



We preserve land along streams for flood control, clean water, and wildlife

8 April 2022

TO: Mr. Matthew Barrett, PE
Division Engineer
San Jacinto River Authority
Email submitted to: floodmanagementdivision@sjra.net

RE: SJRA Sand Trap Development Conceptual Design Summary

Dear Mr. Barrett,

Thank you for the opportunity to meet with you and learn more about the full scope of the San Jacinto River Authority's Sand Trap Development Conceptual Design Project. And thank you for taking the following comments into consideration as you investigate the feasibility of this concept.

Bayou Land Conservancy (BLC) preserves land along streams for flood control, clean water, and wildlife. A community supported non-profit corporation, our area of conservation focus is the Lake Houston watershed (upper San Jacinto River) which provides about 85% of the drinking water for the Houston metro area. Our work is accomplished through voluntary conservation agreements with willing landowners that provide benefits to the community at large.

The stated purpose of the study was to "assess the feasibility of implementing a pilot project to trap sediment, preferably in coordination with one or more Aggregate Production Operations (APOs), to remove sediment from the West Fork or East Fork of the San Jacinto River." Unfortunately, the purpose of the study does not address the goal that was brought forward in our meeting with you: to address the excessive mouth bar deposition, downstream of US 59, that restricts flood-level flows in the Kingwood community. **We recommend that this stated goal of a long-term solution for managing the mouth bar deposition of sediment, and related flooding, be kept at the forefront as this project moves forward.**

Among its other activities, BLC has been studying the impact of sand and gravel mining in the floodplain of the West Fork of the San Jacinto River since 1995. At the time of initial analysis less than 8% of the river's floodplain had been mined. As of the most recent analysis in 2017, more than 30% had been mined. Community needs dictate this growing industry have greater oversight by state regulators, and BLC has been an active proponent for this oversight, which was implemented through a TCEQ rule change in late 2021 that includes Best Management Practices for industry in the San Jacinto River watershed. We do not believe that in-stream mining, i.e. sediment traps, is consistent with the BMPS set out in this newly published rule.

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Our concerns with the implementation of in-stream mining (sediment trapping) are primarily about impacts on the following:

- 1) **River migration and erosion:** changes in river course, including erosion and deposition of sediment, are naturally occurring processes. Installation of hardscape or mechanical features within the flowing part of the river will have an impact on this natural process and could lead to increased erosion in the area surrounding the facility, increased sediment transport downstream, and destabilization of the stream to the detriment of the surrounding and downstream communities. The US Army Corps of Engineers promotes keeping sediment within the riverine system for these reasons.
- 2) **Water quality:** 85% of the drinking water needs of the Houston metropolitan region are met by Lake Houston, at the receiving end of the San Jacinto River. Instead of occasional turbidity increase during dredging of the mouth bar, sand trapping could create a long-term elevation in turbidity leading to increased water treatment costs for the entire region, transferring the cost to the public from private interests. Additionally, the riverbed contains chemical components that may need to be addressed in water treatment at additional public expense.
- 3) **Accountability:** the governing legislation created by HB1824 does not address the question of accountability should the private interest in the sediment trap fail to protect the public's interest or go out of business without remediating the in-stream mining facility.

Two of the recommendations from the study deserve to be prioritized, and expanded, to provide as much accurate data as possible before sand trapping facilities be considered:

- 1) Evaluate total annual sediment load transported to Lake Houston, including the area downstream of proposed sediment traps, and compare to anticipated trapped sediment loads.
- 2) Perform further geomorphic assessment to address potential downstream instabilities due to removing sediment and to determine appropriate sediment removal volumes.

Comment: Keeping in mind the stated goal of a long-term solution for managing the mouth bar deposition of sediment, we encourage SJRA to extensively study the holistic sediment story of the upper San Jacinto River watershed. Previous studies point to Spring and Cypress creeks as the primary sources of sediment relocated during Hurricane Harvey, rather than the West Fork, and we recommend that their contributions be studied as well as the areas downstream of the proposed sand traps. A science-based, peer-reviewed, methodology of assessing the sediment budget of the watershed is imperative before assuming that removing sediment from any single location on the river will have a positive impact on mouth bar deposition. In fact, the stated recommendation above of determining "appropriate sediment removal volumes" assumes that removal is appropriate before that has been proven by a

geomorphic assessment. Without a basis for understanding the sediment budget for the West Fork, including sources and sinks of sediment throughout the area, it's impossible to evaluate (or approve) this project.

Further, we recommend that SJRA consult with Texas Parks & Wildlife Department (TPWD), the Texas Commission for Environmental Quality (TCEQ) and the US Army Corps of Engineers (USACE), to clarify jurisdictional questions brought forward in definitions used in the report, including "gradient boundary" and "ordinary high water mark". These jurisdictional questions should be clarified as part of the holistic sediment study under consideration. Even though HB1824 exempted SJRA and Harris County Flood Control District from any requirement to obtain a permit, pay a fee, or purchase the material taken, in Texas the contents of a river belong to the citizens of the state, therefore we all have an interest in the results of this in-stream mining proposal.

In conclusion, BLC recommends that extensive further study be undertaken to determine if in-stream mining, i.e. sand traps, will accomplish the stated goal of providing a long-term solution for managing the mouth bar deposition, without creating further instability to the river system and negative impacts to the surrounding and downstream communities.

Thank you for your consideration,

A handwritten signature in black ink that reads "Jill Boullion". The signature is written in a cursive, flowing style.

Jill Boullion
Executive Director
JBoullion@BayouLand.org

Cc: Dr. Tina Petersen, Harris County Flood Control District