

**Science Review Panel Comments On:  
2006 Activities Report Colorado River Flow Relationships to  
Aquatic Habitat and State Threatened  
Species: Blue Sucker**

**Colorado River - Aquatic Habitat and Water Quality  
Committee Chairs: Tom Arsuffi; Larry Hauck  
Members: Khaled Bali, Thom Hardy, Doug Slack, Greg Stunz**

The primary objective of the 2006 Activity Report on the Colorado River Flow Relationships to Aquatic Habitat and a State Threatened Species is to summarize tasks conducted during 2006 and highlight any potential fatal flaws identified. This report builds upon tasks performed in previous years and focuses on 2006 activities that include:

Continued Biological Data Collection, Summarization, and Analysis

- 2006 fish collection
- Habitat guild development
- Habitat Suitability Curve (HSC) development

Continued Blue Sucker Life History Activities

- Tracking
- Spawning surveys
- Larval/Juvenile sampling
- Adult habitat information

Hydraulic and Habitat Modeling

Continued Intensive Site Physical Data Collection

Continued Sediment Transport Data Collection and Analysis

The report was *well* written and contained useful tables and figures on which to evaluate data relative to sediment and hydraulic and habitat modeling, biological data collection (fish guild and validation) and blue sucker life history and migration studies to determine the degree that the flow-habitat and specific biological components can be maintained under the resulting flow regime for the LSWP. The project team did a thorough effort collecting, processing and evaluating data from the 2006 tasks.

This review largely deals with specific comments, questions and clarification for parts of the report.

Specific Comments

1. *Page 5. An attempt was made to sample fish from relatively small areas of*

*approximately 3 meters x 3 meters with consistent depths, velocities, and substrates; however, exact size and dimensions were sometimes changed to facilitate sampling larger areas of relatively uniform habitat when fish densities were low.*

*Qualitative **mesohabitat** descriptors were used for selecting **sites** in the field including runs, riffles, pools, and backwaters with relative depth and velocity categories within each (e.g., a slow, deep run or fast, shallow riffle). In addition, an attempt was made to sample a range of substrate types within each category whenever there was more than one substrate class associated with a particular **mesohabitat type**. These descriptors were not designed to be functional categories for separating **sites**, but to guide selection of **sites** in the field and ensure that a wide range of **habitat** conditions were sampled.*

*Page 6. Over 13,000 fish representing 15 families and 50 species were collected from various **habitats** of the lower Colorado River from Austin to Wharton (Table 2) during discharge conditions ranging from 188 to 2,030 cfs.*

*Figure 1. Graphical representation of mean depth and velocity at 153 **habitat guild sample sites** on the lower Colorado River, Texas.*

Here, we again are running into terminology and meaning issues and SRP would like this to be as clear as possible for all readers. One suggestion is that the project team include a table with this and subsequent reports where sampling and various spatial components are referred showing the hierarchical scale (smallest spatial scale used to largest) used to identify the various spatial units.

The spatial components of the study and data and sample collection are confusing and need clarification. For example, is a reach = mesohabitat or is site = mesohabitat? Is a site a subset of a reach or is a reach a subset of a mesohabitat. Part of the confusion issues with the term “mesohabitat”. Strictly translated it represents the spatial unit between a microhabitat and macrohabitat. In a previous review, SRP noted “sites” refers to a 3-m x 3-m square where elsewhere in the report “sites” refers to a much larger scale. Consistency would be helpful and improve clarity.

#### Specific Comments continued

4. Page 14, 4.1 Tracking. That differences occurred in movement patterns of blue suckers in low flow (2006, no large upstream migrations) versus in higher flows (2005, large upstream migrations) is an interesting finding and have implications to LSWP as the project team indicated in the fatal flaws evaluation.