

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

Tuesday, December 9, 2014, at 1:00 p.m.

GBRA River Annex, 905 Nolan Street, Seguin, TX

MINUTES

Members Present

Suzanne Scott (Chair); Diane Wassenich (Vice-Chair); Bill Braden; Tyson Broad; Doris Cooksey; Milan Michalec; James Lee Murphy; Mike Peters; Jennifer Ellis; Josh Gray for Jay Gray; Con Mims; Paula DiFonzo; James Dodson for Ken Dunton; David Mauk; Gregg Eckhardt for Robert Puente; Chris Hale

Public Comment

No public comments were made at this time.

Discussion and Agreement on Agenda

No quorum was present at the meeting but members in attendance agreed to accept the agenda as presented.

Approval of November 21, 2013, and April 11, 2014, Meeting Minutes

Since a quorum was not present, approval of the draft minutes with corrections will be postponed till the next meeting.

Discussion and Appropriate Action Regarding Nominations for BBASC Chemical Manufacturing Interest Group Vacancy

Chair Suzanne Scott informed members that BBASC member, Stephen Fotiadis, representing Chemical Manufacturing interests had resigned. Members present supported soliciting nominations from stakeholders, science committee members and other entities prior to the next BBASC meeting and suggested a 30 day nomination period.

Briefings and Presentations from Science Teams awarded TWDB S.B. 3 Contracts

- a) Texas Instream Flow Program Studies – San Antonio River Authority (SARA), Texas State University (TSU), BioWest, Baylor University, and Texas A&M University
Rebecca Reeves, SARA, and Dr. Tim Bonner, TSU, provided an overview of the funded Environmental Flows Validation study. The stated goals of the project are to enhance the understanding of flow-ecology relationships and develop a methodology for testing established flow standards, specifically high flow pulses. Mrs. Reeves indicated twelve sites had been selected to analyze factors affecting aquatic and riparian communities, fish recruitment, and oxbow connectivity. To date approximately 50 sampling events have occurred in the system

and two study design workshops have been held. A draft final report is on schedule to be submitted to TWDB August 2015, and Dr. Bonner indicated that the outcomes of the project would facilitate refining BBASC recommendations for pulse requirements. Stakeholders inquired as to whether conditions within the basin allowed for sampling the entire flow regime or only subsistence and what exceedance threshold values represent high flow pulse triggers? Dr. Bonner and Mrs. Reeves indicated several high flow pulse events had occurred this fall season and that the high flow pulse triggers were based on an exceedance threshold as outlined in the BBEST recommendation report and methodology. Members also expressed concern about duration and volume being excluded from flow-ecology analyses because this might limit pulse recommendations to only considering magnitude. Dr. Bonner indicated while flow-ecology analyses in this study would not take into account duration and volume, this data would be available for those wanting to perform additional analyses.

b) Guadalupe – San Antonio River Delta Measurements and Modeling of Flows University of Texas – Center for Research in Water Resources (UT-CRWR)

Richard Carothers, representing UT-CRWR, provided an update to members concerning the status of hydrodynamic modeling of the Guadalupe delta and estuary bayou system. The defined study area of the project is the region south of the Guadalupe San Antonio River confluence to Mission Lake, more specifically the four bayous and HW 35 diversion canal within the Guadalupe Wildlife Management Area. Mr. Carothers indicated that building inundation maps inclusive of water feature classification and system channelization as well as field reconnaissance and sensor installation are underway. He further stated modeling of system hydrodynamics using Frehd will begin mid-December. Members were made aware of the development of a tool to automate identification of water features mistakenly interpreted as land due to the large amounts of water hyacinth present during LIDAR mapping. Mr. Carothers indicated the project outcomes and model will provide an automated method for digitizing delta channels influenced by heavy aquatic vegetation, elucidate how water is flowing through the bayou system, and provide a means of estimating effects of changing withdrawal demands. Members inquired as to whether the area of study includes south of Mission Lake into Hynes Bay, and when sensor installation will begin? Mr. Carothers indicated that overflow into Hynes Bay is most likely minimal and the area is not included in the scope of work for this project. He also stated that sensor installation will begin in January 2015 and a final report will be submitted to TWDB by the end of August 2015. Additionally, members asked if the sensors will remain indefinitely after deployment and if velocity measurements would be recorded. Mr. Carothers explained that the sensors (i.e. water level loggers) would be removed after a timed deployment period and can be used to back calculate velocity in combination with the digital bank channelization within the study area.

c) *Rangia* Clam Investigation in the Upper Guadalupe Bay System – SARA, UTMSI

Rebecca Reeves, SARA, presented a summary of the status of *Rangia* clam investigations in Mission Lake and Guadalupe Bay. She stated that a public meeting was held on August 8, 2014 with local fisherman to garner information concerning the likely location of live *Rangia*. Resulting information suggested live *Rangia* would most likely be located in Mission Lake. To date side scan sonar has been completed in the lake and work has started in Guadalupe Bay. In addition, she informed stakeholders that groundtruthing and field sampling had yielded 19 live clams. Members inquired as to whether dead *Rangia* have any value in determining the species response to freshwater inflows and Mrs. Reeves stated that live clams are needed initially to accurately calibrate the growth rings with a specific starting date. She further informed members that Dr. Bryan Black at UTMSI had begun chronological analysis of the 19 specimens collected. The stated project outcomes include a map of potential *Rangia* beds and correlation of *Rangia* growth and recruitment to freshwater inflows. A final report is due to TWDB in August 2015.

d) Assessing the effects of freshwater inflows and other key drivers on the population dynamics of blue crab and white shrimp using a multivariate time-series modeling framework – Mission - Aransas National Estuarine Research Reserve (MANERR), University of Texas – Marine Science Institute (UTMSI)

Dr. Lindsay Scheef presented on the status of the freshwater collaborative research project examining the population dynamics of blue crab and white shrimp. The deliverables of the project include a comprehensive literature review and multivariate autoregressive (MAR) model. According to the study team's timeline, the literature review will continue compiling data through March 2015, after which a literature review report will be completed and submitted to TWDB in August 2015. Additionally, Dr. Scheef informed members that data acquisition and preparation of datasets for modeling is ongoing, along with constructing and assessing preliminary models. She indicated the primary dataset being utilized is species abundance time-series data from TPWD - Coastal Fisheries monitoring program. Preliminary regression analyses of annual trawl data for blue crab correlated significantly with salinity and temperature; while white shrimp data correlated with salinity but not with temperature. An example was then presented of the modeling process moving forward depicting how the species and environmental variables can be modeled and evaluated for time lags interactions, indirect affects, and system stability. Members inquired as to whether this model had been used for other bay systems, size classes of blue crab data currently being evaluated, and whether other datasets were being considered for inclusion? Dr. Scheef explained that the model had previously been used in the San Francisco Bay system, blue crab size classes within the TPWD dataset are determined by sampling methodology (seining yields only collection of large adults), and other datasets are being considered for inclusion into the model such as fish harvest data.

e) Strategy options for meeting attainment frequencies for the estuaries – Trungale Engineering & Science (TES) and San Antonio Bay Partnership (SABP)

Joe Trungale, TES, and James Dodson, SABP, informed members of the progress to date on development of affordable, viable strategies to better manage water resources during droughts and meet freshwater inflow attainment frequencies for estuaries. They indicated that a Project Advisory Group had been formed to facilitate strategy development with a focus on the donation, purchase or lease of existing water right permit options and the use of Aquifer Storage and Recovery (ASR) to increase storage of water for environmental flow releases. They stated that a literature review on strategies had commenced as well as modeling and analysis of the volumes and timing of freshwater inflows needed to meet strategy target frequencies. The preliminary findings for present conditions indicate that the lower tiered targets are not being met and meeting attainment frequencies could require up to 88,000 area-feet in the driest years. Members inquired as to whether ASR strategies are included in the current regional water plan, if a cost comparison between surface reservoir storage costs and ASR is included, and whether a deliverable of the project is identification of individual water rights for acquisition, etc. Mr Trungale and Mr. Dodson stated ASR strategies are not included in the regional water plan at present, they are not aware of a cost comparison between surface reservoirs and ASR at this time, and the project's deliverable will be a decision support tool to aid selection of water rights for environmental flows rather than identify individual water rights. In addition, they indicated the final report is due to TWDB in August 2015.

Discussion on Study Teams Reporting to the BBASC

Suzanne Scott suggested that contractors present their results to the BBASC upon completion of the studies before draft final reports are due to TWDB in August 2015. Stakeholders present were supportive of this suggestion and study team representatives present did not object to presenting their findings prior to submittal of draft final reports to TWDB.

Next Meeting Date, Time and Location

Study teams a and c (see above) indicated they would be available to present to the BBASC in mid-July while study teams b, d, and e indicated a mid-May meeting would be optimal. BBASC members were in agreement that splitting the study presentations into two separate meeting dates would be beneficial. Additionally, it was suggested that the next meeting be held in the lower basin.

Agenda Items for Future Consideration

Study teams will present draft final project outcomes at future meeting dates in mid-May (studies b, d, e) and mid-July (studies a, c) to provide members an opportunity to comment prior to draft final report submission to TWDB. In addition, stakeholders suggested a sub-committee be formed at the next

BBASC meeting to provide in-depth comments during the TWDB reviewing process occurring in August 2015.

Public Comment

No public comments were made at this time.

Meeting Adjourned