

Trinity and San Jacinto River Basins and Galveston Bay
Basin and Bay Area Stakeholder Committee

Thursday, April 15, 2010 at 10:00 am
San Jacinto River Authority Offices
1577 Damsite Road, Conroe, Texas

Minutes

Call to order

Chairman Danny Vance called the Basin and Bay Area Stakeholder Committee (BBASC) meeting to order.

Approval of meeting minutes

Minutes from the April 7, 2010 meeting, which included the facilitated portion of the meeting, were approved with no changes.

Public comment

None.

Update on TWDB Water Availability Model (WAM) runs

Nolan Raphelt with the Texas Water Development Board (TWDB) gave a PowerPoint presentation showing results of TWDB's WAM analysis of BBEST-recommended flows in the San Jacinto Basin. The analysis compared the percent time that BBEST pulse and base flow criteria (Regime Group) were met at the five USGS gages from the BBEST report under four different scenarios: 1) the criteria development period of record; 2) WAM 3 (full existing water rights utilization, no return flows); 3) WAM 8 (current utilization, return flows); and 4) WAM 9 (future utilization). Nolan mentioned that TCEQ-recommended updates were incorporated into WAM 9 for the San Jacinto Basin. There was some question about the WAM 3 results for Brays Bayou, so Nolan will re-check and send out any corrections, if necessary. The next steps for the TWDB analysis are to conduct the WAM 9 analysis on the Trinity River gages and start implementing environmental flows in the WAM runs for the San Jacinto and Trinity.

Update on NWF analysis of freshwater inflow recommendations

Norman Johns with the National Wildlife Federation (NWF) gave a PowerPoint presentation entitled "Proposed Low-Inflow Criteria for Galveston Bay", which will be followed up with documentation of the analysis. Continuing the focus on developing low-inflow criteria from his presentation at the last meeting, Norman explained that without bay salinity data from before 1977, he used predicted salinities for 1956, one of the driest years in the 1950s drought, as a basis for evaluating proposed low in-flow criteria. A combination of subsistence and base flow-based inflows is more tolerable than just subsistence-based inflows, when compared to estimated 1956 salinities. In light of temperature and salinity information on Dermo infestations in oysters, Norman proposed target drought criteria in what can be considered "normal" drought conditions and separate worst-case criteria for extreme, less-frequent drought conditions. Mid-range "consolidated" criteria for more "normal" non-drought conditions were also proposed

based on work previously presented. Norman will provide a write-up of the drought analysis and proposed criteria as soon as he is able. The next major step is to see how often these proposed criteria are satisfied under WAM 9 conditions.

Analysis of Trinity River instream flow recommendations – Espey Consultants

Following an introduction by Dr. Bill Espey, Tony Smith with Espey Consultants gave a PowerPoint presentation entitled “Frequency of Achieving Instream Flow Targets” aimed at evaluating the potential impacts of the BBEST recommendations/criteria on water supply and strategies in a manner consistent with how the recommendations were derived. The process was to see how often the criteria have been met historically, under current conditions, and under future conditions (with regional water plan strategies implemented), and to determine what shortages there would be with both sets of criteria (regime and conditional). After discussing issues associated with identifying a flow pulse and methods for applying the criteria, Tony gave an example using the Trinity River at Oakwood gage showing different approaches to assessing achievement frequencies of the pulse flow criteria (base flow criteria assessment was straightforward). Tables were displayed showing achievement frequencies of the dry and average condition high flow pulse criteria for the 11 Trinity and San Jacinto River basin gages for three different analysis periods of record (criteria development, WAM, and full). Moving to the shortage analysis, Tony explained the different approaches to assessing pulse flows in the WAM and outlined his approach of building the monthly volumes from the recommendations. Pulse flow achievement frequencies and shortages were displayed for the Trinity gages under WAM Run 8 and Run E (Region H’s Run 9 modification). Tony made the observations that there’s no consensus on applying pulse criteria, the analyses are WAM-oriented and difficult to translate to an operational context, it’s difficult to determine if the criteria are actually achieved, pulses as characterized in the flow matrices have rarely occurred, and pulse volume recommendations appear higher than what’s currently seen. Tony then showed achievement and shortage results for the conditional recommendations.

In response to a stakeholder question, Dan Opdyke with Texas Parks and Wildlife Department offered two comments on the BBEST Regime Group’s high flow pulse recommendations (handout distributed) that essentially advocated for the interpretation of pulse recommendations (frequency, etc.) based on long-term behavior in the historical flow record.

Facilitation

Notes from the facilitated portion of the meeting are given below.

Facilitated Agenda April 15, 2010

The following reflect notes from the facilitated portion of the April 15, 2010 meeting. Items on which the group reached consensus are noted and highlighted, as are action items. Other text reflects notes taken during the meeting, and do not necessarily reflect agreement.

Agree to process for developing environmental flow standards and strategies by BBASC

The group confirmed agreement with the following general steps in developing the flow standards and strategies, with the understanding that these are general steps and may be reviewed and revisited:

1. Choose a Starting Point for Developing Environmental Flow Standards
2. What is the Attainment Frequency of the starting point using existing rights?
3. Analyze impacts of environmental flow standards on existing and future water needs
4. Consider other factors
5. Final BBASC environmental flow standards
6. Recommend strategies
7. Work plan (after the deadline for submittal of recommendations to TCEQ)

Develop components of BBASC recommendations to TCEQ

Consider report outline

The BBASC considered a draft report outline prepared by Lisa Lattu and agreed to the following:

- Include reference to the work plan to the extent future assumptions on the work plan are important to recommendations
- Appendices will be used and may include runs, power points etc. considered or relied upon by BBASC
- Strategies
- Section 3 of the outline (the BBEST report) will:
 - include references to sources of information that were considered.
 - be just a short summary of the BBEST report
 - include conditions under which the BBEST report was turned in
- Section 4 of the outline (consideration of other factors) will contain general statements of major items the BBASC weighed and considered in developing its recommendations

Action items: The Action Item list at the end of these notes includes specific action items related to the developing the report.

TCEQ reported some expectations for the BBASC report:

- Tables with points and numbers
- Measurement points that you use for the bay
- Definition of terms (e.g., dry, average and wet)
- Things you considered and how you got there

BBASC then discussed the definitions of dry, average and wet.

- BBEST definition of dry, average and wet. David Buzan noted there are dry, average and wet conditions. Thought stakeholders would have input. The number was based on the HEFR output with wet = 75th percentile, average = 50th percentile, and dry = 25th percentile of base flows. This is an attainment frequency, descriptors
- Why is wet important? Environmental community believes reservoirs have knocked off a peak wet flow.
- Need definition to enforce a numerical standard

Agree to starting point for BBASC recommendations

BBASC considered using the period 1941-2007, 1980s-2007, and noted that HEFR uses various periods of record. **The group agreed as follows:**

- that data informing its decision will be 1940 – 2007, or the full period of record for each gauge, and that they will consider that BBEST uses various other periods. This includes the drought of record and development of reservoirs.
- to include in its report a list or map of gauges taken from the BBEST report, including names, locations, installed periods of record.

Determine how to handle various flow components of instream flow and freshwater inflow recommendations

Approach:

- Stakeholders can consider more than environmental flows to develop standards
 - Develop environmental flow standards and then consider other factors
 - Develop standards with factors in it
- Option: Have a recommendation, then try to determine if there is a shortage or to what extent, then look for ways to minimize impact of the shortage.

Overbank flow: may discuss but not develop a standard

Focus on subsistence and base flows

- Possible approach:
 - Do tables show that you are there – on subsistence and base?
 - These tables do not show impacts
- Romayor gauge – 1951-1999. Water released at 1,000 cfs each day to address saltwater intrusion. This no longer occurs.
- Houston – Luce Bayou: When this project is finished, then the water will not be going through Romayor. [correction made at May 5th meeting that water for Luce Bayou project would pass Romayor gauge and be diverted downstream]
 - Luce Bayou is considered in WAM Run E
- Can we start with subsistence?
- **Action** –
 - The following people will review the two sets of base and subsistence flow numbers from the BBEST report: John Bartos, Danny Vance, Jim Parks, Ken Kramer, Glenda Callaway, Pudge Willcox

- David Buzan and Bill Espey will provide raw numbers to the small group
- SAC is available to assist with questions on pulse flows

Pulse Flows:

The stakeholders discussed their interests and concerns, developing the following summary:

- Frequency for these flows
- Where water comes from
- Concerns it might be required from storage
- What kind of permit amendment would trigger it
- What if natural event amplifies pulse flow, and creates a liability
- They carry sediments – important for geomorphology, biology, quantity – replicates nature
- How practitioner is to define and recognize pulse flows in data set. Consistency with setting and analysis of standard. Deficiency in analytic technique.
- Inconsistency between HEFR and WAM
- How will pulse flow diminish since there are not dams between the Dallas area and Houston area?
- Issue is how we define when they occur
- Where do they come from?
- If pulses currently are sufficient, no need to have more If pulse flows bring bays to a sound environment, must represent them in rivers
- Hard to describe pulse – it seems to be everything above base
- Will imported water become subject to pulse flow requirements? How to quantify this risk?
 - There are environmental flow issues in the basin of origin, not in the receiving basin
- Luce Bayou: issue will be where return flow is located

Information and Comments of David Buzan of the BBEST relating to pulse flows:

- There is value in recognizing the biological value of pulse flows
- There are questions about incorporating pulse flows in environmental flow standards
- If not occurring naturally, they should not be required to be provided artificially
- Question: Then why did BBEST not all go with the conditional approach?
 - Answer: Because it should be descriptive of natural environment.
 - Divergence in BBEST was whether the numbers could be accurately represented
- Values in flow recommendations can be different than what is in regime and still have a sound environment

The group also discussed how to define a pulse flow, and noted that understanding the assumptions in the models was important. An example would be that the tail of a rainfall-driven event (1) could be a base flow, or (2) could be the end of a pulse.

How to Reconcile instream flows and bay and estuary flows

- BBEST: did not try to reconcile.
 - Functional difference
 - Might not need to match
- SAC considered: appendix A of SAC bay and estuary document
- Glenda, Danny, Lisa, Pudge to work on plan to reconcile environmental flows and B&E, if needed

Begin development of strategies

Several participants presented information about the strategies development process of the GBFIG. Then the BBASC brainstormed ideas -- without commitment to any ideas -- of possible strategies that might be used to meet the environmental flow standards to be developed by the BBASC as follows:

- Requirements/conditions on new and amended permits
- Purchase/lease water rights
- Voluntary dedication of water rights
- Water conservation paired with dedication of an amount of saved water to environmental flows
- Water conservation for future human needs
- Dedication of return flow
- Operations (release of water)
- Importation of water/ interbasin transfer
- Drought management/implementation of drought contingency plans
- Concrete the river bottom
- Increase groundwater pumping for wetlands
- Cover the river
- Mandated conservation
- Fund conservation that is dedicated to environmental flows

Review action items and develop agenda topics for next meeting

Action Items		
What	Who	When
All power points will be provided to all stakeholders as soon as possible	Easley	ASAP
Report Draft: I. Preamble/ charge III. Summary of BBEST report IV. Consideration of Other Factors: <ul style="list-style-type: none"> ▪ Subsidence and groundwater concerns: ▪ Galveston Bay: ▪ Permitted uses Summary of other supplemental information Appendices	Bartos Espey <ul style="list-style-type: none"> ▪ Michel ▪ Callaway ▪ Vance, Lattu, Parks Lattu Easley	No date set yet, but encouraged ASAP
Reflect on other strategies	All	For 5/5 mtg
Reflect on how to handle pulse flows	All	For 5/5 mtg
Provide numbers on subsistence and base flows to subgroup noted immediately below	Espey & Buzan	ASAP following 4/15 mtg
Subgroup to review the two sets of base and subsistence flow numbers from the BBEST report and supply numbers to the BBASC prior to the meeting	Bartos, Vance, Parks, Kramer, Callaway, Willcox	ASAP & distribute to BBASC before 5/5
Assist with questions on pulse flows	SAC upon request	
Provide Trinity numbers to BBASC	TWDB	ASAP following 4/15 mtg
How to reconcile instream environmental flows & freshwater inflows: <ul style="list-style-type: none"> ○ Talk to Region H consultants about report ○ Work on plan to reconcile environmental flows and B&E, if needed 	<ul style="list-style-type: none"> ○ Callaway ○ Callaway, Vance, Lattu, Willcox 	Before 5/5

Parking Lot for Work Plan

Recommend a gauge at the mouth of the Trinity

Agenda for May 5 meeting

Stakeholders identified some potential items for the agenda:

- Report on instream flow
- Report on WAM E, Trinity

- Reports on base and subsistence flows, freshwater inflows
- Strategies
- Pulse flows
- Report writing