

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

Quarter no. 7 From 4/01/05 Through 6/30/05.

I. Abstract

Sample collection and analysis continued during quarter 7.

Communication regarding the project continued between TWRI, TAES researchers and the TSSWCB. A project was held to evaluate project progress and to develop a plan of action for future activities and possible funding sources for implementation.

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. Conducted a meeting at the Childress NRCS office in which 18 participants were there representing Donley, Childress, Collingsworth and Hall counties, as well as the TSSWCB and TAES. At the meeting Ms. Phyllis Dyer presented an annual report of the project. Mr. Kevin Wagner facilitated discussions to develop a plan of action on where the project should go from here (**Appendix A**).
- b. TAES personnel provided Hall-Childress SWCD a monthly update and attend Board Meetings upon request or as needed.
- c. Ms. Phyllis Dyer made a new contact for information on the history of Buck Creek; he is Keith Martin, FSA, Collingsworth County. Mr. Martin was able to provide historical accounts as to cycles of the creek.

60% 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 2, quarter 3 report to TSSWCB on 7-15-05.

65% 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. TWRI developed 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>

30% 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)

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. Continued bi-weekly sampling activities on sites 1 thru 13.
- b. GPS of sites 6 thru 13 was conducted on 4-12-05.
- c. Ms. Dyer began collecting land use information for future reports.

- d. All sites still experiencing variable flow rates due in part by low rainfall. The following sites were noted as having consistent flow during sampling events:
April – sites 2, 3, 4, 5, 6, 7, 10, 11, 12, 13
May – sites 3, 4, 5, 6, 10, 11, 12, 13 (Sites 2, 7 have stopped flowing)
June – sites 3, 4, 5, 6, 10, 11, 12, 13 (Sites 1, 2, 5, 6, 7, 8, 9, 12, 13 have stopped flowing. Typically 5, 6, 12, 13 will run again as soon as there is a measurable rainfall event. Sites 4 and 11 will stop for 4-6 weeks mid summer. Site 4 has an elevated reading apparently due to the recent removal of a damn at site 3; site 11 had elevated fecal and E. coli counts, this could be due to the fact that the Cliff Swallows have returned).

60% 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. Rainfall events were reported on 5-4-05 and 5-26-05. Roads were impassable at sites 1, 2, 3, 7, 8, 9. Samples were collected at sties 4, 5, 6, 10, 11, 12, 13.

70% 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. Sample analysis shows an increase in *E. coli* (taken only at site 11) counts.

60% Complete

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

TWRI developed 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>

IV. Projected Work for Next Quarter

The following will be accomplished during the coming quarter:

- a. TWRI will continue to update the newly created project Web site.
b. TWRI will become more involved in ensuring County Extension Agents are kept abreast of project activities.
c. Sample collection will continue at the 13 sites.
d. Continue gathering land use data for the watershed.

Appendix A

Plan of Action from the May 10, 2005 Project Meeting

Buck Creek Plan of Action

1. Revise current study
 - a. Reduce # of sites (remove 1, 8, 9, et. al), but continue monitoring
 - b. As funding allows, include preliminary study to:
 - i. Identify sources of e. coli using current library
 - ii. Examine sediment as source of e. coli
 - iii. Conduct sanitary survey (fly-over, landuse, etc.)
 - iv. Further evaluate data collected to date
 - v. Sample springs
 - vi. Evaluate need for BST
 - c. Current project ends 03-31-06 (Possible extension through 03-31-07)
2. Coordinate with TCEQ to determine need for further action
3. If necessary, submit 2nd proposal for 319 funding:
 - a. Conduct BST
 - b. Develop watershed plan
 - c. Submit proposal = October 2006
 - d. Initiate project = August 2007
4. If watershed plan developed, submit 3rd proposal for 319 funding:
 - a. Implement BMPs outlined in the plan
 - b. Provide education programs
 - c. Conduct watershed monitoring to determine reductions
 - d. Submit proposal = October 2009 or 2010
 - e. Initiate project = August 2010 or 2011