Clean Water Act Section 319(h) Nonpoint Source Pollution Control Program Project

Lampasas Watershed Assessment and Protection Project

Quarterly Report Number 9

Covering work accomplishments during January thru March, 2010

prepared by

Texas AgriLife Research

Task 1: Lampasas River WPP Development and Project Administration

Subtask 1.1: Conduct quarterly meetings, or as appropriate, with project participants, and other interested parties to discuss project schedule, lines of responsibility, communication needs, and other requirements. (Start Date: Month 1; Completion Date: Month 36)

- Project meeting with BREC, SSL and TSSWCB on February 25 at BREC to discuss the direction and progress of project
- Prcin and Casebolt met with Dr. Srinivasan and Texas AgriLife Extension's Nikki Dictson, Matt Berg and Ward Ling to discuss the coordination and timeline of the Geronimo Creek WPP.
- BREC worked with TSSWCB to develop an updated timeline for project objectives and deliverable
- Hosted a Technical Advisory Group meeting at BREC on February 3 to discuss data limitations and needs for the project. An agenda and meeting summary are included in the appendix. Meeting was attended by 25 people representing 13 agencies. Agencies represented were:
    - Local
        - City of Killeen
        - Brazos River Authority
        - Clearwater Underground Water Conservation District
        - Little River-San Gabriel Soil and Water Conservation District
    - State
        - Texas Commission on Environmental Quality
        - Texas Department of Agriculture
        - Texas Parks and Wildlife Department
        - Texas State Soil and Water Conservation Board
        - Texas Water Resources Institute
    - Federal
        - U.S. Army Corps of Engineers
        - U.S. Environmental Protection Agency
        - U.S. Department of Agriculture – Natural Resources Conservation Service
    - Community Organizations
        - Lake Stillhouse Hollow Cleanwater Steering Committee

50% Complete – On-going

Subtask 1.2: Identify and recruit key stakeholders through public education and outreach. Organize stakeholder group. Prepare and distribute semi-annual newsletter to stakeholders. Develop and host watershed website. (Start Date: Month 1; Completion Date: Month 36)

- Added City of Harker Heights Utility Superintendent to our growing list of stakeholders
- Updated project website with meeting announcements, agendas and presentations

75% Complete – On-going

Subtask 1.3: Organize workgroups based on stakeholder recommendations. (Start Date: Month 1; Completion Date: Month 36)

- Confirmed each workgroup and participants

100% Completed

Subtask 1.4: Conduct stakeholder meetings as appropriate (stakeholder/community driven), and conduct workgroup meetings according to project demands. (Start Date: Month 1; Completion Date: Month 36)

- Held Steering Committee meeting in March in Lampasas attended by 45 members (only 36 signed in)
  - Notice of meeting mailed to over 400 stakeholders
  - Notice and agenda attached in appendix
- Scheduled Work Group meetings for April
  - **Habitat and Wildlife Work Group**
    Monday, April 12th, 6 p.m. to 9 p.m.
    Lampasas County Farm Bureau
    1793 US Hwy 281
    Lampasas, TX 76550
  - **Waste Water Infrastructure Work Group**
    Monday, April 19th, 2 p.m. to 5 p.m.
    Lampasas City Hall -- Council Chambers
    405 South Main Street
    Lampasas, TX 76550
  - **Agriculture Issues Work Group**
    Monday, April 19th, 6 p.m. to 9 p.m.
    Lampasas County Farm Bureau
    1793 US Hwy 281
    Lampasas, TX 76550
  - **Outreach and Education Work Group**
    Tuesday, April 20th, 6 p.m. to 9 p.m.
    Lampasas City Hall -- Council Chambers
    405 South Main Street
    Lampasas, TX 76550
  - **Urban/Suburban Issues Work Group**
    Wednesday, April 21st, 2 p.m. to 5 p.m.
    City of Killeen -- Solid Waste Building
    2003 Little Nolan Road
    Killeen, TX 76542

30% Complete – On-going

Subtask 1.5: Prepare stakeholder and workgroup educational programs as requested. (Start Date: Month 1; Completion Date: Month 36)

- Presented an update about the Lampasas River Watershed Partnership to the Brazos River Authority Clean Rivers Program Steering Committee meeting on March 31st in Waco.
- Voiced stakeholder's recommendations of 3 different areas within the watershed that would benefit from future monitoring

35% Complete – On-going

Subtask 1.6: Develop Lampasas River WPP. (Start Date: Month 12; Completion Date: Month 36)

- No activity this quarter.

0% Complete – On-going

Task 2: Development of load duration curves for the Lampasas River Watershed

Subtask 2.1: Develop flow duration curves using historical stream-flow data. (Start Date: Month 10; Completion Date: Month 14)

- Steve Potter developed initial flow duration curves using historical stream-flow data for seven sites within the watershed

75% Complete – On-going

Subtask 2.2: Develop LDCs to characterize pollutant loadings in the Lampasas River Watershed for all parameters of concern. Determine if and under what conditions bacteria levels exceed water quality standards. (Start Date: Month 10; Completion Date: Month 14)

- Steve Potter utilized historic stream-flow data and water quality data to develop initial LDCs to characterize pollutant loadings for 7 sites and 7 parameters. This information was presented to stakeholders and TSSWCB for review.

75% Complete – On-going

Subtask 2.3: Calculate the load reductions necessary to meet water quality standards. (Start Date: Month 10; Completion Date: Month 14)

- No activity this quarter.

15% Complete – On-going

Task 3: Watershed inventory and geographic analysis of land use influencing *E. coli* migration and other NPS pollution within the Lampasas River Watershed.

Subtask 3.1: In order to develop and implement DQOs and QA/QC activities necessary to ensure environmental data of known and acceptable quality is generated through this project, a QAPP for Tasks 2-4 will be developed that is consistent with *EPA Requirements for Quality Assurance Project Plans (QA/R-5)* and the *Environmental Data Quality Management Plan for the TSSWCB*. (Start Date: Month 1; Completion Date: Month 8)

- No activity this quarter

100% Complete

Subtask 3.2: Classify current land use for the watershed using existing land use/land cover data utilizing most current imagery available. (Start Date: Month 11; Completion Date: Month 18)

- SSL utilized 2008 National Agriculture Imagery Program (NAIP) Digital Ortho Imagery, 2001 National Land Cover Dataset and 2008 Crop Data Layer to classify land use/land cover within the watershed.
- A report detailing the methods and outcomes will be available during the next quarter

75% Complete – On-going

Subtask 3.3: Verify classification of land use through ground-truthing of sub-sampled land units, and collection of available data. (Start Date: Month 11; Completion Date: Month 18)

- Samples for each LC/LU class within the study were gathered using Trimble GeoXH 2005 and RICOH Caplio 500SE 1.38 Rev 2 units, as well as digital sampling of high-resolution aerial photography. The primary focus of the field collection process was to collect ground control points across the entire area, particularly in classes which were difficult to distinguish. Where access was limited, sample points were offset from the road with comments on each GPS point distinguishing where the point should be placed. The camera that was used for part of the collection process, gave an image to compliment the GPS points.
- 200+ GPS points were collected to verify land use classification

100% Complete

Subtask 3.4: Delineate the Lampasas River Watershed into catchments using highest resolution digital elevation model available. (Start Date: Month 11; Completion Date: Month 18)

- No activity this quarter

30% Complete – On-going

Subtask 3.5: Compile all of feature class, raster, and tabular data into a comprehensive geo-database reflecting existing watershed conditions. (Start Date: Month 11; Completion Date: Month 18)

- No activity this quarter

50% Complete – On-going

Task 4: Utilize Spatially Explicit Load Enrichment Calculation Tool (SELECT) for analysis of the Lampasas River Watershed.

Subtask 4.1: Compile and estimate the contribution of potential sources of *E. coli* and other parameters within the watershed. (Start Date: Month 19; Completion Date: Month 26)

- No activity this quarter

10% Complete – On-going

Subtask 4.2: Allocate numbers of each potential source category, in a spatial context according to land use classification using GIS. (Start Date: Month 19; Completion Date: Month 26)

- No activity this quarter

0% Complete – On-going

Subtask 4.3: Identify potential pollutant sources across the landscape based on proximity to hydrology, land use, and other factors using SELECT analysis. (Start Date: Month 19; Completion Date: Month 26)

- No activity this quarter

0% Complete – On-going

Subtask 4.4: Utilize the hybrid statistical and process-based approach of SPARROW (SPAtially Referenced Regressions on Watershed Attributes) to quantify uncertainty in SELECT parameters. (Start Date: Month 19; Completion Date: Month 26)

- No activity this quarter

0% Complete – On-going

Task 5: Facilitate implementation of the Lampasas River WPP.

Subtask 5.1: Work with stakeholders and workgroups to prioritize implementation activities based on consensus and continual watershed assessment and awareness. (Start Date: Month 18; Completion Date: Month 36)

- No activity this quarter

0% Complete – On-going

Subtask 5.2: Assist stakeholders in identification and acquisition of resources necessary to proceed with watershed implementation and protection strategies, and in anticipation of future watershed needs. (Start Date: Month 18; Completion Date: Month 36)

- No activity this quarter

17% Complete – On-going

Subtask 5.3: Identify metrics or other indicators which will be used to evaluate successful implementation or improvement of watershed health over time. (Start Date: Month 18; Completion Date: Month 36)

- No activity this quarter

8% Complete – On-going

Activities Planned for Next Quarter

- Host 5 work groups in April and May.
- Present initial Land use/land cover analysis to work groups
- Present suggested recommendations for pollutant sources and estimated populations and distributions to work groups.
- Plan a watershed tour for Steering Committee, Work Groups and Partnership
- Complete flow and load duration analysis. Document methods, assumptions, source data, and results. Thoroughly vet findings through project's internal technical peer review process prior to public release.

Appendix:

TAG Meeting Notice:

Dear Technical Advisory Stakeholder:

Texas AgriLife Research and the Texas State Soil and Water Conservation Board request your participation in the Lampasas River Watershed Partnership Technical Advisory Group (TAG). This group will serve in an advisory role to the Lampasas River Watershed Partnership, which includes a Steering Committee and topical Work Groups, through the development of a Watershed Protection Plan to improve water quality in the Lampasas River watershed.

TAG members will be asked to provide needed technical information about agency specific issues. Anticipated members include representatives from the Texas Commission on Environmental Quality, Texas Department of Agriculture, Texas Parks and Wildlife Department, Texas State Soil and Water Conservation Board, Texas AgriLife Extension Service, Texas Water Development Board, Brazos River Authority, USDA Natural Resources Conservation Service, U.S. Geological Survey, U.S. Army Corp of Engineers and others.

A meeting will be held **Wednesday, February 3rd, 2010 from 9:00 a.m. to noon at the Blackland Research and Extension Center on 720 E. Blackland Road in Temple.** The purpose of the meeting is to gain input and support from agency partners for the development of the watershed protection plan. A meeting agenda is attached.

If you would like to recommend someone or cannot participate, please contact our Technical Coordinator, Steve Potter at 254-774-6038 or spotter@brc.tamus.edu.

Thanks,

Lisa Prcin

TAG Meeting Agenda:

Lampasas River Watershed Partnership
Technical Advisory Group Meeting
Agenda

Wednesday, February 3, 2010
Blackland Research and Extension Center

8:30 Sign-in

9:00 Welcome and Introductions
Lisa Prcin, Texas AgriLife Research

9:15 Why Was the Lampasas River Watershed Selected for a WPP?
Pamela Casebolt, TSSWCB

9:25 Status of Lampasas River Watershed Partnership
Steve Potter, Texas AgriLife Research

9:45 Historical and Current Monitoring Efforts within the Lampasas River Watershed
June Wolfe, Texas AgriLife Research

10:15 Break

10:25 Existing Data and Gaps
Steve Potter, Texas AgriLife Research

11:30 Modeling Approach and Input Needed from TAG Members
Steve Potter, Texas AgriLife Research

11:50 Incorporating Agency Programs and Funding Mechanisms into the WPP
June Wolfe, Texas AgriLife Research

12:00 Adjourn

March 2010 Steering Committee Meeting Notice:

Lampasas River Watershed Stakeholder,

Texas AgriLife Research at Blackland Research & Extension Center and the Texas State Soil and Water Conservation Board cordially invite you to a Lampasas River Watershed Partnership Steering Committee meeting on Thursday, March 11, 2010 from 6:30 – 9:00 p.m. at the Lampasas County Farm Bureau Office located at 1793 US Hwy 281 in Lampasas. Sign-in and refreshments will begin at 6:00 p.m.

Due to water quality impairments and issues within the Lampasas River watershed, we are partnering with local citizens and landowners to solve the water quality issues by developing a watershed protection plan (WPP). A WPP is a stakeholder driven process that holistically addresses all the sources and causes of impairments and concerns, identifies solutions, and prioritizes implementation projects.

Since we last met in December 2009, Texas AgriLife Research has been working with state and federal agencies to analyze data from the watershed. At the March meeting, this information will be presented to you. As a watershed stakeholder, it is critical to have your participation as we begin to talk about existing data, water quality goals and load reductions for your watershed protection plan.

A draft meeting agenda is as follows:

6:30 Welcome and Introductions – Lisa Prcin, Texas AgriLife Research
6:35 Past Business – Lisa Prcin, Texas AgriLife Research
6:45 Water Quality Standards – Lisa Prcin, Texas AgriLife Research
7:15 Lampasas River Watershed Water Quality Analysis – Steve Potter, Texas AgriLife Research
8:35 Next Steps for Partnership – Lisa Prcin, Texas AgriLife Research
8:55 Adjourn

If you would prefer to no longer receive information regarding the Lampasas River, please let us know with a phone call or an email. Email is the preferred method of contact for Partnership correspondence. If you would like to continue to receive meeting notices via US mail, please let us know. Please make sure we have your information so we can keep you informed on upcoming meetings and events.

For materials presented at previous Steering Committee meetings or more information, you may visit the Lampasas River watershed website at http://www.lampasasriver.org or contact me by phone at (254) 774-6030 or by e-mail at lprcin@brc.tamus.edu.

Respectfully,
Lisa Prcin
Lampasas River Watershed Coordinator

March 2010 Steering Committee Meeting Agenda:

Lampasas River Watershed Partnership
Steering Committee Meeting
Thursday, March 11, 2010
Lampasas County Farm Bureau
Agenda

6:00 Sign-in

6:30 Welcome and Introductions
Lisa Prcin, Texas AgriLife Research

6:35 Past Business
Lisa Prcin, Texas AgriLife Research

6:50 Water Quality Standards
Lisa Prcin, Texas AgriLife Research

7:05 Water Quality Data Analysis
Steve Potter, Texas AgriLife Research

7:35 Open Discussion about Stakeholder Concerns

8:45 Next Steps for Partnership
Lisa Prcin, Texas AgriLife Research

8:55 Adjourn