

**Texas AgriLife Research  
Texas Water Resources Institute**

**Modeling Support for Buck Creek Watershed Protection Plan Development  
FY 08 CWA 319(h)  
TSSWCB Project No. 08-05**

Quarter no. 5 From 10.1.2009 Through 12.31.2009

**I. Abstract**

Work conducted during this quarter of the project has focused on the continued development of the final report for the Load Duration Curves (LDCs) and SELECT model outputs. The LDCs and SELECT results were presented to stakeholders at the public meeting held October 27th in Wellington. No additional changes were deemed necessary by the stakeholders. Remaining work on this project includes the continued inclusion of LDC and SELECT results into the Buck Creek WPP and the finalization of the report on LDC and SELECT outputs.

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

**TASK 1: Project Coordination and Administration**

*Subtask 1.1: TWRI will coordinate project efforts with all project partners, as well as with the Watershed Protection Plan Development for Buck Creek project (TSSWCB project 06-11). TTVN meetings or teleconferences will be held, as appropriate, with project partners 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. No activity to report at this time.

**75% Complete**

*Subtask 1.2: TWRI will prepare electronic quarterly progress reports (QPRs) that document all activities performed within a quarter and shall be submitted to the TSSWCB no later than the 15<sup>th</sup> of January, April, July and October. All QPRs will be provided to project partners in this project and project 06-11, including Research, Texas AgriLife Extension Service, Red River Authority, and the Hall-Childress, Salt Fork, and Donley County SWCDs and placed on the project website maintained by TWRI.*

The following actions have been completed during this reporting period:

- a. Submitted Year 2, Quarter 1 report to TSSWCB on January 15, 2010.

**62% Complete**

*Subtask 1.3: TWRI will submit appropriate Reimbursement Forms.*

The following actions have been completed during this reporting period:

- a. As of November 30, 2009 approximately \$8,643 or 20% of project funding had been expended. The remaining project balance is \$33, 687.

**20% Complete**

## **TASK 2: Modeling of Bacteria Loads using the LDC/SELECT approach**

*Subtask 2.1: BAEN will conduct SELECT modeling analysis efforts to estimate bacteria loadings across the Buck Creek and identify critical bacterial loading areas within the watershed.*

The following actions have been completed during this reporting period:

- a. Stakeholders were presented with the final SELECT modeling results at the October 27<sup>th</sup> meeting held in Wellington.
- b. No modifications or changes were requested at this time.

**98% Complete**

*Subtask 2.2: BAEN will examine temporal and spatial trends in observed water quality (bacteria) by developing LDCs for one or more representative index sites which accurately characterize data across all flow regimes. The data will be characterized with a trend line based on statistical evaluation of bacteria loads in each flow regime. The LDCs will be used to differentiate between sources of bacteria as related to different flow conditions and to establish load reduction scenarios from the relationships between the observed data and the allowable loads expressed in the curve.*

The following actions have been completed during this reporting period:

- a. LDCs have been completed for each sampling site. Results were presented at the last stakeholder meeting.
- b. This task is now complete.

**100% Complete**

*Subtask 2.3: Research will incorporate the results of the modeling analysis into the Buck Creek WPP that will be developed in TSSWCB project 06-11.*

The following actions have been completed during this reporting period:

- a. Results from the draft final report have been incorporated into the draft Buck Creek WPP.
- b. Upon completion of the final report, any changes to the WPP will be made accordingly.

**95% Complete**

*Subtask 2.4: BAEN and Research, with assistance from TWRI, will develop the technical report for the project for submission to TSSWCB, EPA, and project partners.*

The following actions have been completed during this reporting period:

- a. The draft final report has been completed and reviewed.
- b. Work has begun on finalizing this report.

**80% Complete**

### **TASK 3: Quality Assurance Project Plan Development**

*Subtask 3.1: 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 approved by EPA.

**100% Complete**

*Subtask 3.2: 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. The annual revision was approved on July 29, 2009.

**75% Complete**

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

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

The following will be accomplished during the coming quarter:

- Work will continue on the finalization of the final LDC and SELECT report.
- Work will continue on the incorporation of LDC and SELECT results into the WPP as needed.