

**Pecos River Basin Assessment Program  
FY04 CWA Section 319(h)  
TSSWCB Project No. 04-11**

Quarter no. 7 From 04/01/06 Through 06/30/06

**I. Abstract**

The USGS was contracted to perform an aquatic vegetation survey on the lower portion of the Pecos River. This study was conducted from Independence Creek south to the confluence with the Rio Grande. The QAPP was amended to allow for this study and approved by the EPA during this quarter. Model development and model application to Red Bluff Reservoir were completed; a report has been drafted and is now in review. Stream flow and routing simulations were also complete using the ROTO model. Four stakeholder meetings were held this quarter at Mentone, Imperial, Independence Creek Nature Preserve, and Iraan. General concerns were water quality, salt cedar control, and private landowner's rights. Project information was presented at the Crockett SWCD meeting in Ozona on April 18, 2006.

**II. Overall Progress and Results by Task**

**TASK 1: Basin Assessment**

*Subtask 1.1: Aerial Photography, Delineation, and Characterization*

The following actions have been completed during this reporting period:

- a. Work has continued toward the production of multi-layered maps of the Pecos River basin.

**95% Complete**

*Subtask 1.2: Historical Water Quality, Irrigation Delivery, Rainfall, Red Bluff Lake Levels, and Groundwater Monitoring*

The following actions have been completed during this reporting period:

- a. Work continued on compiling data for the database during this quarter. Information from State Water Planning Groups, New Mexico Saltcedar project, the Pecos River fisheries reports, EPA Watershed Academy and others was reviewed, analyzed, and incorporated into the database.

**70% Complete**

*Subtask 1.3: Aquatic Life and Habitat Inventory*

The following actions have been completed during this reporting period:

- a. USGS performed an aquatic survey on the lower portion of the Pecos River in June. The survey included numerous sampling sites beginning above Independence Creek and ending at the river's confluence with the Rio Grande.

**50% Complete**

*Subtask 1.4: Identify and Characterize the Volume and Quality of Tributaries and Springs*

The following actions have been completed during this reporting period:

- a. There has been no activity this quarter, due to absence of measurable water quantities in tributaries identified as part of this study.

**25% Complete**

*Subtask 1.5: Identify and Characterize Saline Water Sources Entering the Pecos River*

The following actions have been completed during this reporting period:

- a. The Reconnaissance report was revised and forwarded to the Texas State Soil and Water Conservation Board.

**100% Complete**

*Subtask 1.6: Simulate Flow and Salinity of the Pecos River for Evaluating River Management Options*

The following actions have been completed during this reporting period:

- a. The report on impact of tributaries on salinity of Amistad Reservoir was revised, and was submitted to the State Board.
- b. Reservoir model development and model application to Red Bluff were completed; a draft was forwarded for review.
- c. Streamflow and salt routing simulation using the ROTO were completed.

**80% Complete**

*Subtask 1.7: Economic Modeling of the Pecos River Basin and Assessment of Saltcedar Control Activities*

The following actions have been completed during this reporting period:

- a. The principle investigator for this subtask has been called up for active duty in the Army National Guard, and will not return until 2007. As such, work on this subtask will be postponed until his return.

**8% Complete**

**Task 2: Educational Programming**

*Subtask 2.1: Publish Written Informational Materials to Educate Private Landowners, Stakeholders, and Policy Makers about the Pecos River basin and the effects of saltcedar*

The following actions have been completed during this reporting period:

- a. The first draft of the historical fact sheet titled "A Brief History of Water Resources Challenges Facing the Pecos Basin of Texas" was revised, and is under review by outside parties.

**75% Complete**

*Subtask 2.2: Educational Meetings of Interested Parties for Input and Organizational Support*

The following actions have been completed during this reporting period:

- a. Four stakeholder meetings were held at Mentone, Imperial, Independence Creek Nature Preserve, and Iraan. Attendances were 7, 18, 17, and 31 respectively. Overall, the most voted for issue of concern related to the Pecos River watershed was Brush Control, namely saltcedar. Private property rights ranked second, and water quality (salinity) ranked third in vote totals. Highest vote totals broken down by meeting site were as follows: Mentone - Water Quality, Imperial - Brush Control, Independence Creek & Iraan - Private Property Rights.
- b. The project was presented at the April 18, 2006 meeting of the Crockett SWCD in Ozona, TX. An overview of the project was given, brochures were distributed, and questions were answered.

**50% Complete**

*Subtask 2.3: Develop a Website for Dissemination of Information*

The following actions have been completed during this reporting period:

- a. Ongoing activities and updates were posted to the project website.

**85% Complete**

### **Task 3: Establish a Monitoring Program**

#### *Subtask 3.1: Develop a QAPP for Sampling Protocol*

The following actions have been completed during this reporting period:

- a. An amendment to include the aquatic survey work done by USGS under subtask 1.3 was drafted. The amendments were submitted to and approved by the EPA.

**100% Complete**

#### *Subtask 3.2: Water Quality Monitoring, including Total Dissolved Solids (TDS), Total Suspended Solids, Potential Hydrogen (pH), Dissolved Oxygen (DO), and Electrical Conductivity (EC)*

The following actions have been completed during this reporting period:

- a. Routine water quality samples were collected as part of the Texas Clean Rivers Program.

**50% Complete**

#### *Subtask 3.3: Quantity and Fate of Water Salvage as a Result of Saltcedar Control*

The following actions have been completed during this reporting period:

- a. During this quarter, an evaluation and interpretation of land surface and groundwater surface profile data and water quality data was conducted.
- b. An interim progress report for this subtask was prepared.
- c. The literature review was updated.
- d. A paper discussing this subtask was presented at the International Conference on Hydrological Sciences for Managing Water Resources in the Asian Developing World was presented June 8-10 in China.

**60% Complete**

### **Task 4: Watershed Protection Plan**

#### *Subtask 4.1: Develop Annual Reports and a Final Report Summarizing Basin Assessment, Educational Programming, and Monitoring*

The following actions have been completed during this reporting period:

- a. No activity this quarter.

**25% Complete**

*Subtask 4.2: Produce the Final Watershed Protection Plan for Pecos River Segments 2312, 2311, and 2310*

The following actions have been completed during this reporting period:

- a. Writing of the first draft of the Watershed Protection Plan continued.

**5% Complete**

**III. Related Issues/Current Problems and Favorable or Unusual Developments**

- A paper regarding the quantity and fate of water salvage as a result of Saltcedar control was presented at the International Conference on Hydrological Sciences for Managing Water Resources in the Asian Developing World.
- Lucas Gregory was hired as a project manager at the Texas Water Resources Institute and will be taking over the project from Kevin Wagner.

**IV. Projected Work for Next Quarter**

The following will be accomplished during the coming quarter:

***Subtask 1.1*** – Work will continue towards the completion of multi-layered Pecos River basin maps.

***Subtask 1.2*** – Additional research, data links, and information sources will be provided to the team. Data gathering will be continued and stakeholder meetings within the basin will be attended in an attempt to complete groundwater data collection and dissemination.

***Subtask 1.3*** – IBWC will work with TCEQ to perform the aquatic survey on the upper reach of the Pecos River.

***Subtask 1.4*** – Selected tributaries will be sampled if measurable water quantities exist.

***Subtask 1.5*** – No activities planned.

***Subtask 1.6*** – Complete the application of the streamflow and salt routing model of the Pecos River between Red Bluff and Girvin, and begin validation using the USGS data. Begin the formulation of riparian zone simulation.

***Subtask 1.7*** – No activities planned.

***Subtask 2.1*** – Review and finalize the historical fact sheet.

***Subtask 2.2*** – No activities planned.

***Subtask 2.3*** – Post updates and documents to the project website.

***Subtask 3.1*** – No activities planned.

***Subtask 3.2*** – Routine water quality samples will be collected as part of monitoring activities carried out through the Texas Clean Rivers Program.

***Subtask 3.3*** – Permeability tests for surface soils adjacent to monitoring wells near the river will be conducted; slug tests of monitoring wells will be conducted

to determine subsurface hydraulic conductivity; and river water quality monitoring to identify possible transition zones for more detailed profiles will be carried out.

***Subtask 4.1*** – Begin drafting the Annual Report for year 2 of the project.

***Subtask 4.2*** – Continuation of writing the first draft of the Watershed Protection Plan.