

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

Quarter no. 9 From 10/01/05 Through 12/31/05.

I. Abstract

Sample collection and analysis continued during Quarter 9 at sites 3, 4, 5, 10, and occasionally 11. No flow was observed at the other sites. The QAPP was updated and submitted to the TSSWCB. Approval is expected in the next quarter. A one-year no-cost extension was approved by the TSSWCB giving the project sufficient time to complete two years of sampling. Mapping software was utilized to begin further evaluation of the watershed and possible sources of contamination. Finally, discussions about the next phase of the project were initiated in anticipation of beginning Phase II of the project in September 2006.

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.

The following actions have been completed during this reporting period:

- a. Discussion between TAES - Vernon and Dr. George DiGiovanni about the possibility of starting a BST study in September 2006.
- b. Discussion between TAES and TWRI about updating current QAPP to reflect changes in Vernon personnel, correction of site descriptions, possible removal of sites which are usually dry and possible addition of 2 sites on Scrivner Ranch which has had continuous water even when most other sites are dry.

75% 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.

The following actions have been completed during this reporting period:

- a. Submitted Year 3, Quarter 1 report to TSSWCB on 1-13-06.

75% Complete

Subtask 1.3: TCE will provide leadership for educational programs about water pollution and project findings.

The following actions have been completed during this reporting period:

- a. TWRI maintains a project Web site which contains information about the project, the study area, photos, accomplishments, publications and educational outreach material, etc. The Web site can be viewed at <http://twri.tamu.edu/buckcreek>

75% 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.

0% Complete

Subtask 1.5: TSSWCB, TWRI, RRA and local SWCDs will assist, when needed, with composition, editing, and publication of final report.

0% Complete

TASK 2: Micro-Watershed Monitoring and Sampling

Subtask 2.1 Develop DQOs and a QAPP to be approved by USEPA.

The following actions have been completed during this reporting period:

- a. The annual update to the QAPP was submitted to the TSSWCB on November 21, 2005. The update:
 - o Reflected changes in staff
 - o Reflected changes in project timeline resulting from 1 year no-cost extension
 - o Corrected the sampling site location for site 7 to reflect FR 339 is actually FR 338
 - o Added 2 more sites between sites 10 and 11.

100% Complete

Subtask 2.2: Select 12 or 13 sites to conduct water quality sampling. Maintain water quality monitoring equipment and collect water samples.

The following actions have been completed during this reporting period:

- a. Discussion with TWRI about possible addition of 2 sites on Scrivner Ranch which has had continuous water even when most other sites are dry.
- b. Discussion with Ruth Ann Scrivner about possibility of adding 2 regular collection sites in addition to Site 10 on her property.
- c. Spent afternoon with Curtis, Ruth Ann, and Khaki Scrivner evaluating 3 sites on their ranch. Received permission to add 10B and 10C to continue study of anomaly with dilution of bacteria numbers as Buck Creek crosses their ranch.
- d. Requested permission from TSSWCB to add 2 sites to QAPP.

100% Complete

Subtask 2.3 TAES will obtain sampling locations and deploy in accordance with arrangements made.

100% Complete

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

The following actions have been completed during this reporting period:

- a. Sampling of sites with water (sites 3, 4, 5, 10, and occasionally 11) continued. Sites 1, 2, 6, 7, 8, 9, 12, and 13 were completely dry throughout the quarter. Fecal tests were run on samples collected at site 11 whenever there is flowing water at the site.

75% 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.

100% 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.

The following actions have been completed during this reporting period:

- a. TAES-Vernon utilized Terra-Server to study Buck Creek topographical maps and compare to colored satellite photography to survey for possible points of contamination.

The following findings are survey findings for Buck Creek and watershed:

1. There is a North and South Fork of Buck Creek- the North Fork originates north of Hedley and meets the South Fork near Donley County.
2. There is a lake north of Memphis and south of Buck Creek which may overlie the same underground water aquifer as Buck Creek.
3. There are many gravel pits in the watershed. If in current use explosive charges could possibly have affected sewage systems.
4. There are several small tributaries which empty into Buck Creek during rainfall events and some run late winter into early spring:
 - Squaw Creek empties just above site 3 - CR 40.
 - Wellington has a discharge into House Log Creek, a tributary of Buck Creek (site 9). Even though this site is normally dry there have been rainfall events where a flush has occurred into Buck Creek via this tributary, which overlies the same underground aquifer as Buck Creek.
 - Doe Creek meets Buck Creek on the Sims Ranch just above Scrivner Ranch- site 10 (HWY256).
 - Spiller Creek meets Buck Creek above site 12 (HWY 62).
 - Long Creek south of site 12 but before site 13 (CR 19) also appears to overlie the same underground water aquifer as Buck Creek.

75% Complete

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

There was a wild hog harvest along Buck Creek and an accurate count will be included in next Quarterly Report. Estimates for 4 flyovers to hunt hogs are approximately 900-1200 hogs.

Site 13 has undergone a major clean up effort to preserve the old wood bridge there. There has been no water at site 13 since June.

IV. Projected Work for Next Quarter

The following will be accomplished during the coming quarter:

- a. TWRI will continue to update the project Web site and coordinate communication between project staff and Cooperative Extension Agents.
- b. Sample collection will continue.
- c. *Receive approval of the annual update to the QAPP from the TSSWCB and EPA.*