Texas Instream Flow Program Studies of Potential Interest to Senate Bill 3 Basin and Bay Expert Science Teams

1. Assessment of Hydrologic Alteration Software, October 2006
TWDB Contract #2005483029, University of Texas
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/2005483029_HydrologicSoftware.pdf
Assessed the applicability of the Nature Conservancy's Indicators of Hydrologic Alteration software for use in the Texas Instream Flow Program and compared to similar tools, such as the US Geological Survey's Hydrologic Assessment Tool.

2. Citations Database and GIS Framework, Lower Sabine Priority Instream Flow Program, May 2005
TWDB Contract #2004483015, Sabine River Authority of Texas
Available on DVD only.
A compilation of a list of existing historical information and reports related to the hydrology, biology, and physical habitat of the Lower Sabine River. Items on the list are tagged by key word as well and geographic location.

3. Baseline Fish Collections, Lower Sabine River Priority Instream Flow Study, February 2007
TWDB Contract #0604830567, Sabine River Authority of Texas
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/2006483567_SabineFish.pdf
Baseline biological (fish) data collected from eight sites (six main stem and two tributary) in the Lower Sabine Basin.

4. Geomorphic Processes, Controls, and Transition Zones in the Lower Sabine River, June 2007
TWDB Contract #0600010595, Texas Christian University
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/0600010595_Sabine.pdf
Surveyed geomorphic processes along the main stem of the Sabine River and completed a geomorphic classification of this portion of the river (outlet of Toledo Bend reservoir to Sabine Lake).

5. Geomorphic Equilibrium in Southeast Texas Rivers, November 2007
TWDB Contract #0605830636, Copperhead Road Geosciences
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/0605830636_geomorphicEquilibrium.pdf
Investigated the extent to which standard geomorphologic concepts of equilibrium can be applied to Southeast Texas rivers, including the Sabine, Neches and Trinity rivers. Identified major factors hypothesized to control geomorphic differences between these rivers.

6. Fish Assemblage Changes in Three Western Gulf Slope Drainages, May 2008
TWDB Contract #2005483033, Texas State University
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/2005483033_fish.pdf
Analyzed existing biological data for the Lower Sabine River sub-basin (as well as two other sub-basins in the state) and constructed an annotated species list. Also evaluated changes in the fish assemblage over time.

7. Geomorphic Units of the Lower Sabine River, August 2008
TWDB Contract #0704830782, Copperhead Road Geosciences
http://www.twdb.state.tx.us/RWPG/rpgm_rpts/0704830782SabineGeomorphic.pdf
Provide an assessment of the current state of geomorphic features, possible future changes, and guidelines for monitoring for this portion of the Sabine River.

8. Freshwater Mussel Habitat and Distribution Survey in Priority Basins, December 2008
TWDB Contract #0604830631, Stephen F. Austin University
Draft report in hand.
Field mapping of freshwater mussels and population distributions within the Lower Sabine River and other priority sub-basins.

9. Effects of Substrate and Hydrodynamic Conditions on the Suitability of Mussel Beds, December 2008
TWDB Contract #0704830778, University of North Texas
Identification of habitat preferences of freshwater mussels in the Lower Sabine and Middle and Lower Brazos rivers.

10. Analysis of Riparian Area Survey Methodology on the Sabine River, April 2009
TWDB Contract #0704830783, Stephen F. Austin University
Using the Lower Sabine River sub-basin as a test case, will develop procedures to incorporate flow requirements of riparian areas into instream flow studies in Texas

11. Analysis of Historical Geomorphic Data Provided by Streamgaging Records, August 2009
TWDB Contract #0704830780, US Geological Survey
This study will extract and analyze geomorphic data from historic USGS streamgaging data in Texas, including sites on the Lower Sabine River. This data will be used to assess the current condition of rivers and infer trends regarding potential future conditions.

12. Analysis of Geomorphic Data Provided by Historic Hydraulic Model Cross-sections, December 2009
TWDB under contract to US Army Corps of Engineers
This study will extract and analyze geomorphic data from historic US Army Corps of Engineers hydraulic models for rivers in Texas, including sites on the Lower Sabine River. Resurveys of select sites will be completed in order to determine rates of geomorphic change.

13. Developing a Coarse Woody Debris Budget in Texas Rivers, January 2010
TWDB Contract #0604830632, Stephen F. Austin University
Developing a coarse woody debris budget in the Lower Sabine River sub-basin, as well as a methodology for conducting similar studies in other priority sub-basins.

14. Historical Zoogeography and Abundance of Fishes in Two Texas River Basins with an Annotated Species List, December 2008
TWDB Contract #064830630, Texas State University
Draft report in hand.

Analyzed existing biological data for two river sub-basins, including the Middle and Lower Trinity River sub-basin (downstream of Dallas/Ft. Worth metroplex to Galveston Bay) and constructed an annotated species list. Available data was not sufficient to evaluate changes in the fish assemblage over time.

15. Geomorphic Processes, Controls, and Transition Zones in the Middle and Lower Trinity River, December 2008
TWDB Contract #0704830781, Copperhead Road Geosciences
Draft report in hand.
Surveyed geomorphic processes along the main stem of the Trinity River and completed a geomorphic classification of this portion of the river (downstream of Dallas/Ft. Worth metroplex to Galveston Bay).

Table 1. Texas Instream Flow Program Studies of Potential Interest to Senate Bill 3 Basin and Bay Expert Science Teams

No.	Interest	Status	Title	Date
1	General	Completed	Assessment of Hydrologic Alteration Software	Oct. 2006
2	Sabine / Neches	Completed	Citations Database and GIS Framework	May 2005
3	/ Sabine Lake		Baseline Fish Collections	Feb. 2007
4			Geo. Processes, Controls, & Transition Zones in the Lower Sabine R.	June 2007
5			Geomorphic Equilibrium in Southeast Texas Rivers	Nov. 2007
6			Fish Assemblage Changes in Three Western Gulf Slope Drainages	May 2008
7			Geomorphic Units of the Lower Sabine River	Aug. 2008
8		Ongoing	Freshwater Mussel Habitat and Distribution Survey	Dec. 2008*
9			Effects of Substrate and Hydrodynamic Conditions on Mussels	Dec. 2008*
10			Analysis of Riparian Area Survey Methodology	Apr. 2009*
11			Analysis of Geomorphic Data Provided by Streamgaging Records	Aug. 2009*
12			Analysis of Geo. Data Provided by Hydraulic Model X-sections	Dec. 2009*
13			Developing a Coarse Woody Debris Budget in Texas Rivers	Jan. 2010*
5	Trinity /	Completed	Geomorphic Equilibrium in Southeast Texas Rivers	Nov. 2007
14	San Jacinto /	On-going	Historic Zoogeography and Abundance of Fishes in Two Texas Rivers	Dec. 2008*
15	Galveston		Geo. Pros., Controls, & Trans. Zones in the Mid. & Lower Trinity R.	Dec. 2008*

* Expected completion date.