

**Bacterial Monitoring for the Buck Creek Watershed  
FY 03 CWA 319(h)  
TSSWCB Agreement No. 03-7**

Quarter no. 3 From 04/01/04 Through 06/30/04.

**I. Abstract**

Following EPA approval of the project QAPP, sample collection and analysis commenced during the third quarter. As a result, project personnel primarily focused on establishing and improving sampling process and sample analysis procedures. Also, TAES personnel contacted local SWCDs to ensure all project related activities and efforts were effectively communicated to all interested individuals.

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

**TASK 1: Program Coordination with Project Participants**

*Subtask 1.1: Conduct meetings as appropriate with project participants, landowners, and other interested parties to discuss water quality monitoring activities, project schedule, lines of responsibility, communication needs, and other requirements. (month 1 thru 24)*

The following actions have been completed during this reporting period:

- a. Dr. Sij contacted TSSWCB Field Representative, Bob Gruner, to establish communication link between TAES/TCE personnel and Hall-Childress SWCD, Donley County SWCD and Salt Fork SWCD (Collingsworth County) board members. TAES personnel met Hall-Childress SWCD at monthly board meeting on 7-13-04. Dr. Sij and other TAES employees provided board members with update on sampling procedure, timeline, and related project activities.
- b. Dr. Sij will continually update SWCD Board Members to maintain open line of communication.

**30% Complete**

*Subtask 1.2: TAES will prepare electronic quarterly reports. All progress reports will also be provided to TCE project cooperators and participants, and Hall-Childress, Collingsworth, and Donley SWCD directors. (month 1 thru 24)*

The following actions have been completed during this reporting period:

- a. Submitted Year 1, quarter 3 report to TSSWCB on 7-15-04

**30% Complete**

*Subtask 1.3: TCE will provide leadership for educational programs about water pollution and project findings. (month 1 thru 24)*

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

**0% Complete**

*Subtask 1.4: TAES and TCE will develop an electronic final report, which will include an executive summary of data collected during the project and educational program.*

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

**0% Complete**

*Subtask 1.5: TSSWCB, TWRI, RRA and local SWCDs will assist, when needed, with composition, editing, and publication of final report (month 1 thru 24)*

The following actions have been completed during this reporting period:

- a. No progress to report at this time.

**0% Complete**

## **TASK 2: Micro-Watershed Monitoring and Sampling**

*Subtask 2.1 Develop DQOs and a QAPP to be approved by USEPA. (month 1 thru 3)*

The following actions have been completed during this reporting period:

- a. Electronic QAPP submitted to EPA on 4-14-04.
- b. Signature pages submitted to EPA on 4-23-04.
- c. EPA approved QAPP on 4-30-04.
- d. TWRI QA personnel, Donna Long, visited laboratory on 4-26-04 to train sampling technician, Phyllis Dyer, and other TAES personnel on proper sampling and analysis techniques. Ms. Long maintains contact with Ms. Dyer and other TAES employees to provide necessary information regarding project procedures.

**100% Complete**

*Subtask 2.2: Select 12 or 13 sites to conduct water quality sampling. Maintain water quality monitoring equipment and collect water samples. (month 1 thru 24)*

**100% Complete**

*Subtask 2.3 TAES will obtain sampling locations and deploy in accordance with arrangements made. (month 4 thru 21)*

**100% Complete**

*Subtask 2.4 TAES will perform routine sampling, (grab sampling) at strategic locations within the Buck Creek watershed. (month 4 thru 21)*

The following actions have been completed during this reporting period:

- a. Dr. Sij and Ms. Dyer visited all 13 sample sites on 4-28-04. Site number 10 is located on private ranch. Thus, initial site visits included contacting Mr. Curtis Scrivner, who operates ranch.
- b. Collected historical samples on 4-28-04 and recorded water quality parameters with YSI machine. Sites number 1, 8 and 9 were dry.
- c. On 4-30-04, Dr. Di Giovanni suggested photographic evidence of wildlife and related activity in and around Buck Creek Watershed be documented for background information if Phase II of Buck Creek Project is initiated. TAES personnel began collecting and will continue to collect such data throughout duration of project.
- d. Received official confirmation to begin sampling and testing Buck Creek for bacteria on 5-7-04.
- e. Routine sampling commenced on 5-10-04.
- f. Initiated bi-weekly sample collection from first set of sites 1 thru 7 (where running water was present) on 5-10-04.
- g. Initiated bi-weekly sample collection from second set of sites 8 thru 13 (where running water was present) on 5-17-04.
- h. Subsequently, upper and lower halves of Buck Creek routinely sampled bi-weekly with the following notes:
  - 1) 5-10-04: site 1 dry
  - 2) 5-17-04: site 8, 9, 13 dry
  - 3) 5-24-04: site 7 dry
  - 4) 6-1-04: site 8, 9, 13 dry
  - 5) 7-7-04: site 1, 2, 6 dry. TAES personnel met with Mr. Bobby McAlister who explained that at least 2 dams were constructed on the Lazy H Ranch at site 6, which potentially explains lack of flow at sites 6, 7, 8, 9.

### **15% Complete**

*Subtask 2.5: TAES will collect a minimum of 8 rain event/high flow grab samples from the sites over the course of the study. (month 4 thru 25)*

The following actions have been completed during this reporting period:

- a. Established contacts with local residents on 5-17-04 to report high rainfall events throughout portions of the Buck Creek Watershed. Namely:
  - 1) Mr. Tommy Saye – upper portion
  - 2) Terry Bailey – upper portion, specifically site 2
  - 3) Rich and Ruth Elliot – middle portion
  - 4) Saunna Blacksher and installed rain gauge at Scrivner Ranch – lower portion
- b. Rainfall event reported on 6-5-04. Sites 1, 2 and 3 were checked. Sites 1 and 2 were dry. Road to site 3 was muddy and therefore, site 3 was inaccessible. Adverse road conditions prevented TAES personnel from evaluating remaining sites.
- c. Due to experience on 6-5-04, TAES personnel decided to limit high rainfall sample events to sites 1, 2, 4, 5, 7, 11 and 12 as these sites are all adjacent to hardtop roads,

- which will allow TAES personnel to collect and return samples to the Research Center within the six-hour time frame for bacterial analysis.
- d. Rainfall event reported on 6-20-04 and sites 4, 5, 11, 12 and 13 were sampled
  - e. Rainfall event reported on 6-27-04 and sites 4, 5, 11, 12 and 13 were sampled

**25% Complete**

*Subtask 2.6 TAES will compile and analyze the sampling data. Data will be for informational and assessment purposes due to the limited data previously collected. (month 4 thru 24)*

The following actions have been completed during this reporting period:

- a. Dr. Sij and Ms. Dyer completed necessary background check information to be cleared by Austin to receive live material for positive control testing procedures. Positive *E.coli* controls were suggested by Dr. Di Giovanni.
- b. Following each sampling event, the routine bi-weekly samples and rainfall event samples were all analyzed within required time frame (within six hours of collection) at Research Center in Vernon.

**15% Complete**

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

During mid-May, participating SWCD personnel expressed concern about the lack of communication during initial sample collections. As a result, TAES personnel established communication with involved SWCD and will maintain contact with Board or with TSSWCB Field Representative. Also, TWRI will include necessary individuals on distribution of reports, meeting notices and other related project information.

**IV. Projected Work for Next Quarter**

The following will be accomplished during the coming quarter:

- a. Quarterly meeting between all project personnel will take place during fourth quarter.
- b. TCE personnel will discuss educational component with participating SWCDs.