

Trinity and San Jacinto River Basins and Galveston Bay BBASC Meeting

Wednesday, October 31, 2018 at 1:00 p.m., San Jacinto River Authority Office
1577 Damsite Road, Conroe, Texas

Minutes

Members Present: John Bartos, Chair; Jace Houston, Vice-chair; Pudge Willcox; Glenn Lord; Glenda Callaway; Ken Kramer; Kathy Turner Jones; Tom Michel; Mike Turco; Denis Qualls; Veronica Oseguida (alt. for Yvonne Forrest); Carl Masterson; Lori Traweek; Wendell Null; Sherman Hampton; Paul Nelson; Darrel Anders (alt. for James Oliver); Glenn Clingenpeel (alt. for Kevin Ward); Scott Alford.

Call to Order

Chair John Bartos called the meeting to order and members introduced themselves.

Public Comment

No public comments were made at this time.

Approval of Meeting Minutes

The minutes from the June 7, 2017 meeting were unanimously approved by members.

Nominations Committee Report

The BBASC member representing Electric Generation, Breck Sacra, resigned his position on the BBASC. Mr. Sacra suggested a replacement, but the nominations committee was not able to contact the potential nominee. The BBASC voted to accept his resignation and open a vacancy for the Electric Generation position. The nominations committee will seek nominees for this position.

Texas Water Development Board (TWDB) Funding Update

Ms. Caimee Schoenbaechler, TWDB, gave an update on funding for environmental flows studies. In 2013, the 83rd legislature funded \$2 million for adaptive management studies. In 2015 and 2017, the 84th and 85th Texas Legislature appropriated \$2 million for each biennium to the TWDB's baseline budget to support environmental flow data collection and studies as described in the agency's strategic plan (*Strategy A.1.1 Environmental Impact Information* for the purpose of collecting and analyzing environmental flow information for streams, rivers, bays, and estuaries and for *Strategy A.1.2 Water Resources Investigations* for the purpose of collecting data on the occurrence, quality, and availability of water). From those funds, the TWDB allocated \$1.5 million in each biennium for adaptive management studies in five basin-bay areas. The study on defining bioindicators for freshwater inflow needs (2016-2017) has a final report that is available for distribution to the group. The study on evaluating flow standards on the Trinity river (2016-2017) is completed and the final report is on the website. The monitoring of nutrient and sediment loads (2016-2017) will not have a final technical report, but there will be a project summary.

For the 2018-2019 biennium, four studies were selected for funding that involve the Trinity-San Jacinto basins. The studies that were selected are: statewide synthesis of environmental flow studies from 2014-2017, a continuation of the monitoring of nutrient and sediment loading, a continuation of the development of a hydrodynamic model, and a continuation of the flow assessment study. Chair Bartos asked about the Request for Qualifications (RFQ) process for the statewide synthesis study. Ms. Schoenbaechler responded that the contract is in the negotiation stage and has not been finalized. The contract with United States Geological Survey (USGS) has not been executed, but TWDB is working with USGS to develop a scope of work. The other two studies are contracted and in progress. Mr. Ken Kramer asked about when the current studies must be completed. Ms. Schoenbaechler said that the studies are due by August 31, 2019, but certain types of entities can apply to extend a year past the biennium with a deadline of August 31, 2020.

Work Plan Project Reports

I. Evaluation of adopted flow standards for the Trinity River, phase 2-3

Mr. Webster Mangham, Trinity River Authority (TRA), gave an update on the ongoing study evaluating flow standards in the Trinity River. Phase 1 took place from 2014-2015, Phase 2 was from 2016-2017, and Phase 3 is currently underway with a goal of completion in 2020. The analysis is based on empirically collected data with the intention of filling data gaps. The study seeks to demonstrate what is happening at Senate Bill 3 (SB3) standard flows. The goal of the project is to provide a data set to recommend revisions to the standards in the future. Flooding has led to major changes at the four sample sites. The team collected a variety of data types, including riparian, tree core, bathymetry, and sediment data. The team also coordinated with other flow assessment efforts in other basins.

The study created a model predicting inundation and whether key habitats are being inundated at SB3 flows. At the Oakwood gage, the team also identified riparian trees plotted with SB3 flows. Overall, seedlings and saplings are being inundated by SB3 flows, but not mature trees. In the Trinity River, streamflows are largely driven by return flows above Lake Livingston and return flows from Houston below Lake Livingston. The project analyzed annual minimum flow data from 1920 to present day and found that annual minimum flows have steadily increased with population growth over time. The Trinity River became a losing system three times since 2010. In the 1970s, the Upper Trinity River Water Quality Compact agreed that generally 30% of return flows will be released downstream. This team inputted 30% return flows in three WAM scenarios. One scenario featured consumptive use at 100%, leaving 30% return flows in the stream, and evaluated whether SB3 flows would be met. The scenario with full use assumption met SB3 standards more reliably than the naturalized flow scenario. They concluded that base flows and subsistence flows in the SB3 standards are satisfied by water rights and contract water. Overall, the study found that SB3 pulses are moving sediment through the system, but riparian areas are not being sufficiently inundated by SB3 pulses. Phase 3 includes taking soil core samples and evaluating them with a jet test to measure erodibility. The team plans to take additional tree core samples. The team also deployed a sonde and took grab samples to develop a water quality model for two study reaches.

Chair Bartos asked whether portions of the upper reaches of the Trinity have very low flow conditions. Mr. Mangham responded that flows are substantially higher than the SB3 base and subsistence flow standards. The team has not been able to sample at low flows, but the model was run for these scenarios. Mr. Mangham has encountered low flows above Village Creek before the Wastewater Treatment Plant discharge location. Dr. Jim Lester asked about whether the study will look for a correlation between erosion with streamflows. Mr. Mangham replied that the goal is to identify a correlation. Mr. Kramer asked if any water rights holders have applied to change the return flow requirements in their permits. Dr. Kathy Alexander, Texas Commission on Environmental Quality (TCEQ), replied that there has been some permitting activity on these permits, but none are changing the amount of return flows. Mr. Tony Smith asked if biological sampling was done for this project. Mr. Mangham responded that the study team has been working with Texas Parks and Wildlife Department (TPWD) to use the Senate Bill 2 (SB2) data in the future. The flows have not been available for high base flow sampling to date. Mr. Kramer asked when the SB2 work is expected to be completed. Mr. Mangham did not have a definitive time frame.

II. Freshwater Bioindicators in Galveston Bay

Dr. Antonietta Quigg was not able to attend the meeting. Ms. Schoenbaechler stated that she would distribute the report and the presentation to the group. Dr. Bill Espey mentioned that the study had a voluntary oversight subcommittee that submitted suggestions to TWDB.

III. Determination of Freshwater Inflow Volume

Ms. Zulimar Lucena, USGS, gave an update on phase 2 of a study assessing the quantity and quality of inflows in the lower Trinity River into Trinity Bay. The main goal of the project is to analyze streamflow and nutrient and sediment concentration flowing into the bay. The project operates and maintains an index-velocity streamgage, collected water quality samples, and created a sediment surrogate. The team used water samples to validate the surrogate for continuous suspended sediment concentration data in the lower Trinity River. The team also measured streamflow and collected water quality samples at the Wallisville and Old River sites during high flows. The team evaluated where water travels in the wetlands and how water quality changes depending on location. Data suggests that longer residence times in Old River during baseflow may promote biogeochemical transformation of dissolved nitrate. Suspended sediment concentrations are lower at Old River. The team also measured streamflow and water quality from Lake Livingston to the lower portions of the watershed. Additionally, the team is changing where data is located on the USGS website to make data easier to find.

For the next stage of the project, possible tasks include: collecting nitrogen oxygen isotopes to identify sources of nitrogen, assessing feasibility of surrogate method in Old River, assessing the upper and lower ends of Old River to understand settling of sediment, evaluating groundwater contributions, documenting streamflow patterns through watershed, and deploying GPS drifters to understand residence time in the lower reaches of the watershed.

Dr. Jim Lester asked whether the sediment surrogate works equally well at all flow rates. Ms. Lucena responded that it works at the flow rates that the surrogate was established for and can be extended up or down 30%. The surrogate works up to 20,000 cfs, but the team also can use acoustic surrogate or turbidity data. Mr. Pudge Willcox asked whether USGS has a gage measuring water going west into Old River. Zulimar responded that there is not a gage on Old River, but USGS has taken discrete measurement at the site.

III. Hydrodynamic model development for the Trinity River Delta

Mr. Zhi Li, University of Texas at Austin (UT), gave an update on a project led by Dr. Ben Hodges. The motivation for the project was to assess the mismatch of flows between two Trinity River gages through hydrodynamic modeling. Water is lost between USGS gage at Romayor and USGS gage at Wallisville. The first task of Phase I was to analyze lidar data to create raw topography, analyze errors, and estimate bathymetry. Lidar data for wet regions are not reliable. Lidar data had to be validated with field data, including land elevation and water depth. The team did a field survey in 2016 and found that the Trinity River is 3 meters deeper than lidar results. The team will need another source for water data. The team has finalized a hydrodynamic model and is now in the process of phase II of the project. They tested model sensitivity to various inputs, such as tide, wind, and river stage. The model will need additional field data to be fully calibrated. The model uses salinity as a tracer and can be used to identify where model is sensitive to inputs. For example, the lower delta is more sensitive to tides. Now, the team is working on implementing a subgrid algorithm. The team plans to evaluate the combination of surface and subsurface flow. The project is on schedule and the model will be ready to use once field data is finalized. Dr. Lester asked whether the flooding in 2015 and 2016 affected bathymetry. Dr. Hodges replied that new lidar in the model would be required to reflect recent conditions. Mr. Mangham asked if the salt water barrier prevents salinity from spreading farther into delta. Mr. Li responded that the example in the presentation did not reflect actual conditions and the salt water barrier would lessen salinity spreading. Ms. Glenda Callaway asked whether more field data is required to complete the model. Dr. Hodges said that project was funded in pieces and the group was able to validate bathymetry, but not able to test the sensitivity of the model.

Legislative Update

Chair Bartos stated that there have been requests from members to attend meetings via conference call. Chair Bartos asked whether members would be able to count towards quorum or vote by phone. The group requested information on whether the BBASC is subject to the Open Meetings Act.

Mr. Ken Kramer provided an update on the upcoming legislative agenda. The legislature meets in January 2019 with a new Speaker of the House. There may be potential changes in committee chairs for the House Natural Resources Committee. Flooding will likely be the main water concern during this session and there may further discussions on groundwater. Additional funding for adaptive management or environmental flows may be made available to TWDB. TWDB requested funds for additional environmental flows funding in their legislative appropriations request.

Status of Work Plan Approval by the Environmental Flows Advisory Group (EFAG)

Chair Bartos stated the work plan has not been approved by the EFAG. Mr. Kramer said that the EFAG has not met in 2 years, but vacancies are being filled on the Senate side. The Speaker has not filled two vacancies on the House side for two years. Those vacancies may be filled when there is a new Speaker of the House.

SB3 Process Discussion

Chair Bartos stated that the BBASC has been in existence for over ten years. Mr. Kramer gave an overview of the history of the SB3 process. SB3 legislation created a process to develop environmental flow standards for several bay basin areas in the state. Stakeholder committees (BBASC) and expert science teams (BBEST) were created for each area. The BBEST developed recommendations based on a sound ecological environment and the BBASC developed recommendations based on various stakeholder concerns. Those recommendations were provided to the TCEQ and used to develop and adopt rules for the basin and bay areas. The Trinity-San Jacinto (TSJ) BBASC developed a work plan that set a 5-year timeline for a potential revision of the standards. The TSJ standards were adopted in 2011 and possible revisions could be made in 2021. The process for developing recommendations would need to begin prior to 2021.

Dr. Alexander, TCEQ, stated that under the adopted rules, the rules cannot be considered for revision any sooner than ten years after the effective date of the last rulemaking. The next rulemaking would be spring 2021, at the earliest. The rulemaking process generally takes a year, which would mean the BBASC provides recommendations to TCEQ in the spring of 2020 to meet the earliest revision date. TCEQ would wait for stakeholder recommendation to move forward and would also consider BBEST recommendations if they were available. Ms. Callaway asked about how the rule is written regarding the ten-year time frame for revision. Mr. Kramer answered ten years is the default time frame unless a different time frame is in an approved work plan. Ms. Callaway stated that the BBASC should identify what information is needed to decide whether standards should be revised. Mr. Kramer added that the group should assess the studies that are being done and whether the data suggests a revision. Mr. Kramer would prefer that there is consensus if additional recommendations were developed. Mr. Kramer asked the group to consider how much time recommendation development would require and whether funding could be obtained for BBEST work. He suggested the group meet in early February 2019 because there will be a better sense of legislative leadership and time frames for studies. Chair Bartos asked whether a BBEST member or subcommittee would like to assess whether data is sufficiently available to develop recommendations. Dr. Espey mentioned the statewide synthesis may be doing some of this work. Ms. Schoenbaechler stated that the statewide synthesis study will assess studies that have been done and advise whether data is sufficient to evaluate the standards. The project has an extended scope of work for all five basin and bay areas and 33 studies in total. The goal of the project is to assess the state of knowledge in environmental flows science and evaluate data gaps. The project would involve stakeholder interaction with the BBASC and BBEST and would evaluate work plans. This work may help the

groups decide which areas needs to be addressed in future studies. BBEST members will provide guidance on moving forward at the next meeting.

Agency Update

Dr. Mark Wentzel, TWDB, gave an update on SB2. Two SB2 reports have been completed for the lower San Antonio and Brazos basins. The Trinity SB2 work includes four intensive study sites between the Rosser gage and Lake Livingston and the team is coordinating with TRA. The SB2 biological work includes mussels, algae, and riparian data. Dr. Lester asked whether the Trinity data collection started before or after flooding. Dr. Wentzel replied that a lot of data was collected in 2015. He hopes that habitat lost was gained in other locations. Ms. Jade Rutledge, TCEQ, introduced Mr. Jason Godeaux as the new Resource Protection Team leader.

Public Comments

No public comments were made at this time.

Next Meeting

Chair Bartos stated that the next meeting will be February 6, 2019.

Adjourn