

**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. 3 From 12/1/2008 Through 02/28/2009

I. Abstract

A part-time research associate for BAEN who will conduct GIS and data analysis for this project was hired. Required watershed data including soils, road network, NHD stream network, and NLCD for each creek were downloaded and assembled.

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 1, quarter 3 report was completed and sent to the TSSWCB on March 13, 2009

37% Complete

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

The following actions have been completed during this reporting period:

- a. No activity to report at this time.

0% 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. February 11, 2009 a telephone conference call was held involving BAEN, BRA, SCSC, TSSWCB, and TWRI.

25% 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:

- a. No activity to report.

25% 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. The QAPP for the project was approved by TSSWCB on September 16th.

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. 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: 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. None to report at this time.

0% 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. Received shape file for Lower Brazos basin. This land use file will be clipped to get land use percentages for each watershed.

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. No activity to report at this time.

0% 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. No activity to report at this time.

0% 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. No activity to report at this time.

0% 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. No activity to report at this time.

0% Complete

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

- a. BAEN has hired a part time Research Associate to perform work on this project.
- b. Work on task 3 has been initiated, but no significant progress has been made.

IV. Projected Work for Next Quarter

- a. BAEN will have all data layers needed to run SELECT and start gathering data to do LDC analysis.