

**Texas Instream Flow Program
Lower and Middle Brazos River Study Design Workgroup
Meeting Notes
October 20, 2008**

**Decisions & Discussions
By Workgroup as a Whole**

Consensus Objectives

Participants agreed to the following as objectives to be used for the study design of the Lower and Middle Brazos River, with the understanding that there could be some additional work on the objectives at the next meeting.

Related to All Disciplines

- Define/determine current, historical and natural conditions in each flow regime

Biology

- Identify and manage flow regimes for the benefit of the native ecosystem (i.e. habitat, flora, and fauna)
- Maintain a diverse aquatic community and prevent the extinction of native species
- Preserve/protect and restore/improve key habitat features for native species in river and riparian zones

Geomorphology

- Identify interrelationships among flows, bank stability, channel maintenance, and alluvial and associated aquifers

Hydrology (tentative objective)

- Identify all source of instream flow
- Identify methods for managing flows

Note: Group wants to review this objective. In preparation, Mark Wentzel to summarize sticky notes on hydrology by flow component and function and e-mail to group)

Water Quality

- Manage flow-related water quality to sustain ecological, economic, and social processes and productive capacity.

Connectivity

- Maintain riparian zone integrity and improve connectivity between river and riparian zone
- Maintain flows that support lateral connectivity (i.e. oxbows and backwaters)
- Maintain flows that support longitudinal connectivity:
 - Biology
 - Physical barriers
 - Etc.

Other

- Evaluate relationships between flow regimes and economic and social uses, including recreational use
- Consider how water planning studies and instream flow studies will impact and interact
- Identify issues with instream flows that impact bays and estuaries

Proposed Objectives Generated By Smaller Groups of Participants

The workgroup, as a whole, developed the consensus objectives noted above after considering proposed objectives generated by participants in small groups. The proposed objectives of each small group are combined below, and are grouped in the four disciplines that will be part of the study, plus the interconnectivity of the disciplines. A general “other” category was included for proposed objectives that did not fit within the categories reflecting the four disciplines or connectivity.

Small group participants responded to the following question, to develop proposed objectives:

What specific conditions are needed to accomplish our goal for the Middle and Lower Brazos River?

Biology

- Identify and manage flow regimes for the benefit of the native ecosystem (habitat, flora and fauna)
- Define/determine current and historical/natural conditions in each flow regime
- Preserve or improve habitat for native species of the riverine system
- Protect and restore key habitat features in the river and riparian zone.
- Maintain diverse community of aquatic organisms- fish, mussels, plants.
- Prevent extinction of native species from the riverine system.

Geomorphology

- Identify flows relating to bank stability and channel maintenance to establish a properly functioning condition.
- Maintain current levels of channel stability.
- Stabilize riverbanks to prevent further erosion.

Hydrology/ Hydraulics

- Flexibly manage flows of the river for the benefit of the environment, economy and society
- Define/determine current and historical/natural conditions in each flow regime
- A river which can sufficiently flood as much corridor as possible at sufficient intervals.
- A river that can pass high flows while minimizing flooding.
- Maintain adequate minimum flows to ensure biotic integrity.
- Maintain base flows that support/maintain healthy riparian vegetation.
- Reinstate the base flow as a declining flow rather than a pulsating discharge from human releases (ex. Hydropower).
- Use flood flows to sustain base and subsistence flows during droughts.
- Coordinate flood storage release to maintain water habitat and over bank connectivity.
- Maintain periodic high flows that remove buildup of sediments and debris similar to the natural river.
- Maintain appropriate flow regime (flow patterns and cycles) considering a current condition evolved from historical patterns.

Water Quality

- Maintain or improve water quality to sustain optimal biotic integrity
- Define/determine current and historical/natural conditions in each flow regime
- Manage flow-related water quality to sustain ecological processes and productive capacity.
- Reinstate/ maintain ecologically significant elements of the flow regime.
- Meet agricultural/economical/ industrial requirements for water supply needs.
- Determine water quality issues that are affected by flow.
- Improve water quality during high flow events (suspended solids).
- Provide safe/healthy river for recreation (bacteria).

Connectivity

- Maintain flows that support connectivity (up and down the river):
 - Biology
 - Physical barriers
- Define/determine current and historical/natural conditions in each flow regime
- Maintain base flows that cover rock outcrops and allow fish movement.
- Understand longitudinal connectivity of species in the segment above Waco, e.g. as the source for native invaders downstream. Need to consider this source and its potential impact on downstream communities.

Other

- Provide adequate access for recreational use.
- Provide public access to river sections.
- Identify current gap in water needs vs. future water needs.
- Identify issues with flow that have impact on bays and estuaries (both positive and negative).
- Evaluate the relationship between flow regime components and recreational uses of the river.
- A river that is reaching full recreational potential: fishing, birding, canoeing and kayaking, camping, hiking, etc.