

Trinity and San Jacinto Rivers and Galveston Bay
Basin and Bay Expert Science Team

9th Meeting
October 19, 2009

Espey Consultants, Inc.
4801 Southwest Parkway
Austin, Texas 78735

MINUTES

[Members not in attendance: George Guillen, Alan Plummer, Woody Woodrow]

Introductory Remarks

Chairman Espey requested all members to send him a list of available dates through November. The next BBEST meeting will be November 12th at the Houston Advanced Research Center in The Woodlands. There may need to be another full BBEST meeting before the end of November.

Status of Bay and Estuary Freshwater Inflows Work

Jim Lester summarized the accomplishments of the last B&E workshop meeting. Three sessile indicator organisms (*Vallisneria*, *Rangia*, and oysters) were selected due to their salinity sensitivities. Based on TxBLEND modeling, inflow-salinity relationships have been obtained, and inflow-niche relationships as well as seasonal salinity ranges have been identified. An inflow recommendation was not made for the fall and winter seasons due to lack of data/unreliable modeling results.

Tony Smith used a PowerPoint presentation to report on the overall status of the bay and estuary work. Salinity niches and seasonality have been identified for the sessile indicator species, and the data for the mobile indicators will be used as a check. The process decision points were discussed. A period of record from 1983 to 2005 was used for the analyses. The desirable inflow ranges for the various bay, season, and organism combinations were presented. Seasonal attainment criteria/frequency of occurrence options were discussed. Members supported the approach of having three inflow recommendations: one each for the Trinity and San Jacinto Rivers and one for the remainder of the coastal basin.

A comment was made that the proposed methodology was too complicated and that a simpler mass balance approach using a real-time salinity measurement system (e.g., a deployed water quality sonde) to establish a salinity range for a given location would be better. It was noted that it would be challenging to segregate needed inflows among the different basins based on a single monitoring location, but if more sites were available in

the future, this could be an option. Despite this comment, there were no objections to the basis of the analyses in Tony's presentation. There were also no objections to the proposal to make inflow recommendations for each of the individual basin components (i.e., Trinity, San Jacinto, and the remainder of the coastal basin) as well as a total inflow to the entire bay system. In the absence of fall and winter inflow recommendations, it was proposed that the instream flow recommendations from HEFR be used to determine the inflows for those seasons.

Jim Lester stated that he will work with Tony and Joe Trungale to write up the B&E recommendations with biological input/assistance from George Guillen. The draft will be circulated by e-mail prior to the next full BBEST meeting on Nov. 12th. The write-up will also discuss the confidence levels associated with the results and make recommendations for improvement as part of the adaptive management process.

Report on Sabine/Neches Biological Work Group meeting

Dave Buzan gave an overview of the work group meeting he attended on October 15th. An e-mail summary of his meeting notes (handout) was also made available.

Trinity River Information

Richard Browning gave a presentation discussing flow characteristics at the four middle-Trinity River gages. Historically, flows at the gages track very closely with each other. Base flows have increased over time due to wastewater contributions. BOD levels have declined over time because of improving wastewater treatment. He has not been able to discern wet/average/dry base flow periods in the historical flow data at these gages.

Status of Instream Flows Work

Joe Trungale presented a potential recommendation approach based on HEFR analysis of the Trinity River at Oakwood gage and applied a decision process similar to what was done for the LCRA/SAWS project on the Colorado River. These results were compared with the actual gage data. A pre-development/pre-impact period of record was recommended for use in deriving the results. Though it was commented that a true pre-impact period of record doesn't exist, it was generally agreed to use the record of 1924 to 1964 for the analysis. An alternative approach was suggested similar to what Region H has done that would result in the recommendation of just a few flow numbers. One annual base flow number would be used. Water quality could be used to evaluate a subsistence flow with dissolved oxygen as the indicator. It was argued that a single base flow recommendation would not meet the requirements of the SB3 legislation.

Tony Smith presented an alternative approach for base and subsistence flow recommendations that considers persistence of flow between pulse events, again focusing on the Oakwood gage. He acknowledged common ground with respect to the overbank flow recommendation. Comparing base flows, the HEFR and persistence numbers are similar, with the persistence numbers typically greater than those from HEFR. One option would be to average the two numbers. For pulse flows, one representative event could be identified as the target. Frequencies would only be defined for subsistence and

dry-base flows. If not used to derive the recommendations, the persistence method could be used as a check for flow numbers calculated differently.

A comment was made that only the base flows need to be defined, not the pulses and floods. However, others want to see pulse and overbank flows defined with frequencies based on historical occurrences and best professional judgment. Another commented that it's not hard to biologically justify at least one occasional pulse because of what we know they provide for fish and vegetation. Another mentioned that we don't know what magnitude of a pulse is best. It was proposed that there needs to be a magnitude and frequency associated with overbank flows based on the historical record, as opposed to being defined as naturally driven, but not all agreed. Additional discussion ensued regarding what recommendations to make and how to frame them, but it was concluded that the issues raised, including the significance of the four flow components, need to be further discussed and resolved in the instream flow subcommittee.

A meeting of the instream flow subcommittee was scheduled for October 26th at Espey Consultants office starting at 10 am.