

**Pecos River Basin Assessment Program  
FY07 CWA Section 319(h)  
TSSWCB Project No. 07-06**

Quarter no. 2 From 1/01/08 Through 3/31/08

**I. Abstract**

Work conducted during this quarter has focused on the completion of the QAPP. This was finished and sent to TSSWCB for their review and approval. We anticipate that the QAPP will receive approval from TSSWCB and EPA during the next quarter. Contact has been made with one landowner in the watershed and he has agreed to allow project personnel to conduct wildlife surveys on his property. We have also been working with the Brazos County SWCD board to identify other landowners in the watershed.

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

**TASK 1: Project Coordination and Administration**

*Subtask 1.1: TWRI will prepare electronic quarterly reports for submission to the TSSWCB. All progress reports will be provided to all Project Participants.*

The following actions have been completed during this reporting period:

- a. The year 1, quarter 2 report was completed and sent to the TSSWCB on April 15, 2008.

**16% Complete**

*Subtask 1.2: TWRI will coordinate quarterly meetings (in person or TTVN) as appropriate with project participants to discuss project activities, project schedule, lines of responsibility, communication needs, and other requirements.*

The following actions have been completed during this reporting period:

- a. Several meetings have been held during the last quarter to discuss project activities and progress being made.

**15% Complete**

*Subtask 1.3: TWRI will attend meetings with the TSSWCB project manager and other meetings, as needed, to review project status, deliverables, etc.*

The following actions have been completed during this reporting period:

- a. A meeting was held February 6<sup>th</sup> to discuss needed materials for completion of the QAPP. The TSSWCB project manager and project personnel were all present at the meeting.

**10% Complete**

*Subtask 1.4: TWRI will submit appropriate Reimbursement Forms.*

The following actions have been completed during this reporting period:

- a. As of March 31, 2008, a total of \$6,370 or 2% of total project funding has been expended.

**2% Complete**

*Subtask 1.5: TWRI will develop (Months 1-3), host and maintain (Months 3-36) an internet website for the dissemination of information.*

The following actions have been completed during this reporting period:

- a. The project website has been completed and is now available online. The web address for this site is: <http://bft.tamu.edu>.
- b. The project will be updated at least quarterly throughout the course of this project.

**90% Complete**

*Subtask 1.6: TWRI and Texas AgriLife Extension will work together to develop the Final report.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 1.7: TWRI and Extension will work together to develop publications, brochures and reports that will be disseminated for educational purposes.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete****Task 2: Development of Quality Assurance Project Plan**

*Subtask 2.1: TWRI will develop a QAPP that will detail project goals and objectives relating to water quality monitoring activities; identify the data needed to fulfill those objectives; list field and laboratory methods; describe procedures and schedules to be followed; and specify a data management structure and the quality assurance protocols.*

The following actions have been completed during this reporting period:

- a. The QAPP has been developed and has been sent to TSSWCB for their comment, review, and approval.

**75% Complete**

*Subtask 2.2: Provide annual revisions to the QAPP and amendments, as necessary, to the TSSWCB and EPA.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

**Task 3: Conducting sanitary surveys to identify potential *E. coli* contributing sources in the impaired watershed**

*Subtask 3.1: Choose a suitable watershed from the provided list of bacteria impaired stream segments*

The following actions have been completed during this reporting period:

- a. This subtask is completed. Cedar Creek, Segment 1209G, in the Brazos River basin was selected for this study. This subtask is now complete.

**100% Complete**

*Subtask 3.2: Travel to the selected watershed and conduct a renaissance survey of the watershed and sources*

The following actions have been completed during this reporting period:

- a. Dr. Karthikeyan, Israel Parker and Lucas Gregory traveled to the watershed March 24<sup>th</sup> and met with one landowner that has agreed to allow sanitary surveys to be conducted.
- b. Graduate research assistants that will be working on the project have made an initial trip to the watershed to familiarize themselves with the watershed.

**50% Complete**

*Subtask 3.3: Conduct a thorough sanitary survey to identify various wildlife sources that contribute *E. coli* loads during winter. This survey will be conducted by a wildlife expert.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 3.4: Conduct a thorough sanitary survey to identify various domestic livestock and poultry sources and waste streams that contribute E. coli loads during winter. This survey will be conducted by an extension county agent and/or an animal-production agriculture expert.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 3.5: Verify and update wildlife survey with inputs from stakeholders and Texas Parks and Wildlife personnel and domestic animal survey with inputs from stakeholders, ranchers, and extension county agents.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 3.6: Conduct a thorough sanitary survey to identify various wildlife sources that contribute E. coli loads during summer. This survey will be conducted by a wildlife expert.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 3.7: Conduct a thorough sanitary survey to identify various domestic livestock and poultry sources and waste streams that contribute E. coli loads during summer. This survey will be conducted by an extension county agent and/or an animal-production agriculture expert.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

*Subtask 3.8: Verify and update wildlife survey with inputs from stakeholders and Texas Parks and Wildlife personnel and domestic animal survey with inputs from stakeholders, ranchers, and county Extension agents.*

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

**0% Complete**

**Task 4: Conducting demonstration experiments to characterize and quantify *E. coli* loads from identified sources**

*Subtask 4.1: Collect feces samples of relevant and dominant identified sources (five maximum) and samples of waste streams (five maximum) identified in Task 4 during winter.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.2: Extract feces samples and waste streams for *E. coli* collected during winter.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.3: Analyze samples collected during winter for *E. coli* using EPA's approved enumeration technique*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.4: Calculate the *E. coli* load resulting from all identified sources collected during winter*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.5: Collect feces samples of relevant and dominant identified sources (five maximum) and samples of waste streams (five maximum) identified in Task 3 during summer.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.6: Extract feces samples and waste streams for *E. coli* collected during summer.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.7: Analyze samples collected during summer for E. coli using EPA's approved enumeration technique*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 4.8: Calculate the E. coli load resulting from all identified sources collected during summer*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete****Task 5: Monitoring fate (survival, growth, re-growth, and die-off) of E. coli under different environmental conditions**

*Subtask 5.1: Prepare collected samples in Task 4.5 for this monitoring study.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 5.2: Measure growth kinetics of E. coli in different sources under varying environmental conditions*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 5.3: Measure survival of E. coli in different sources under varying environmental conditions*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 5.4: Measure re-growth of E. coli in different sources under optimum conditions*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

**Task 6: Monitoring concentration of *E. coli* in the instrumented stream as a result of rainfall and runoff events**

*Subtask 6.1: Collect water samples during summer for two rainfall-runoff events.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 6.2: Collect water samples during winter for two rainfall-runoff events.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 6.3: Collect stream bed sediments after each water sample collection periods.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 6.4: Analyze water and sediment for *E. coli* concentrations*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 6.5: Measure growth kinetics, survival, and re-growth *E. coli* in stream bed sediments under different environment conditions*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

*Subtask 6.6: Mechanically disturb stream bed sediments four times; twice each during summer and winter, collect grab water samples, and analyze the samples for E. coli*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

**0% Complete**

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

- a. Several overview presentations were given about the project during the last quarter. These presentations were made at the Watershed Coordination Steering Committee meeting in Columbus on March 6<sup>th</sup> and at the Red River Authority's Basin Advisory Committee meeting in Wichita Falls on April 1<sup>st</sup>.

### **IV. Projected Work for Next Quarter**

- If needed, additional work will be done on the QAPP at the request of TSSWCB or EPA.
- Upon receipt of QAPP signature pages, initial steps will be taken to begin sampling, sanitary survey, and laboratory analysis.
- Work to establish relationships with landowners throughout the watershed will continue during the next quarter. The Brazos County SWCD board is currently assisting us with this task.