut off from the main flow of the Guadalupe River since Traylor Cut was formed in 1935. Freshwater inflow (also containing nutrients and suspended sediment) has thus been deprived from this lower delta region and emergent marshes have been eroding and subsiding. Sediment input from Traylor Cut now empties into Mission Lake,where a new delta is prograding. Although the lower, old Delta contains considerable low salinity wetlands in the interior area, which are thought to function as important nursery habitat for estuarine organisms, sedimentation dynamics remain poorly defined. This area is steadily being lost as marshlands become submerged, and the amount of sediment deposition required to maintain shallow-water backmarsh areas has not been characterized. Because these loadings are unknown, freshwater inflow estimates to satisfy sediment loading requirements have not been accurately included in the current SB3 inflow regimes.

Where: The lower Guadalupe delta consists of the old distributary channels and interior lakes below the South fork of the Guadalupe River. This portion of the Guadalupe Delta has been cut off from the main flow of the Guadalupe River since inflows and sediments now empty primarily into Mission Lake. Sediment input into Mission Lake via Traylor Cut is contributing to a new prograding delta there.

How: Sediment Collection and Discharge Measurements: USGS streamgauge No. 8188800 on the Guadalupe River near Tivoli, TX would be the primary location for suspended sediment sample collection and discharge measurements. This project could employ a methodology similar to that developed for the project completed on the Trinity River titled, *An Evaluation of the Variability of Trinity River Nutrient and Sediment Concentration into Galveston Bay during High Flow*, and would identify changes in sediment concentrations during flood periods, as compared to base or low flow periods. This task should follow USGS procedures for discharge measurements, and sediment (total suspended and size fractionation) collection that exist at the commencement of this study. Emphasis would be placed on high-flow events. The attenuation/backscatter signal of an acoustic Doppler velocity meter (ADVM) could be used to evaluate the relation between backscatter and sediment concentration. An option is that an OBS probe could be installed with the instrumentation at Tivoli. This would include a recording current meter, so the gauge is set up for digital measurement and data logging. Blucher Inst/TCOON has had much experience with OBS technology for measuring TSS in the Coastal Bend bays. An automatic measurement would greatly relieve the problem of analyzing water-sample determinations, especially sample collection during floods.

Subsidence measurements in the old Delta would be performed according to methods in earlier studies by UT-Bureau of Economic Geology or by Harte Research Inst.

When: This would be a 6 year study, done in 2 phases. The first phase would be 3yrs with at least 3 years of actual in situ field sampling of sediment inputs, plus subsidence measurements during 2 of these yrs. The second phase would be another 2-3 yrs, including field sampling and development of a numerical sediment transport model.

Who: The sediment transport/loading project would need to be funded through a joint funding agreement between the USGS and the TWDB, as currently performed in Trinity and Matagorda Bays. The sampling and measurement of sediment discharge requires a crew of 2-3 trained Hydrologists (or Hydrographers) to operate machinery, process samples, and measure stream flow. Analytical services for sediment sampling could be provided by the USGS National Water Quality Lab. Blucher Institute should be part of the automated recording measurements.

A Subsidence analysis project in the old Delta could be conducted by an experienced contractor such as UT Bureau of Economic Geology or the Harte Research Inst. at TAMU-CC.

Cost: Total cost is $650,000 over 6 years. Required funds for the sediment transport project are estimated at $500,000 total with USGS contributing Cooperative Water Program funding and the TWDB contributing from its Research and Planning Fund. This funding is divided up into 2 phases. Subsidence study costs are estimated at $125,000, and a contractor (e.g. HRI, UT-BEG) would need outside funding to support their work.

TASK BUDGET

TASK DESCRIPTION		AMOUNT
Sediment Transport and Loadings Study (2 phases)		$ 500,000
	Phase 1 – 3yrs	$250,000
	Phase 2 - 3 yrs	$250,000
Subsidence Study		$150,000
	TOTAL COSTS	$650,000

Bays & Estuaries – Subject Item #6
Sea Level Rise Associated with Climate Change

What: Sea Level Rise Associated with Climate Change

Why: Identified by the GSA BBASC. Threats to the estuaries are predominantly in form of:
1) threats to barrier islands integrity with implications for large changes in circulation and salinity;
2) potential inundation and loss of wetlands;

How:
1a) synthesis of existing information on range of predicted sea level rise;
1b) assessment of vulnerability / development of scenarios of change;
1c) applications of hydrodynamic circulation-salinity models;

2a) assessment of vulnerability via field assessment of vegetation species and communities; (Note: addressed in Subject Item #11)
2b) literature synthesis of salinity/inundation requirements and tolerances of vegetation species (Note: addressed in Subject Item #13)
2c) predictions by coupling 2a & b with insights and predictions from 1.

When[1]:
1a) 4-6 months to complete
1b) 2-3 months after 1a;
1c) 6-8 months after 1b.

2a) 4-6 months to complete
2b) 4-6 months after 2a;
2c) 6-8 months after 2b.

Who: 1a) literature synthesis by university investigator; 1b) workshop with experts, convened by TPWD or TWDB; 1c) TWDB or contractor.
2a) field investigations by private contractor(s) or university(ies); 2b) same as 2a); 2c) TWDB or contractor.

Cost:
1a) literature synthesis -$17,000
[basis: 1 fte university investigator for 3 months at $35 / hr]

[1] note these are study durations, not billable hour / cost estimates.

1b) vulnerability assessment / scenario workshop- $11,000
[basis: 1 fte agency personnel for1 months at $35 / hr; $5000 travel & stipends]

1c) model applications - $34,000
[basis: 1 fte agency or contractor for 6 months at $35 / hr]

2a) field vegetation assessment $26,000
[basis: 1 grad student fte for 3 months at $20/hr and 1 fte supervisory level for 3 months at $35 / hr]

2b) literature synthesis -$17,000
[basis: 1 fte university investigator or contractor for 3 months at $35 / hr]

2c) wetlands change predictions - $25,000
[basis: 1 fte university or contractor for 4 months at $35 / hr

Bays & Estuaries – Subject Item #7
Hydrodynamic & Salinity Modeling Improvements

What: Hydrodynamic & Salinity Modeling Improvements

Why: As described in Section 4 of the GSA BBEST report and in two memos from the TWDB to the BBEST (described therein as TWDB 2010a, 2010b) there are certain inflow conditions and certain geographic areas of the Guadalupe and Mission-Aransas Estuaries that have proven somewhat difficult for TxBlend to predict salinity accurately. There are also new salinity monitoring data from fixed stations in the Mission Aransas National Estuarine Research Reserve. Section 7.1.2.1of the GSA Environmental Flows Recommendation Report recognized the need for additional efforts to calibrate and improve TxBlend model performance.

Where: A systematic re-examination of entire model domain across various inflow levels to identify underperforming spatial areas and inflow conditions. However, the previous TWDB and BBEST efforts did identify problematic TxBlend performance in the upper portion of the Guadalupe Estuary and in the Copano Bay portion of the Mission-Aransas Estuary. For the upper portion of the Guadalupe Estuary, the TWDB previously identified certain inflow-salinity characteristics that are more challenging for TxBlend to predict.

When[2]: 4-6 months from initiation. 1-2 months for model reassessment and gathering of most up-to-date inflow and salinity data. 2-4 months to recalibrate and validate model, including a interactive feedback meeting with outside peer group.

Who: TWDB with potential support / data from other State agencies, Guadalupe-Blanco River Authority, and the Mission Aransas National Estuarine Research Reserve.

Cost:
$22,000 - $35,000
[basis: 1 fte for 4-6 months at $35 / hr]

[2] note these are study durations, not billable hour / cost estimates.

DELETED – COMBINED WITH SUBJECT ITEM #11
Bays & Estuaries – Subject Item #8
Bay & Marsh Salinity & Water Level Data Collection & Monitoring

What: Bay & Marsh Salinity & Water Level Data Collection & Monitoring

Why: Two related items identified by the GSA BBEST.
1a) Implement concurrent salinity and water level monitoring in marsh wetland areas and adjacent open bay waters to establish linkages and (b) conceptual models of interrelationships between these two components [for application to/ refinement of inflow recommendations].

2) Modeling analyses between water levels in the Guadalupe River, tides, and salinity of overlying Guadalupe Delta flood waters should be performed. This would allow development of a specific Delta inundation – salinity model for correlating inundation of Guadalupe Delta with riverine FWI events.

The BBEST discussed wetland plants and their salinity sensitivity, and thus potential as a habitat for derivation / cross checking inflow recommendations, but key information is missing to relate response to inflows. For marsh inundation, similar insights on need for pulse / inundation / salinity response at estuary, but key information missing. This Workplan Task would also be heavily linked to Task 13 Salinty-Sensitive Plant Monitoring.

Where: 1a) concurrent monitoring in fringing marshes and/or marshes along tidal streams.

2) would have to be supported by some field component in Guadalupe delta for basic data support

When[3]: 1a) 18-24 months to complete
1b) 6-8 months after 1a.

2a) field component) 18-24 months to complete, contingent upon deploying during right weather conditions
2b) modeling analyses) 6-8 months after 2a.

Who: 1a) agency, contractor, or university; 1b) agency, contractor, or university
2a) field component - agency, contractor, or university; 2b) modeling: agency, contractor, or university

[3] note these are study durations, not billable hour / cost estimates.

Cost:

1a) marsh salinity sampling; deploy sondes / monitor: $40,000
[basis: 1 fte supervisory level for 3 months at $35 / hr; 1 technician / graduate student fte for 6 months at $20/hr and $4000 equipment cost] note: this cost estimate is supported by similar but shorter effort underway along Sabine Lake.

1b) conceptual models / interrelationships: $17,000
[basis: 1 fte university investigator, contractor supervisory level for 3 months at $35 / hr]

2a) field component - $28,000
[basis: 1 fte supervisory level for 2 months at $35 / hr; 1 technician / graduate student fte for 4 months at $20/hr and $4000 equipment cost]
2b) modeling, application - $17,000
[basis: 1 fte university investigator, contractor supervisory level for 3 months at $35 / hr]

Bays & Estuaries – Subject Item #10
Rangia Clam Investigations

What: *Rangia* Clam Investigations

Why: In Section 7.1.2.1of the GSA Environmental Flows Recommendation Report, the BBEST recognized the need for additional efforts related to *Rangia* clams more specifically as follows:
1) Implement investigation of the location-specific reproductive requirements of *Rangia* clams. These requirements are the very core of the BBEST work with this species and were assumed equal to those found in literature derived from studies in other Gulf and Atlantic Seaboard states.
2) Develop a better assessment of the distribution and abundance patterns of *Rangia* in the Guadalupe and Mission-Aransas Estuaries via appropriate sampling design and field equipment. TPWD data was used by BBEST, but these are essentially accidental catch since there is no actual sampling of *Rangia*, per se.

Item (1) is partially covered in an ongoing investigation into salinity patterns as a driver of population spatial coverage, but that work assumes the reproductive requirements are consistent with existing literature. More specific information needs to be pursued via laboratory assessments or intensive field test and monitoring.

Additionally, information the salinity suitability curve / habitat modeling approach for oysters referenced as part of Estuary Task 14 [and parts (1) and (2) would support refinements in the *Rangia* habitat modeling refinements]

Where: Site specific studies in the upper brackish portions of the Guadalupe and Mission-Aransas Estuaries for *Rangia* items (1) and (2).

When[4]:
1) reproductive requirements of *Rangia*: 18-24 months from initiation.

2) distribution and abundance patterns of *Rangia*: 2-4 months from initiation for each estuary.

Who:
1) additional field and/ or laboratory assessments by university.
2) private contractor(s) or university(ies).

[4] note these are study durations, not billable hour / cost estimates.

Cost:

1) lab or field study probably in range of - $80,000 -$90,000
[basis: 1 grad student fte for 18 months at $20/hr and ¼ fte supervisory for 18 months at $35 / hr]

2) distribution and abundance patterns of *Rangia*: approximately $50-60,000 or $25,000-30,000 per estuary [basis: similar study performed by contractor on Sabine Lake during Sabine-Neches BBEST work]

Bays & Estuaries – Subject Item #11

DEVELOPMENT OF AN INUNDATION AND SALINITY MODEL OF THE GUADALUPE ESTUARY LOWER DELTA AND ADJACENT BAYS

The purpose of this study is to evaluate inundation and salinity dynamics of the lower portion of the Guadalupe Estuary Delta over a range of hydrologic conditions. Based on land surface topography and water monitoring data, an inundation and salinity model would be developed. This project builds on previous work by the Texas Water Development Board that evaluated salinity exchange and water level changes in Texas Bays. The objectives of this work are:

1. Collect flow and water level data at control points in the lower Delta lakes and interior marshes, and in the open part of Guadalupe and Hynes Bay above San Antonio Bay proper. Obtain and analyze LIDAR elevation data.
2. Evaluate exchange of water using monitored water level and salinity measurements over tidal cycles and inflow pulses.
3. Modify and apply a suitable model (perhaps TxBLEND or SELFE) that correlates inflow from the Guadalupe River, with salinities and water levels between the open Guadalupe Bay and the interior regions of the lower Guadalupe Delta.

Why:
The lower Guadalupe Delta consists of the old distributary portions below the South fork of the Guadalupe River. This portion of the Guadalupe Delta has been gradually cut off from the main flow of the Guadalupe River since Traylor Cut was formed in 1935. Freshwater inflows (also containing nutrients and suspended sediment) have been deprived from this lower delta region, and it has been eroding and subsiding since. Although this lower Delta interior contains considerable low salinity wetlands, and is thought to function as nursery habitat for estuarine organisms, hydrologic dynamics remain poorly defined, and the tidal inundation of this backmarsh area has not been characterized. If a shallow marsh inundation model is developed, the need for freshwater inflows in supporting the biological productivity of such wetland areas can be included in BBASC adaptive management of the Guadalupe/San Antonio Bay system, as well as other Texas estuaries. Currently, this important lower Delta area is not included in assessing freshwater inflow needs of estuaries as part of the SB3 process.

Where: The lower Guadalupe Delta consists of the old distributary channels and interior lakes below the South fork of the Guadalupe River. This portion of the Guadalupe Delta has been cut off from the main flow of the Guadalupe River, which now empties inflows and sediments primarily into Mission Lake.

When: 30 months from project initiation. 18 months for model design and development, analysis of LIDAR data, and gathering of sufficient up-to-date water level and salinity data. 12 months to calibrate and validate model.

Who: This project may require multiple entities working in collaboration on various aspects of the project. Based on previous experience modeling coastal wetland areas and estuaries, the Texas Water Development Board (TWDB) is the logical candidate to carry-out the project or, if necessary, coordinate with collaborating subcontractor(s). A few groups (e.g. Harte Research Inst., UT-Bureau of Economic Geology) have considerable expertise in the area of LIDAR data analysis.

Cost: This project requires three distinct phases: (1) Acquiring LIDAR data of land surface topography/elevation within the lower Guadalupe Delta; (2) Monitoring of salinity and water levels within the Guadalupe Deltic Marsh and nearby upper Guadalupe and Hynes Bays; and, (3) Development of an inundation and hydrodynamic model which includes the Guadalupe Delta.

It may be possible to obtain existing LIDAR data for use in development of the model grid. If so, this cost should be minimal. However if recent LIDAR data is unavailable, the cost of funding this data collection effort could be significant. The study will require one- to two-years of field data collection for salinity and water surface elevation in the study area. This effort will require instruments to be purchased (or borrowed) for long-term deployment at strategic locations and to be serviced and maintained by field staff. Data collection also will require processing and quality assurance. An estimated cost for this portion of the project is $75,000. Development of a model of wetland inundation will require extending an existing bay hydrodynamic and salinity transport model (*e.g.*, TxBLEND) to include the delta area *or* developing a new bay-delta model using another hydrodynamic model (*e.g.*, SELFE). The estimated cost for this effort is $125,000.

BUDGET

TASK	DESCRIPTION	AMOUNT
1.	**Obtain Lidar Data for Study Area**	**?**
2.	**Salinity Collection and Water level Measurements**	$ 75,000
3.	**Model Development**	**$125,000**
	TOTAL (minimum)	$200,000

Bays & Estuaries – Subject Item #12
Life Cycle Habitat & Salinity Studies for Key Faunal Species

What: Life cycle habitat & salinity studies for key faunal species
Why: As described in sections 4.1.5 and 4.3.1 of the GSA BBEST report, recruitment of post-larval and juvenile life history stages of many species may depend on freshwater inflows producing regions of reduced salinity within estuaries, and some species may derive enhanced benefit from these salinity reductions occurring during particular seasons. Spring rains may reduce salinities in coastal estuaries for several months due to the long turnover times of most bays on the south Texas coast. This freshwater inflow also provides nutrients that stimulate primary productivity that helps enhance the productivity of the entire food web. Although the BBEST originally planned to use the white shrimp (*Litopenaeus setiferus*) and blue crabs (*Callinectes sapidus*) as key species for characterizing freshwater inflow needs of the Mission-Aransas and Guadalupe estuaries, after review of available data from TPWD, review of the published scientific literature and consultation with local and national scientific experts, it was the consensus of the BBEST that the relationships between freshwater inflow and abundances of these key species were not direct, but included other confounding factors that would require additional study.
How: An initial approach would include additional review of scientific literature and existing data sets to identify the most likely confounding factors that complicate the relationships between salinity and the abundances of key species such as white shrimp and blue crabs. Once these factors are determined, field and/or laboratory studies can be designed to understand how the confounding factors interact with salinity to affect the populations of these key species. Hopefully, these additional scientific studies will guide future efforts to determine environmental flow requirements of Texas estuaries based on the requirements of these valued key species.
Where: Entire basin, or initial study within San Antonio Bay, with its higher freshwater inflow and more consistent salinity gradient.
When: 6 months for dedicated review of literature and available data. TBD for recommended additional studies
Who: Literature review and data review by university investigator. RFP for additional studies issued through Sea Grant or comparable agency.
Cost: Literature and data review: $35,000 [basis 1 fte for 6 months at $35 per hour]. Field/laboratory studies TBD.

Bays & Estuaries – Subject Item #13

The Distribution and Abundance of Marsh Vegetation in Relation to Salinity and Elevation in the Guadalupe Estuary Delta

The purpose of this study is to determine distribution and abundance of salinity-sensitive wetland plants in the Guadalupe Estuary delta below the south fork of the Guadalupe River and to monitor their associated salinity regimes. From these data, quantitative status and trends of low-salinity tolerant plants and their salinity tolerance limits would be assessed. This project builds on previous qualitative work by Benton et al. (1984) under TWDB contract, and by the Bureau of Economic Geology, Univ. of Texas at Austin, that reported on wetland plant occurrence/distributions in the Submerged Lands of Texas series for Guadalupe and San Antonio Bay (White et al. 1987). The proposed project would also overlap with the work to be performed in the BBASC Work Plan element #11, "*Development of an Inundation and Salinity Model of the Guadalupe Estuary Delta and Adjacent Bays*". The objectives of this project are:

4. Determine distribution/ abundance of dominant, wetland vascular plant species along elevation transects in the Guadalupe Delta interior below the south fork of the Guadalupe River, and along the shorelines of Guadalupe and Hynes Bay.
5. Monitor the salinity and inundation (water level) regimes which are associated with these dominant wetland species occurrence and abundance.
6. Develop regression models that correlate dominant wetland plant abundance (production) with inundation and salinity variables so that the plants could be used as focal species to assess freshwater inflow (FWI) needs for the Guadalupe/San Antonio Estuary.

Why:

The lower Guadalupe Delta (including Guadalupe Bay) is known to contain a variety of low-salinity sensitive, wetland vegetation (i.e. plant species such as arrowhead, bulrushes, sedges, and aquatic grasses). Because these species are restricted to growth salinities below 2 – 4 psu and represent fixed, stationary habitats, they would comprise good candidates for low-salinity tolerant (so-called oligohaline) focal species in FWI analysis for the Estuary. However, information from Texas on these plants' distribution and productivity, especially in relation to the salinity gradient in the Delta area, is poorly known, making them difficult at this time to analyze as focal species in quantitative freshwater inflow regime assessments (similar to oysters). This Guadalupe Delta survey and monitoring project of targeted, salinity-sensitive plant communities is recommended as part of the GSA BBASC adaptive management plan.

Where: The project area comprises the Guadalupe Delta region below south fork of the Guadalupe River, and also includes Guadalupe and Hynes Bays shorelines. A dynamic salinity gradient in this region produces the narrow salinity range required by the oligohaline vegetation under certain limited inflow regimes.

How: Project includes 3 tasks:

1. Surveys of wetland plant distribution on a monthly basis (or bimonthly from November to March), using fixed, defined transects along a tidal elevation gradient. Identify dominant species.
2. Monitoring dominant plant seasonal abundance (biomass) and physico-chemical parameters associated with their occurrence. This project will employ standard plant monitoring methodology at transect sampling sites and should use automated recording instruments for salinity and water levels. Primary locations for bay tide levels and discharge measurements will provide open-bay salinity and water levels during flood periods, as compared to base or low flow periods .
3. Integrating these field-collected data into regression models that relate dominant plant production to freshwater inflow related factors including back-bay salinity and inundation regimes, and corresponding data from the open Guadalupe Bay .

Who: Study to be performed by trained wetlands biologist or botanist (university researcher or consultant/contractor)

When: Two year field study and 1 year overlapping statistical analysis work (2-years total).

Cost:

This project could be funded through a joint funding agreement between the TWDB and CMP. The work requires 2-3 trained quantitative ecologists to survey/collect plants, process biomass samples, and maintain water level and salinity meters. Water quality monitoring meters (e.g. datasondes) and water level gauges must be maintained, thus this project would best be performed as part of the BBASC Work Plan element #11. Total required funds for the project is $105,000.

TASK	DESCRIPTION	AMOUNT
4.	**Field Surveys and Water Level/Salinity Monitoring** (2 yrs)	$ 75,000
5.	**Regression Analysis of Plant Production/Inundation/ Salinity Data and Calculations of Plant vs. Salinity Tolerance Limits**	$30,000
	TOTAL COST	$105,000

Bays & Estuaries – Subject Item #14
Habitat Suitability Models for Eastern Oysters, Blue Crabs, & White Shrimp

What: Habitat Suitability Models for Oysters, Blue Crabs, & White Shrimp

Why: Identified by the GSA BBEST.
1) Develop basin-wide, multi-parameter Habitat Suitability Models for a) eastern oysters as well as for b) blue crabs and c) white shrimp.
2) Implement investigation of the location specific requirements of eastern oysters with regard to avoiding the dermo parasite.

Part (1a) would be a refinement for the oyster modeling already performed. The salinity suitability curve utilized by BBEST was for whole year avg. salinity from literature. May need to be refined for summer and geographic specificity. Other refinements could include additional parameters like substrate and possible time-specific curves based on 6-24 mon. antecedent conditions as indicated by literature addressing cumulative effects of dermo and checks on dermo due to low salinity and low temperature episodes. Parts (1b) and (1c) may be better as a separate undertaking because of still unresolved conceptual issues related to motile species. Should involve a principal investigator and expert panel/workshop for conceptual model development.

This Workplan Task would also be heavily informed by results of Tasks 10 and 12.

Where: in both the Guadalupe and Mission-Aransas Estuaries.

When[5]:
1a) 18-24 months to complete
1b and 1c) each 9-12 months to complete, not contingent upon 1a.
d) oysters —dermo: 12-18 months from initiation.

Who:
1) contractor, or university with agency support.
2) dermo data from TPWD and Dr. Sammy Ray synthesized with salinity and salinity-duration information based on TPWD, TWDB, GBRA, Mission-Aransas NERR and other sonde data. Synthesis by university or contractor with support from TPWD and Dr. Ray.

Cost:

[5] note these are study durations, not billable hour / cost estimates.

1a) oyster habitat suitability model refinement: $11,000 - $22,000
[basis: 1 fte university investigator / contractor level for 2-4 months, depending upon scope, at $35 / hr]

1b and c) motile species (blue crab, white shrimp) habitat suitability model development: $33,000
[basis: 1 fte university investigator / contractor level for 4 months at $35 / hr;
1 fte agency personnel for1 months at $35 / hr; $5000 travel & stipends]

1d) Dermo synthesis in range of - $67,000 -$100,000
[basis: contractor or university investigator, 1 fte for range of 12-18 months at $35 / hr]

Bays & Estuaries – Subject Item #15
Nutrient Load & Concentration Monitoring

What: Nutrient load and concentration monitoring
Why: As described in Section 4 of the GSA BBEST Report and in Section 7.1.2.3 of the Adaptive Management Plan, an increased nutrient load that may accompany freshwater inflows can result in serious degradation of the estuarine environment through the increase in the frequency of hypoxic (low oxygen) events and through the stimulation of harmful algal blooms that may result on fish kills. In addition, increased inputs of major nutrients (mainly N, but also P) may result in increased algal growth which decreases water clarity and reduces the amount of seagrasses in these estuaries.
Where: The Mission-Aransas Estuary is monitored for nutrients on a monthly basis at 5 locations by the Mission-Aransas National Estuarine Research Reserve, as part of their standard System-Wide Monitoring Program. The reserve staff is also measuring nutrient load from the Mission and Aransas Rivers with funding from the US Environmental Protection Agency. Similar monitoring in San Antonio Bay is needed. An intensive study of freshwater inflows, nutrient concentrations and biological responses in San Antonio Bay was carried out during 1987-88 by the University of Texas Marine Science Institute with funding from the TWDB. The study period included a period with a large pulse of freshwater into the bay. The data from the proposed study would provide a useful comparison to current conditions.
How: Water samples for nutrient analysis should be collected on a monthly basis from the combined flow of the San Antonio and Guadalupe Rivers that enters the head of San Antonio Bay, and from a minimum of an additional 3 sites along the salinity gradient of San Antonio Bay. When water samples are collected, profiles of water column temperature, salinity, oxygen concentration and chlorophyll concentration should also be collected at each site.
When: Nutrient collection should occur over at least a 12 month period, but if funds allow, a 2 year study would be preferable.
Who: Samples could be collected by TPWD or staff of the Mission-Aransas National Estuarine Research Reserve. Sample analysis can be performed by the Mission-Aransas NERR, who already performs analysis of nutrient samples from Aransas and Copano Bays.
Cost: If samples can be collected by TPWD or other agency without cost, nutrient analysis for 4 locations would cost $180 per month (3 replicates per station x 4 stations x $15 per sample), or $2160 per year. If Mission-Aransas NERR collects samples, additional costs of $250 per month would be needed to cover the cost of boat use fees and fuel, or an additional $3000 per year. Personnel costs would be covered by TPWD and/or Mission-Aransas NERR personnel.

AGENDA ITEM VII

Review BBASC Meeting Rules and Discuss Potential Revisions, if Needed, To Guide the Work Plan Development Phase of the BBASC's Responsibilities

Meeting Rules
For the
Guadalupe, San Antonio, Mission and Aransas Rivers/Mission, Copano, Aransas and San Antonio Basin and Bay Area Stakeholder Committee (BBASC)
March 1, 2010 (APPROVED)

1. **Meetings are Public**:

   While not subject to the requirements of the Open Meetings Act, the BBASC will conform to the intent of the Act to ensure adequate public notice, participation and transparency of the committee's actions. The agenda for each meeting will be posted on the website maintained for the BBASC by the Texas Commission on Environmental Quality (TCEQ) at least 72 hours in advance of the meeting.

   Meeting agenda packets, presentation materials, and meeting minutes (following approved by the BBASC) will also be posted on the website.

2. **Administrative Support, Agendas and Record Keeping**:

   The TCEQ provides administrative support to the BBASC to include:
   - Scheduling of meetings, arranging meeting locations, performing appropriate meeting support to conduct an efficient meeting at the location.
   - Preparing and posting agendas, recording meetings and preparing minutes, distributing meeting agenda and support materials to BBASC members and interested parties and organizations who request notification of meetings.
   - Maintaining website on which meeting notices and other material on the business of the BBASC will be posted.
   - Providing guidance to the Chair, Vice Chair, and committee membership on agenda items.
   - Managing all records on the business of the BBASC including agendas and minutes; contact databases of BBASC membership and designated alternates (see below); meeting attendance records and database of citizens and/or other interested parties and organizations with expressed interest in the business of the BBASC.

   As soon as the date, time and location of a meeting are set by the BBASC, TCEQ staff shall send notification to the BBASC members and place the meeting notification on the website. The meeting agenda will be prepared as a draft and distributed to the BBASC members at least five days prior to the meeting. At each meeting, the first item on the agenda will be to reach agreement on the agenda. Prior to adjourning each meeting, the Chair will provide an opportunity for committee members to request items for future consideration by the BBASC. Upon agreement of the BBASC on the suggested agenda items, the Chair will coordinate with TCEQ staff to schedule the items to be placed on upcoming meeting agenda.

3. Meeting schedule and location

Regular meetings shall be held on dates and locations (or a minimum the targeted county within the basin where a meeting location will be secured) approved by the membership at the first meeting held in the calendar year, or as soon thereafter as possible. All attempts will be made to secure a meeting schedule that will accommodate a majority of the membership. The Chair has the discretion to cancel regular meetings if it is determined in consultation with the TCEQ staff that the meeting is not necessary. Called special meetings will be scheduled at the Chair's discretion or on request of three voting members. Should a special meeting be scheduled, the Chair should strive to provide the BBASC membership ten (10) working days notice.

The Chair has the discretion to change meeting locations and dates, with appropriate notice provided to the BBASC members. The BBASC members should be notified as soon as the change is known.

To facilitate the work of the BBASC, the Chair may appoint a work group of BBASC members or alternates to gather more information on a topic or to formulate recommendations for consideration by the full BBASC. TCEQ staff will inform the full BBASC membership of the meetings of a work group and attendance by all members is allowed.

The Chair will ask for volunteers from the BBASC to serve on the appointed work group without a limitation on the size of the work group. The Chair will request that a member of an appointed work group volunteer to work with TCEQ staff to ensure that the discussions at the work group meeting are accurately recorded and that meeting notes are prepared. The meeting notes shall be distributed to all the work group members as soon after a work group meeting as possible for review and modification. The work group meeting notes must then be distributed to the full membership of the BBASC prior to the next full meeting of the BBASC where a report by a work group is to be included on the agenda.

Work groups have no decision making authority and recommendations must be presented to the full BBASC for consideration. BBASC members, including those that may have served on the work group, have no obligation to support recommendations presented by a work group.

4. Public Participation in the Meetings

The public will be allowed to speak at the beginning and end of each meeting when recognized by the Chair and, at the Chair's discretion, on specific agenda items. Comments will be limited on each occasion to three minutes unless waived by the Chair.

5. Officers:

A Chair will be elected by the BBASC to preside over the meetings. A Vice-Chair will be elected by the BBASC to preside over the meetings in the absence of the Chair. Each officer shall serve a term of one year and until his/her successor takes the office with no restrictions on the number of consecutive terms an individual may serve. Officers will be elected at the first meeting of each calendar year, with the exception of the first year.

6. Quorum

A quorum of the BBASC is defined as a 2/3rd majority (17 members) of the voting membership, including alternates, in attendance.

If a quorum of the BBASC is not in attendance, the Chair may ask those in attendance if they wish to proceed with items on the agenda, such as information briefings, but no discussions to reach consensus on an issue or votes (see item 11 below) can be taken without the presence of a quorum.

7. Attendance and Alternates

Each required interest group/stakeholder should be represented by one of the following:

- Designated member appointed by the Texas Environmental Flows Advisory Committee,
- Member appointed by the BBASC to fill a vacancy in a stakeholder group in accordance with SB3,
- Standing or designated alternate identified by the appointed BBASC member

Each member of the BBASC may designate a standing alternate to serve in the members absence. The BBASC member shall submit his/her contact information to the Chair and TCEQ staff prior to the alternate's participation at a meeting. The BBASC members should through the designation of a standing alternate strive to maintain continuity in the participating alternate. The BBASC member is responsible for ensuring that his/her standing alternate remains informed of the activities of the BBASC. TCEQ staff will distribute all meeting agenda and packet materials to all identified standing alternates.

Alternates may participate in the meetings and, with the exception of the votes on membership to the Bay and Basin Expert Science Team (BBEST), vote in the member's absence. Alternates are considered part of the quorum.

If a BBASC member is unable to attend a meeting or may be required to leave during a meeting, the member is requested to inform the Chair and the TCEQ staff. The member is also required to notify his/her designated standing alternate to ensure representation at the meeting. If a member's standing alternate is unable to represent

the BBASC member at meeting, then the BBASC member may designate a substitute alternate to participate in the meeting, but must inform the Chair and TCEQ as soon as possible before the meeting is convened of the substitute alternate's participation in the meeting. A BBASC member unable to attend a meeting or participate in the entire meeting may submit written comments to be shared at the meeting by his/her designated alternate.

BBASC members who have missed three (3) consecutive regular meetings without being represented by an alternate shall be considered to have engaged in excessive absenteeism. A BBASC member who has missed four (4) consecutive regular meetings may be subject to removal by the BBASC for excessive absenteeism.

8. Communication with stakeholder group represented by BBASC member

It is at the sole discretion of each BBASC member to determine the method, frequency and level of communication with other interested parties or organizations within the member's respective interest group/stakeholder category.

9. Removal of Members

Members may be removed by an affirmative vote of 75% of the full BBASC voting membership, including alternates, for the following reasons:

- Excessive absenteeism
- Incapacity
- Change in status so that the member no longer represents the interest/stakeholder category he/she was selected to represent.

10. Replacement of Members (in accordance with provisions of SB3), inserted below:

TWC 11.02362(g): Members of a basin and bay area stakeholders committee serve five-year terms expiring March 1. If a vacancy occurs on a committee, the remaining members of the committee by majority vote shall appoint a member to serve the remainder of the unexpired term.

11. Voting

The BBASC shall attempt to make decisions based on consensus. Consensus is a decision built by indentifying and exploring all members' interests and by assembling a package of agreement which satisfies these interests to the greatest extent possible. A consensus is reached when all voting members agree that their major interests have been taken into consideration and addressed in a satisfactory manner so that they can support the decision of the group. The process of building a consensus involves the development of alternatives and the assessment of the impacts of those alternatives.

Achieving consensus requires serious treatment of every group member's considered opinion. The process of achieving consensus is called *consensus decision-making* and has the components as shown in Figure 1: discussion of the item; formation of a proposal; call for consensus; identification and addressing of concerns; and modification of the proposal.

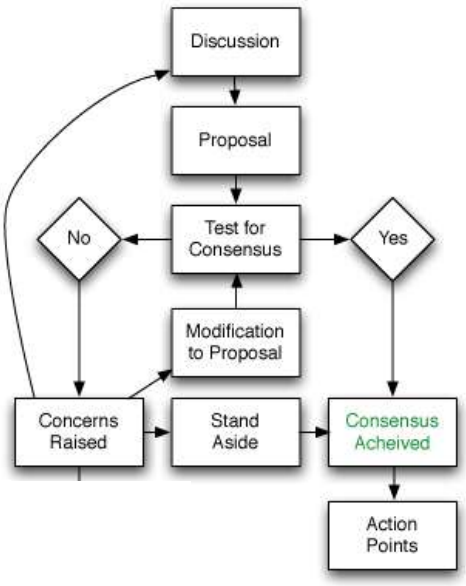

Figure 1. Flowchart of consensus decision-making process

Consensus does not necessarily mean unanimity. Some members may strongly endorse a particular solution or decision while others may accept it as a workable agreement. A BBASC member can participate in the consensus without embracing each element of the agreement, or necessarily having each of his/her interests satisfied to the fullest extent. In a consensus agreement, the members recognize that, given the combination of gains and trade-offs in the decision package and give the current circumstances and alternative options; the resulting agreement is the best one the voting members can make at this time.

If it appears to the Chair that consensus can not be reached, then the Chair may entertain a motion to have the BBASC suspend the attempt to reach consensus on the proposal under consideration by the BBASC. The vote to end the consensus process must receive an affirmative vote of 75% of the full voting membership, including alternates, of the BBASC. The Chair shall only call for the vote if 75% of the voting membership, including alternates, is in attendance at the meeting. If the vote to end the consensus process is approved, then the Chair will entertain motions on the specific proposal to be placed for a vote by the BBASC. Discussion and action on each motion would be facilitated in accordance with parliamentary procedure. For a motion to be approved, it must receive an affirmative vote of 75% of the full BBASC voting membership, including alternates, voting affirmatively.

12. Conduct of Meetings

To the extent not inconsistent with other aspects of these rules, the most current edition of Robert's Rules of Order will be used for guidance in the parliamentary procedure for the conduct of the meetings.

13. Amendment of Meeting Rules

These Rules may be amended by an affirmative vote of 75% of the full voting membership, including alternates, of the BBASC at a properly called and posted meeting. The agenda shall include a caption regarding the proposed section of the meeting rules proposed for amendment.

AGENDA ITEM VIII

Review and Discussion of Proposed 2012 Meeting Dates and Discuss December Meeting Date, Time and Location

2012 G-SA BBASC Work Plan Meeting Dates

Tuesday, January 17th, 2012

Tuesday, February 21st, 2012

Tuesday, March 20th, 2012

Tuesday, April 17th, 2012

Tuesday, May 15th, 2012

Tuesday, June 19th, 2012

Tuesday, July 17th, 2012

Tuesday, August 21st, 2012

Tuesday, September 18th, 2012

Tuesday, October 16th, 2012

Tuesday, November 20th, 2012

Tuesday, December 18th, 2012

Agenda Item IX

Public Comment