

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

Lampasas Watershed Assessment and Protection Project

Quarterly Report Number 4

Covering work accomplishments during October through December, 2008

prepared by

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The quarter saw progress in both outreach activities and the watershed technical analysis. The addition of Lisa Precin as the project's Outreach Coordinator was an especially important development. With Lisa becoming firmly established in her new role, a major effort to develop a coordinated outreach and communication strategy is currently underway. As Outreach Coordinator, Lisa will establish, organize, and manage stakeholder groups and activities as necessary for the development of the WPP. Conducting public communications efforts through news releases, outreach materials, website, and publications of ongoing activities in the Lampasas watershed will be a significant component of Lisa's responsibilities. Additional responsibilities may include organizing and coordinating education and information outreach activities which build the capacity of stakeholders to contribute to the planning process and in carrying out the initial phases of the watershed protection plan.

In addition the team moved forward in the technical analysis of the streamflow and contaminant loadings in the Lampasas River. River flow data were gathered and organized. Water quality data from TCEQ and BRA were organized in a relational database. Initial flow and load duration curves were produced with available data. Additional sampling data requested from Texas Stream Team will be used in completing final duration curve analyses.

Team members also investigated geodatabase architectures and methods of classifying watershed land use for developing improved GIS layer. Methods for employing Logic Models were also investigated.

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)

25% 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)

- Development of a outreach plan and communications strategy.
- Staff continued identifying and contacting likely members of the stakeholder committee and workgroups.
- Staff complete an initial set of “listening sessions” with stakeholders.
- **23% Complete – On-going**

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

- Staff worked on formation of the technical committee.
- **18% Complete – On-going**

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)

- Met with AgriLife extension staff.
- **18% Complete – On-going**

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

- Gathered technical outreach materials from Extension, university and government agencies for public dissemination.

15% 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)

- Gathered river flow and water quality monitoring data; classified and arrange in relational database.
- Requested sampling data from Texas Stream Team.

25% 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)

- Developed spreadsheet program to automate production of load duration curves (LDCs) at sample collection sites in the Lampasas River watershed.

25% Complete – On-going

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

- Evaluated initial LDC data to identify either required load reductions or increases in streamflow needed to meet water quality standards.

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)

- Listed data needs and began documenting sources.

15% 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)

- Made progressed on land use classification methodology
10% Complete – On-going

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)

- Evaluated portions of available data.
10% 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)

- Investigated geodatabase methods, architectures and information models for representing and managing geographic information.
10% 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.
0% 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 Atttributes) 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)

- Worked with scientists from BREC, Agricultural Research Service, and Tarleton State University interested in applying for 2009 Conservation Innovation Grant to work with Lampasas watershed landowners on the adoption of promising brush management technologies and approaches.
8% 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

- Complete working paper outlining outreach plan and communications strategy.
- Continue website development and creation of outreach materials.
- Populate stakeholder database.
- Continue stakeholder outreach activities.
- Establish media contacts.
- Coordinate and host stakeholder steering committee meeting.
- Coordinate and host Technical Liaison outreach. Identify and organize technical committees and workgroups.

- Work with brush management workgroup to organize an informational workshop to be held in 2009.
- 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.
- Establish geodatabase methods, architectures and information models for representing and managing geographic information.
- Complete methodology for GIS land use classification.
- Begin developing land use GIS layer.
- Complete and submit Quarterly Report Number 5 for work accomplished January – March 2009.