

**Texas Instream Flow Program  
Lower Sabine River Study Design Workgroup  
Meeting Notes  
November 18, 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 Sabine River.

Biology

- Maintain and/or improve sustainable native biological communities/habitats
- Control invasive and non-native species that threaten the function of the aquatic and terrestrial ecosystems

Geomorphology

- Protect/enhance current fluvial geomorphologic processes that create natural habitat

Hydrology

- Manage flow regimes which accommodate human needs while sustaining river and floodplain ecosystems

Water Quality

- Maintain/improve the water quality for the benefit of biological communities and human needs

Connectivity

- Maintain/improve hydrologic connectivity needed to sustain floodplain and wetlands area (i.e. bottomland hardwoods, swamps, emergent marsh, oxbows, yazoos)
- Ensure that studies are not conducted in a vacuum that ignores other needs such as bays and estuaries

Other

- Consider/ study impacts of floodplain development in riparian zone

**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 Lower Sabine River?

### Biology

- Maintain and/or improve sustainable populations of native organisms  
*The following ideas were gathered to generate this objective:*
  - *Maintain productivity and diversity of fish and wildlife populations*
  - *Improve hydraulic releases seasonally to improve fish spawns on the lower river*
  - *Study tributary contribution to*
    - *Freshwater inflow*
    - *Refuge habitat for species*
  - *For indicators: determine what are key species*
- Prevent and respond to invasive and non-native and native species  
*The following ideas were gathered to generate this objective:*
  - *Identify, control, or eradicate invasive aquatic species from the river*
  - *Prevent and respond to control non-native and invasive species that threaten the function of the aquatic and terrestrial ecosystems*
- Conserve native fish and wildlife resources and habitats on which they depend  
*The following ideas were gathered to generate this objective:*
  - *Define biologic integrity for the geomorphic reaches of the river*
  - *Maintain or improve species diversity within basin, both aquatic and terrestrial*
  - *Maintain biological diversity*
  - *No loss of rare species within basin*
  - *Protect threatened and endangered species in the river system*
  - *Conserve native fish and wildlife resources and the habitats upon which they depend*
  - *Protect important habitat features*
  - *Protect against invasive species*

### Geomorphology

- Identify and maintain physical processes that create natural habitat  
*The following ideas were gathered to generate this objective:*
  - *Maintain current channel equilibrium*
  - *Maintain flows necessary to ensure channel forming processes*
  - *Maintain key habitat features in river and riparian zone i.e. sandbars, wetlands*
  - *Allow for dynamic geomorphic development, floodplain inundation*
  - *Determine natural sediment transport processes are able to continue*
- Protect or enhance current geomorphologic processes in the river and overbank  
*The following ideas were gathered to generate this objective:*

- *Determine effects of releases on channel geomorphology (Possible indicator)*
- *Maintain current conditions of geomorphology*
- *Maintain channel bathymetry and bank geomorphology that supports ecosystem*

### Hydrology

- Adaptable flow regimes to sustain river and floodplain ecosystem  
*The following ideas were gathered to generate this objective:*
  - *Define subsistence flows that will ensure the integrity of the Sabine River estuary*
  - *Provide sufficient timing and frequency of overbanking flows to conserve riparian areas*
  - *Adaptable flow regimes to provide sustainable ecosystems*
  - *Enough high flows for life in riparian areas without citizens in downstream complaining*
  - *Restore/maintain fresh water flow and hydraulic function to adjacent coastal wetlands*
  - *Determine current hydraulic regime in relation to natural riverine conditions*
- Manage flows for a sustainable ecosystem as well as human consumption  
*The following ideas were gathered to generate this objective:*
  - *Determine minimum adequate flows for ecosystem as well as industrial/municipal needs (Possible indicator)*
  - *Determine flows (timing, and duration) to support a robust fish population*
  - *Maintain sufficient upstream water volume*
  - *Determine effects of pulse flows on marshes*

### Water Quality

- Maintain current water quality and, where needed, improve water quality
- Maintain water quality for the benefit of fish and wildlife resources, water needs, and recreation
- High quality water from tributaries to Sabine
- Nutrient levels that reduce vegetation blooms
- Point source discharge of sufficient quality to sustain life
- Maintain turbidity low enough for photosynthesis
- Meet or exceed water quality standards and integrate Texas/Louisiana standards
- Defer saltwater intrusion
- Limit excessive nutrients from agricultural interest

### Connectivity

- Define natural buffers along river to ensure ecological function of system (*possible indicator*)
- Sustain adjacent/connected wetlands (i.e. bottomland hardwoods, swamps, emergent marsh)
- Improve connectivity between the river and floodplain/riparian zone

- Maintain or establish sufficient natural buffers along the river to ensure ecological function of system

Other

- Prohibit/regulate floodplain land/subdivision development
- Integrate Texas/Louisiana water quality standards