

**Brazos River and Associated Bay and Estuary System
Basin and Bay Expert Science Team (BBEST) Meeting
Monday, June 13, 2011 at 10:00 a.m.
City Conference Center, College Station, TX**

Meeting Minutes

[All BBEST members were in attendance.]

1) Public Input

None.

2) Approval of Minutes

The BBEST approved the May 23 draft meeting minutes without changes.

3) Approval of Budget

Tom Gooch stated that Ruben Solis (TWDB) suggested via e-mail a rewording of the title of Task 4 of the BBEST budget, dealing with technical contracts, to include the intent of assigning tasks with specific deliverables, including tasks assigned to BBEST members. He also said Ruben explained that the money that is funding that specific task is coming from a different TWDB fund category and has a different set of rules. He explained that the money for contracts can be spent, and work performed, after August 31st, but the contracts have to be approved by the TWDB board prior to September. Any BBEST contracts should be drawn up no later than the July 19th meeting to send to the board for approval. Discussion was initiated about the expected timeline for completion of member tasks and how it relates to the budget category allotments, but the group decided to postpone the discussion until later in the day to see how much progress is made with the meeting.

4) Discussion of Timeline and Progress

Kirk Winemiller distributed an update timeline and gave an overview to the group. Member discussed the individual steps laid out in the document, with particular focus on how and when the ecology information should influence the hydrological separation task for HEFR. The overall plan remains to have draft flow recommendations completed sometime in August.

5) Hydrology Committee Discussions

Tom Gooch discussed information that would be narratively covered in the report section regarding the history of flow changes in the Brazos basin over time, such as activities associated with the construction of dams and reservoirs, changes in spring flows due to groundwater depletion, changes in land use patterns, and the impact of invasive species such as salt cedar. Other changes such as the cessation of hydropower operations at Possum Kingdom Reservoir were also discussed. Discussion also touched on flow changes in the basin that are likely to occur in the future. Return flows are likely to diminish over time due to reuse. Members discussed how this information could affect their process of developing recommendations.

BBEST members next discussed the options for choosing seasonal divisions for the flow recommendations. Tiffany Morgan summarized the different options that were evaluated

using available temperature and dissolved oxygen data versus flow. She proposed using a three season approach for the entire basin (March-June: spring, July-October: summer, November-February: winter). Members discussed whether to lengthen the spring season at sites above Possum Kingdom Reservoir. All agreed to adopt this proposal, but certain members will look at specific sites to see if modifications to this seasonal breakdown would be meaningful.

Members next talked about selection of period of record to be used with each flow gage. Tom Gooch presented hydrologic data and statistics for the Brazos River at Palo Pinto gage as an example of the types of analyses that have been done on the middle basin gages to help determine appropriate periods of record. Tom proposed using full period of record for each gage. Members discussed whether this would be appropriate for specific gages that have been impacted by reservoirs, etc. Brazos River at Palo Pinto and at Glen Rose were particularly singled out. Members discussed how the biology has been affected by changes in the system and how focusing on the period of record prior to a change might address this. How sound ecological environment is defined can affect the decision. Phil Price presented his analyses for the lower basin gages. He, too, recommended using full period of record for each of the gages, though the Brazos River at Waco could be a candidate for additional analysis looking at pre/post impact. For sites where there have been changes, the BBEST members gave their opinions on which period of record they would prefer to use. To assist BBEST decision-making, Tom asked Dan Opdyke (TPWD) to run flow separation statistics for pre- and post-impact and full period flows records for the Palo Pinto, Glen Rose, and Waco gages. David Dunn presented his analyses of the upper basin gages. BBEST members agreed on full period of record for these gages, though it was suggested that historical reductions in flow in certain subwatersheds be researched via the work plan.

Dan Opdyke gave a presentation revisiting hydrographic separation analyses at two gage sites, the Salt Fork Brazos River near Aspermont and the Brazos River near Hempstead, which incorporated input provided by Tom Gooch (presentation posted on group's web page). He showed two different IHA runs with different flow threshold values, the first one being the HEFR default. He also showed results from two parallel MBFIT runs. There was discussion of the difference in methods. The BBEST decided that the IHA #1 run is a good place to start for hydrographic separation for the Aspermont gage, and IHA #2 for Hempstead. Dan was tasked with running the separations based on the group's discussion and will provide the results to the group for comment. Dan will also perform preliminary HEFR runs for these gages and provide them to the group.

7) Ecology Subcommittee Discussions

Kirk and Tim reviewed the available fish data for the basin and the potential candidates for focal species. The subcommittee will further review the data and select a subset of species that are endemic to their respective regions and are flow-dependent during at least some part of their life history.

Kirk mentioned a TWDB study on the lower Brazos River that determined when oxbows start to get connected with the river, which give a hard number as far as a river flow magnitude that initiates connection with an oxbow. This can be spatially extrapolated to the Navasota River, which doesn't have a similar study but does have oxbows. The lateral connectivity issue is

probably not as relevant in the upper basin. Kirk felt that most of riparian vegetation needs could be addressed by flows that address lateral oxbow connectivity.

George Guillen reiterated that the Brazos River doesn't have much of an estuary system, but recognized that there is a delta forming at the mouth of the river, with associated wetlands. He said there isn't much historical biological data for the area and TPWD doesn't routinely monitor this system, but there is definite utilization of the river by estuarine species as far up as 25 miles from the mouth. There is limited information on the San Bernard River estuary as well.

As for the definition of sound ecological environment, Tom asked members to look at the definition provided by the Science Advisory Committee and provide comments to the other members in order to discuss this topic at the next meeting. Cory Horan (TCEQ) will send the definition to all the members.

An Ecology Subcommittee meeting was set for July 1st at 11:00 am at the TPWD conference room at the Texas River Center in San Marcos. The meeting will focus on selection of focal species.

Kirk mentioned that the motion at the last meeting for a small contract for Texas A&M to conduct literature research is probably no longer needed since some of the members already most of the literature already. Tom said that the topic of contracts in general will be revisited at the next meeting.

8) Other Business

For the next meeting, David Dunn will present information on sediment/geomorphology. There was discussion of whether the TWDB should collect sediment data from cross-sections at seven selected sites. David felt that they should go ahead and collect the data, but he will follow up on it with Nolan Raphelt of TWDB.

Tom said he would perform a rudimentary precipitation-over-time analysis at some representative gages, as requested by others. Dan Gise will draft a flow history of the basin as well as a general overview of the whole basin. Nolan will provide top width vs. flow information. Tiffany will determine preliminary subsistence levels for water quality based on previous regression work and will send to everyone.

Regarding any potential changes to the budget, the group decided to put the extra \$10K from the SAC into Task 2 (member compensation for work outside meetings). No change was made in the subcontracts amount. Task 4 description was modified per Ruben's request.

Next meetings tentatively scheduled for Tuesday, July 19th at BRA in Waco and Tuesday, August 16th in Austin, most likely at Freese Nichols.