

# **Brazos River and Associated Bay and Estuary System Basin and Bay Stakeholder Committee (BBASC) Meeting**

**Monday July 30, 2012 at 1 p.m.**  
City of Waco Water Treatment Plant  
Waco, Texas

**Tuesday, July 31, 2012 at 8 a.m.**  
Brazos River Authority Offices  
Waco, Texas

## **Draft Minutes**

### **Monday, July 30, 2012**

**Call to Order**

**Review of agenda & meeting goals**

**Public comment**

**Approval of July 17, 2012 meeting minutes**

**Subcommittee updates**

- **Funding/facilitation**
- **Report writing**
- **Technical Analysis**
- **Strategies**

### **Consider strategies to meet environmental flow standards**

The BBASC discussed the form and function of strategies, a statutorily required element of the BBASC report. Strategies are not adopted by TCEQ. However, because they are submitted as part of the BBASC recommendations to the Environmental Flow Advisory Group (EFAG), Science Advisory Committee (SAC), and TCEQ, they do serve to inform policy makers. Matt Phillips, chair of the strategies sub-committee, reviewed his memo on possible general strategies that could be included in the BBASC report.

Issues concerning strategies that surfaced in the BBASC discussion included:

- Concern about adopting strategies before environmental flow standards are developed
- Concern that voluntary ideas could become mandated by legislative action
- Need to develop fact sheets and guidelines in the report about the strategies
- Set-asides: Both interest and concern about considering set asides as a possible strategy. BBASC asked TCEQ to provide more information about set-asides and how they function at the next day's meeting. These could be mechanisms for the future.

BBASC members expressed concern about several of the possible strategies. The following were removed as a result of the discussion:

- Dedicating cancelled water rights to environmental flows (because of interest in water being available for other uses, and because of concerns about legal challenges)
- Work with local government to have developers coordinate with local entities and perform pre-development studies to ensure adequate water available (concern about counties without Groundwater Conservation Districts not having a mechanism to verify groundwater availability for development)

- PR campaign to promote municipal conservation through water rate structures

BBASC members suggested clarification or modification of several strategies, or inclusion of certain ideas in the report:

- Dedication of return flows to environmental flows should be voluntary and not in conflict with other recommendations
- Participation in the Groundwater Management Area (GMA) process should be changed to encourage or support GMA process to ensure desired future conditions are adopted that benefit environmental flows.
- Clarify in the report that applicability of a strategy should be considered on a case-by-case basis, and must produce a benefit to environmental flow or at least no adverse effects.

BBASC members wanted the following added as general strategies in the BBASC report:

- Voluntary time dam releases for water delivery to enhance environmental flows
- Dry-year options to be added to conservation ideas
- Encouraging land-stewardship and conservation on state-owned land

BBASC members were encouraged to submit region or location specific strategies to be included as recommendations. Ideas generated at the meeting include:

- Invasive species eradication, including the giant cane *Arundo donax* and salt cedar
- Build a salt water barrier

### **Actions needed to develop BBASC report to TCEQ Report Sub-committee**

The report sub-committee and BBASC discussed a process and timeline for producing a report. A draft final report will be provided prior to the August 28 meeting in sufficient time that members can review and it can be modified as needed and adopted at that meeting. A revised draft will be circulated before the BBASC meeting scheduled for August 15-16.

### **Tuesday, July 31, 2012**

#### **Call to order**

#### **Review of agenda and meeting goals**

#### **Public comment**

### **Reports, including additional analysis of project yields under possible environmental flow standards, biological impact of changing pulse flows, information on projects in regional and state water plans**

The BBASC received technical information from several persons. All power point presentations may be found on the BBASC webpage:

[http://www.tceq.texas.gov/permitting/water\\_rights/eflows/brazos-river-and-associated-bay-and-estuary-system-stakeholder-committee-and-expert-science-team](http://www.tceq.texas.gov/permitting/water_rights/eflows/brazos-river-and-associated-bay-and-estuary-system-stakeholder-committee-and-expert-science-team).

Matt Nelson of the TWDB provided a summary of recommended and alternative reservoir projects in the Brazos BBASC geographic area that have been identified by Regions O, G and H. The handout is available on the BBASC website.

Cindy Loeffler and Kevin Mayes (TPWD) gave a presentation summarizing selected biological issues in the upper, middle and lower parts for the Brazos Basin. For example, five species of mussels that are

currently on the State's list of threatened species occur in the middle and lower Brazos Basin. These species are also candidate species for Federal listing. Cindy also presented information comparing on-channel to off-channel reservoirs. The presentation is available on the BBASC website.

Kathy Alexander of TCEQ answered several BBASC questions raised on the previous day:

- Q: Please explain how the TCEQ can modify EFS in the future, and how that modification can impact permits issued with special conditions that comply with the prior EFS?

A: The EFS itself (which will be in the TCEQ rules) can be modified in an unlimited manner in the future. However, the special permit conditions placed in permits based on EFS can be modified to provide more environmental flow by a limit of 12.5 percent. The EFS conditions in permits can be decreased in any amount based on adaptive management. For example, a permit condition that requires a release of 100 cfs, can be modified to require a maximum release of 112.5 cfs, but may be modified to require any amount of releases below 100 cfs. The annualized amount of the flow requirement is what cannot be increased more than 12.5 percent.

- Q: Would TCEQ have a problem if the BBASC proposed different approaches to its EFS recommendations in different parts of the basin?

A: It would not be a problem generally so long as there was a hydrologic break between the different EFS structures. However, different approaches to EFS could create difficulty if they could impact two permits close to each other differently. Having a dam between the different regime structures would help. Brad Brunett of BRA inquired whether an EFS in one segment could impact the water availability analysis of a permit in a segment with different EFS. Kathy agreed it could.

- Kathy summarized the small user exemptions that TCEQ has adopted or is proposing to adopt in other basins. (Handout available at BBASC webpage). Q: Please explain the use of set-asides.

A: Set-asides are the amount of unappropriated water that TCEQ may, by statute, reserve for environmental flows by setting them aside from future permitting. (For example, if 100 AF is set aside for environmental flows; this water would not be available to a future water rights permit application). A set aside would receive a priority date of the BBEST report (March 1, 2012 for the Brazos) like a water right. TCEQ analyzes whether unappropriated water is available to set-aside in a similar manner to their analysis of whether unappropriated water is available for a water rights permit application: the water would have to be available a reasonably certain percentage of the time. Stakeholder groups can recommend to TCEQ that they adopt a set aside. TCEQ could then adopt a set-aside. Set asides are in addition to EFS, but a set-aside can help meet an EFS. Both set asides and environmental flow permit conditions may be suspended in times of emergency under Chapter 11 of the Water Code and TCEQ rules Chapter 35.

## **Develop environmental flow standard components**

### **Consensus**

BBASC agreed by consensus to adopt the BBEST environmental flow regime (EFR) for base flows at all gages and to include the 50 percent implementation rule related to base dry and subsistence flows as described in the BBEST report.

At the request of several BBASC members, Joe Trungale of Trungale Engineering & Science, made a presentation on a possible way to increase the number and amount of pulse flows over the previously proposed Cedar Ridge Reservoir template (also called "Balancing template" and identified in these notes as the CR/B template) while enhancing the yield of potential future projects more than under the BBEST EFR. This would be accomplished by imposing lower pulse-flow requirements during

times reservoirs hold less water in storage, but by releasing BBEST-levels of inflows when the reservoir has a higher storage volume. (Power point slides available on the BBASC webpage). BBASC members posed questions and noted comments about Trungale's presentation:

- What reservoirs would be used as the trigger?
- How would run-of-river projects be treated under this type of proposal?
- How would these approach impact off-channel reservoirs?
- Is the site-specific nature of the hydrologic trigger workable?
- How could this be used consistently up and down the basin?
- Reservoirs can be impacted by the way they are operated
- Do we have time to consider this?
- Reducing yields may mean needing to find other ways to meet needs
- Make sure we're talking about this from the same basis
- Concern that CR/B template is not applicable to the basin as a whole, and this may provide an alternative way to balance the environment and human needs.

The BBASC asked Joe Trungale and Cory Shockley to discuss Trungale's proposal during lunch. They reported back to the BBASC on two main concerns from a water supply perspective about the proposal:

- 1) The infrastructure cost of passing high flow pulses; and
- 2) Being able to assess the biological benefits of the proposal to understand if it is worth the additional costs.

The BBASC discussed the following in relation to whether to adopt the CR/B template for the pulse flows for the remainder of the gages. (This template was adopted for gages 4, 5 and 6 at a previous meeting.)

- The CR/B template provides for high flow pulses (HFP) at a flow level as high as HFP 2 from the BBEST report, but not at the same frequency as the BBEST report.
- Concern about losing the size and frequency of pulses under the CR/B template.
- Some members expressed a preference to adopt BBEST EFR on gages where there is not a planned project whose yield could be impacted; other members felt that if no project were planned, there was not a need to adopt BBEST EFR to protect instream flows, and were concerned about the impact of its use for future water supply planning.
- The middle Brazos basin needs more pulses than are proposed in the CR/B template because of its impaired integrity.
- The BBEST EFR creates uncertainty in planning potential projects
- Using the BBEST EFR does not balance between environmental and human need, which is the task of the BBASC
- Can pulses be added to provide for oxbow connectivity in the lower basin? Or will the river provide for those flows regardless of the EFS recommended by the BBASC? Some BBASC members expressed a desire to at least discuss the importance of HFP for oxbow connectivity in the report.

BBASC members discussed various modifications of the CR/B template to increase pulse events as a way to balance increased flows for environmental purposes with loss of water for human need.

The BBASC specifically discussed issues relating to the selection of EFS for the middle Brazos basin, which they defined as the main stem of the Brazos between Possum Kingdom dam and the dam

impounding Lake Whitney, and areas draining into that stretch of the river (gage 7 – Brazos River near Palo Pinto – and gage 8 – Brazos River near Glen Rose).

- The area faces various biological issues (amoeba, algae, fish assemblage)
- EFS could impact the proposed Turkey Peak project. A suggestion to make a separate recommendation for Turkey Peak was floated.
- Consider how EFS could impact water availability analysis for projects in the upper Brazos.
- Consider whether flows can be provided to meet various EFS scenarios
- Consider all human needs, including recreation and fisheries, when balancing
- Consider taking out the highest BBEST pulse, then conduct modeling to understand how the BBEST EFR could be changed to maximize water available and be protective of the environment
- Don't balance environmental needs against a water supply project that is not planned.
- Complexity of the BBEST EFR
- Our job is not to repair the biological integrity of an area. Tiffany Morgan of the BBEST noted that the middle Brazos is called impaired because of lost species. The BBEST EFR will not bring these species back, but it will maintain what is there and not create further loss.

Members were interested in understanding the ability to use different regimes in different segments of the basin separated by hydrologic features such as a reservoir. Kathy Alexander from TCEQ noted that it would be possible to operate different EFS for different parts of the basin with a hydrologic separation (e.g. a dam). However, EFS in one part of the basin could impact the water availability in another part of the basin. To determine water availability for a new permit, TCEQ would consider all existing water rights and EFS in the entire basin to determine if there was sufficient water available for appropriation for the new permit. TCEQ would include special conditions in the new water right to protect the adopted EFS. These special conditions generally would be based on one gage, but could involve more than one gage for a very large water right. Thus, an EFS imposed at the Palo Pinto gage (below Possum Kingdom) could impact the water availability analysis for a new permit upstream of Possum Kingdom reservoir. In response to a question about whether the reservoir located physically between the two gages could ameliorate the impact, Kathy noted they have not done such specific analysis.

### Consensus

For all gages starting at No. 9 (North Bosque River near Clifton) and moving downstream for the remainder of the Brazos Basin and San Bernard basin: Adopt pulse flows using a CR/B template pattern referred to as "2-3-1" that would include:

- for the wet condition, 2 frequencies of seasonal BBEST HFP 2;
- for the average condition, 3 frequencies of the seasonal BBEST HFP 1; and
- for the dry condition, 1 frequency of the seasonal BBEST HFP 1.

**Additional information needs for the next meeting:** BBASC members noted the following information needs for the next meeting:

- Water Availability Evaluation of Cedar Ridge considering a modified BBEST EFR at Palo Pinto and Glen Rose; Evaluate various scenarios of full BBEST template to determine at what level there are no additional impacts to Cedar Ridge. (e.g. not significantly more than the CR/B template, which has an estimated 11% impact)

- Middle Brazos: “Local projects” impact (similar to Little River or DMF) from the BBEST EFR at these gages or slight variations as discussed late in the meeting, such as removing highest tiers of pulses, etc.
- Consider golden algae flow needs from earlier presentation

### **Upper Brazos basin: Gages 1, 2 and 3**

Kevin Mayes from TPWD coordinated with Dr. Wilde from Texas Tech University, at the request of the BBASC, to present additional information relating to the impact on the smalleye shiner of reduced magnitude and frequencies of high flow pulses based on the CR/B template using Brazos G WAM, 2060, provided by Brazos River Authority (Brazos River at Seymour modeled flows with DMF West Reservoir in place). Kevin presented an analysis of reach lengths, flow changes, and simulated population responses to different eflow regime scenarios (power point slides available on the BBASC webpage). A question and answer/comment session followed the presentation:

- Q: Would using the BBEST EFR impact the probability of the U.S. Fish and Wildlife Service listing species as endangered or threatened?  
A: Kevin does not know.
- A lot of pulses, but not necessarily big pulses, would be helpful for the smalleye shiner.
- Dr. Wilde: the response for the sharpnose shiner is qualitatively similar but not identical to that of the smalleye shiner. Pulses are important for reproduction in both species.
- Population increases for the smalleye shiner when mean summer discharge is greater than 227 cfs; population declined when mean summer discharge was below 227 cfs.

BBASC members discussed possible EFS for the upper basin gages 1 (DMF Brazos near Aspermont), 2 (Salt Fork Brazos near Aspermont) and 3 (Clear Fork Brazos near Seymour). The following are key ideas:

- A narrative could be added to the BBASC report that indicates any reservoir permit in this reach be evaluated by USFW and USACE for its impact on shiners
- We need more time to understand the TPWD information. Some members wanted more information from TPWD on:
  - Possible flow regimes with more variability to help the fish population
  - More high flow pulse tiers
- Use required releases to create small pulses for the fish
- Also need some big, scouring floods
- Not clear that there would be a request for a water right in this area
- There could be some project like Double Mountain Fork
- What extent does an EFS impact a permit project at Lake 7 in the far upper area of the basin?

Cory Shockley of HDR Engineering, at the request of the BBASC, provided information on impacts to the yield of the Double Mountain Fork and Little River Reservoir (on-channel) if additional pulse flows were required above those in the Cedar Ridge Reservoir (CRR) template, which the BBASC adopted for gages 4, 5 and 6 at its June 28 meeting. (Power point slides available on the BBASC website).

### **Next BBASC meetings:**

August 15-16 BRA headquarters

August 28 BRA headquarters

### **For August 15-16 agenda:**

- Pulse flows for remaining five gages (1, 2, 3, 7 and 8)

- Review strategies and report draft
- Some implementation rules
- Small user exemption

	Action items	
What	Who	When
Regional strategies: submit ideas for regional strategies to meet EFS to Matt Phillips	BBASC members	ASAP
Strategies sub-committee to draft report chapter	Matt Phillips & sub-committee	For Aug. 15 meeting
Final draft of report	Report sub-committee	Before Aug. 28 meeting
Impact of one EFS structure on permits in a different part of the basin <ul style="list-style-type: none"> <li>○ Water Availability Evaluation of Cedar Ridge considering a modified BBEST EFR at Palo Pinto and Glen Rose: Evaluate various scenarios of full BBEST template to determine at what level there are no additional impacts to Cedar Ridge. (e.g. not significantly more than the CR/B template, which has an estimated 11% impact)</li> </ul>	Cory Shockley coordinating with Phil Price, Cindy Loeffler	Before Aug 15 meeting
Middle Brazos: “Local projects” impact (similar to Little River or DMF) from the BBEST EFR at these gages or slight variations as discussed late in the meeting, such as removing highest tiers of pulses, etc.	Cory Shockley coordinating with Phil Price, Cindy Loeffler, Joe Trungale	Before Aug 15 meeting