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Judge Dale Spurgin
Chair, Brazos Basin and Bay Area Stakeholder Committee
Delivered by Email, dale.spurgin@co.jones.tx.us

Dear Judge Spurgin:

The Brazos Bay and Basin Expert Science Team (Brazos BBEST) has met virtually to develop a response to requests from the Brazos Basin and Bay Area Stakeholder Committee (Brazos BBASC). The Brazos BBASC asked the Brazos BBEST to:

1. Update our original research recommendations going forward and submit recommendations to BBASC for consideration.
2. Provide a recommendation in writing to the BBASC regarding whether the BBEST feels that there is sufficient data to support revising the environmental flow standards in whole or at specific sites.

This letter addresses those requests and includes some discussion on Brazos BBEST membership.

Research Recommendations

The original research priorities in Table 8.1 of the 2012 Brazos BBEST report remain valid. In addition to the priorities in Table 8.1, the Brazos BBEST recommends that the following be added as Priority 1 research effort and given special emphasis:

- Long-term investment into community level monitoring of aquatic biota responses to flow recommendations and TCEQ standards, including research to identify magnitude, duration, and frequency of flow tiers for maintenance of key indicator species, by stream reach in the Middle (from Waco to Possum Kingdom Reservoir) and Upper Brazos (above Possum Kingdom Reservoir). Attachment 1 to this letter lists potential indicator species by reach identified by the Brazos BBEST.

We also recommend that the following be added as Priority 2 research efforts:

- Repeat of 2012 TWDB funded project to model flows necessary to connect the Brazos River with oxbow lakes in the lower Brazos River watershed (below Waco). There have been multiple high-flow and/or overbank flows in the Brazos River since 2012 that may have resulted in changes to the flows needed for oxbow connectivity. Repeating this work would be beneficial to assessing adopted high-flow pulse criteria in this reach of the river.
- Monitoring and analysis of suspended sediment concentration in the lower Brazos River (below Waco) to understand sedimentation rates to the Brazos River estuary including effects on coastal geomorphology and interactions with projected sea level rise, tropical storms, high flows, and integrity of the Intercoastal Waterway.

Recommendation on Revising Environmental Flow Standards

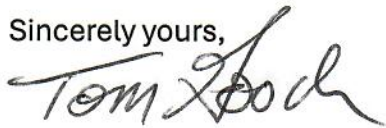
The Brazos BBEST does not feel that there is sufficient new data to recommend any revisions to environmental flow standards at this time. Recent research has indicated that additional high flow pulse standards to support fish and mussel recruitment and riparian vegetation may be justified. The additional research we have recommended is intended to focus on this issue.

Brazos BBEST Membership

Several members of the Brazos BBEST have indicated that they are considering retiring from the committee. Would the Brazos BBASC like to hear recommendations from the Brazos BBEST on possible new committee members at this time?

We hope this response is helpful to the Brazos BBASC. Please contact me with any further questions.

Sincerely yours,



Tom Gooch, P.E.

Chair, Brazos Bay and Basin Expert Science Team

cc: Brazos BBEST Members (Tim Bonner, George Guillen, Peyton Lisenby, Tiffany Malzahn, Cory Scanes, Kirk Winemiller)
Jade Rutledge, Texas Water Development Board

ATTACHMENT 1

Indicator Species by Reach Identified by the Brazos BBEST

- Double Mountain Fork of the Brazos River
 - Fish: *Alburnops buccula* (Smalleye Shiner) and *Notropis oxyrhynchus* (Sharpnose Shiner), *Macrhybopsis hyostoma* (Shoal Chub), *Hybognathus placitus* (Plains Minnow)
 - Mussels: NA
 - Riparian Trees: NA
- Salt Fork of the Brazos River
 - Fish: *Alburnops buccula* (Smalleye Shiner) and *Notropis oxyrhynchus* (Sharpnose Shiner), *Macrhybopsis hyostoma* (Shoal Chub), *Hybognathus placitus* (Plains Minnow)
 - Mussels: NA
 - Riparian Trees: NA
- Brazos River upstream from Possum Kingdom Reservoir
 - Fish: *Alburnops buccula* (Smalleye Shiner) and *Notropis oxyrhynchus* (Sharpnose Shiner), *Macrhybopsis hyostoma* (Shoal Chub), *Hybognathus placitus* (Plains Minnow)
 - Mussels: NA
 - Riparian Trees: NA
- Clear Fork of the Brazos River
 - Fish: *Macrhybopsis hyostoma* (Shoal Chub), *Paranotropis buchanani* (Ghost Shiner)
 - Mussels: NA
 - Riparian Trees: NA
- Brazos River between Possum Kingdom Lake and Lake Granbury
 - Fish: *Camptostoma anomalum* (Central Stoneroller), *Aplodinotus grunniens* (Freshwater Drum), *Macrhybopsis hyostoma* (Shoal Chub)
 - Mussels: *Truncilla macrodon* (Texas Fawnsfoot)

- Riparian Trees: *Fraxinus pennsylvanica* (Green Ash),
- Brazos River between Lake Granbury and Lake Whitney
 - Fish: *Camptostoma anomalum* (Central stoneroller), *Aplodinotus grunniens* (Freshwater Drum), *Morone chrysops* (White Bass)
 - Mussels: NA
 - Riparian Trees: *Acer negundo* (Boxelder)
- Brazos River between Lake Whitney and Lake Brazos Dam
 - Fish: *Aplodinotus grunniens* (Freshwater Drum), *Percina carbonaria* (Texas Logperch), *Morone chrysops* (White Bass)
 - Mussels: NA
 - Riparian Trees: *Acer negundo* (Boxelder)