

**Texas AgriLife Research
Texas Water Resources Institute**

**Modeling Support for Little Brazos River Tributaries Bacteria Assessment
Texas State Soil and Water Conservation Board
Total Maximum Daily Load Program
TSSWCB Project #08-55**

Quarter no. 7 From 12/1/2009 Through 02/28/2010

I. Abstract

Work this quarter focused on the development of preliminary LDCs and preliminary SELECT results which were presented at a stakeholder meeting in Franklin, TX on 2/18/10. Also at the stakeholder meeting, to date BST results and the process of changing water quality standards were presented. Work next quarter will focus on the completion of the modeling and data collection and the final report will be submitted to the TSSWCB.

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. (Month 1 – 24)

The following actions have been completed during this reporting period:

- a. The year 2, quarter 3 report was completed and sent to the TSSWCB on March 15, 2010

88% Complete

Subtask 1.2: TWRI will submit appropriate Reimbursement Forms. (Month 1 – 24)

The following actions have been completed during this reporting period:

- a. As of February 28, 2010, a total of \$25,179.50 or about 49% of total project funds have been expended.

49% Complete

Subtask 1.3: TWRI and BAEN will participate in 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. (Month 1 – 24).

The following actions have been completed during this reporting period:

- a. TWRI, BAEN, and TSSWCB project personnel met on 12/10/09 in Centerville and discussed the additional data that needs to be collected, as well as the project timeline. In addition, a conference call was held on 2/16/10 with project personnel about the upcoming stakeholder meeting.

88% Complete

Subtask 1.4: TWRI and BAEN will attend and participate in public stakeholder meetings as needed. (Month 1 – 24)

The following actions have been completed during this reporting period:

- b. A public stakeholder meeting was held on February 18, 2010 in Franklin, TX where preliminary SELECT modeling results, preliminary LDC results, to date BST results, and the changing process of water quality standards was presented.

88% Complete

Task 2: Development of Quality Assurance Project Plan

Subtask 2.1: TWRI will develop a QAPP for activities in Task 3 consistent with EPA Requirements for Quality Assurance Project Plans (QA/R-5) and the TSSWCB Environmental Data Quality Management Plan. (Month 1 – 2)

The following actions have been completed during this reporting period:

- a. This task is complete.

100% Complete

Subtask 2.2: Provide annual revisions to the QAPP and amendments, as necessary, to the TSSWCB and EPA. (Month 3 – 24)

The following actions have been completed during this reporting period:

- a. This task is complete.

100% Complete

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

Subtask 3.1: BAEN will cooperate with BRA to develop a comprehensive GIS inventory for the study area through TSSWCB project 08-54. (Month 1 – 3)

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

65% Complete

Subtask 3.2: TSSWCB, in coordination with SSL, will provide BAEN a current land use classification for the study area through TSSWCB project 08-52, Classification of Current Land Use/Land Cover for Certain Watersheds Where TMDLs or WPPs Are In Development. (Month 1 – 3)

The following actions have been completed during this reporting period:

- a. This task is complete

100% Complete

Subtask 3.3: BAEN will assist BRA in designing a watershed source survey, to be conducted through TSSWCB project 08-54, that better characterizes the possible sources of bacteria loadings in the study area. (Month 1 – 4)

The following actions have been completed during this reporting period:

- a. This task is complete.

100% Complete

Subtask 3.4: BAEN, with assistance from BRA through TSSWCB project 08-54, will conduct a LDC analysis of all historic and existing water quality monitoring data from the study area. LDCs will be developed for at least one critical index site per segment. LDCs shall be consistent with both EPA's An Approach for Using Load Duration Curves in the Development of TMDLs and EPA's Options for Expressing Daily Loads in TMDLs. (Month 3 – 6)

The following actions have been completed during this reporting period:

- a. This task is complete.

100% Complete

Subtask 3.5: Using water quality monitoring data collected by BRA through TSSWCB project 08-54, BAEN, with assistance from BRA, will refine LDCs developed in subtask 3.4. LDCs will be used to determine bacteria load reductions needed to achieve water quality standards. (Month 7 – 21)

The following actions have been completed during this reporting period:

- a. Initial analysis of data through January has been completed. Will add the rest of the data to complete the analysis in May.

50% Complete

Subtask 3.6: BAEN, with assistance from BRA through TSSWCB project 08-54, will conduct watershed modeling for the study area. Utilizing information from the GIS inventory (Subtask 3.1), the source survey (Subtask 3.3), and water quality monitoring (TSSWCB project 08-54), and

in combination with LDCs from Subtasks 3.4-3.5, BAEN will develop a spatially explicit or mass balance model, such as SELECT, for each of the five watersheds in the study area. Modeling will be used to estimate loadings from various sources and to identify critical loading areas within the watersheds. (Month 7 – 21)

The following actions have been completed during this reporting period:

- a. SELECT runs were presented to stakeholders and there was no change for the animal numbers or land use. The maps will be updated to reflect a new classification for the colors.

90% Complete

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

- a. Nothing to report.

IV. Projected Work for Next Quarter

- a. BAEN will continue to run the SELECT Model and develop LDCs.
- b. Work will also continue in the updating of the GIS for the watershed and will be incorporated into the modeling effort as it is acquired.
- c. Host final stakeholder meeting.
- d. Submit final report.