

TEXAS TECH UNIVERSITY
AND
TEXAS WATER RESOURCES INSTITUTE
Implementation of the Upper Llano River Watershed Protection Plan
FY 2016 Work Plan 15-11

Quarter no. 4 from 10/01/16 through 12/31/16

I. Abstract

The Upper Llano River Watershed Protection Plan project has begun implementation following approval by EPA in late September. During this period, the Water Quality Monitoring QAPP was submitted to TSSWCB for approval, accounts and budgets were set up, stakeholder lists updated, a number of engagement and outreach activities conducted. A grant proposal for Riparian Restoration was submitted to the Southeast Aquatic Resource Partnership. Next quarter, work will focus on (1) Water Quality Monitoring QAPP and gaining its approval by the TSSWCB and EPA; (2) developing the steering committee and scheduling their first meeting; (3) meeting with SWCDs and other stakeholders; (4) initiating water quality monitoring and other field work; and (5) begin planning events outlined in Subtask 4.1.

II. Overall Progress and Results by Task

Task 1 Project Administration

To effectively administer, coordinate and monitor all work performed under this project including technical and financial supervision and preparation of status reports.

Subtask 1.1 TTU-LRFS will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15th of January, April, July and October. QPRs shall be distributed to all Project Partners.

The following actions have been completed during this reporting period:

- a. The fourth quarterly report was prepared and submitted.

20% Complete

Subtask 1.2 TTU-LRFS will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.

The following actions have been completed during this reporting period:

- a. Minor budget revisions to the WPP Work Plan were approved.

20% Complete

Subtask 1.3 TTU-LRFS will host coordination meetings or conference calls, at least quarterly, with Project Partners to discuss project activities, project schedule, communication needs, deliverables, and

other requirements. TTU-LRFS will develop lists of action items needed following each project coordination meeting and distribute to project personnel.

The following actions have been completed during this reporting period:

- a. Continued to address and coordinate Action Items developed from Project partners from September 6-7
- b. Continued discussion re State Wildlife Grant opportunities with Llano River Watershed Alliance and Texas Parks and Wildlife

20% Complete

Subtask 1.4 TTU-LRFS will develop a Final Report that summarizes activities completed and conclusions reached during the project and discusses the extent to which project goals and measures of success have been achieved.

The following actions have been completed during this reporting period:

0% Complete

Task 2 Quality Assurance

To develop data quality objectives (DQOs) and quality assurance/control (QA/QC) activities to ensure data of known and acceptable quality are generated through this project.

Subtask 2.1 TWRI, with input from the TTU-LRFS, will develop a QAPP for activities in Task 5 consistent with the most recent versions of EPA Requirements for Quality Assurance Project Plans (QA/R-5) and the TSSWCB Environmental Data Quality Management Plan. All monitoring procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415) and Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416). [Consistency with Title 30, Chapter 25 of the Texas Administrative Code, Environmental Testing Laboratory Accreditation and Certification, which describes Texas' approach to implementing the National Environmental Laboratory Accreditation Conference (NELAC) standards, shall be required where applicable.

The following actions have been completed during this reporting period:

- a) Submitted QAPP to TSSWCB for review and approval

50% Complete

Subtask 2.2 TWRI and TTU-LRFS will implement the approved QAPP. TWRI will submit revisions and necessary amendments to the QAPP as needed.

The following actions have been completed during this reporting period:

0% Complete

Task 3 Support and Facilitation of WPP Implementation

Facilitate continued stakeholder involvement in the Upper Llano River Watershed to ensure successful

implementation of the Upper Llano River WPP and track implementation.

Subtask 3.1 TTU-LRFS will continue to employ a Upper Llano River Watershed Coordinator (WC) to engage and facilitate the Upper Llano River WCC, watershed stakeholders, and entities identified in the Upper Llano River WPP. The WC will serve as the primary conduit for interaction with landowners, citizens, and entities to facilitate the implementation of the WPP. The WC shall successfully complete (or have already completed) the Texas Watershed Planning Short Course. The WC shall participate in all Texas Watershed Coordinator Roundtables held during the project period. The WC shall be stationed in the Upper Llano River watershed.

The following actions have been completed during this reporting period:

- Dr. Tom Arsuffi, Director of the TTU-LRFS and Tyson Broad, Upper Llano River Watershed Coordinator and web manager for the Llano River Watershed Alliance have completed the Texas Watershed Planning Short Course and both are stationed at the TTU Llano River Field Station in Junction.
- Tyson Broad began meeting with local organizations and landowners regarding funding opportunities through the WPP. See Subtask 3.2
- Maggie Yarnold, a summer intern funded by LRFS as part of the Ecological Society of America SPUR Fellowship for Minorities in Ecology, published her research on determining the effectiveness of deer exclosures in riparian areas.
 - **60% Complete**

Subtask 3.2 The WC will assist governmental and non-governmental organizations in the Upper Llano River watershed, in identification and acquisition of resources (financial and technical) to enable WPP implementation. The WC, with assistance from TWRI, will actively seek and pursue funding opportunities and work with partners to develop grant proposals. The WC will work with state and federal agencies, as appropriate, to bring technical and financial resources to the watershed.

The following actions have been completed during this reporting period:

- Tom Arsuffi and Tyson Broad participated in US Endowment for Forestry and Communities Healthy Watersheds Consortium Grant Program webinar, October 25th.
- Tom Arsuffi and Tyson Broad met with Edwards Aquifer Authority, UT-San Antonio, and Real-Edwards Conservation and Reclamation District to discuss dye tracing in South Llano, Camp Wood, November 7
- LRFS submitted a grant proposal of \$224,000 to Southeast Aquatic Resources Partnership for riparian restoration and research along the North and South Llano, November 15.
- Tyson Broad met with Kimble Co AgriLife Extension agent re WPP, December 5th.
- Tyson Broad addressed Real County Commissioners Court regarding funding opportunities via the WPP, December 12.
- Tyson Broad and Tom Arsuffi met with members of the Upper Llanos Prescribed Burn Association, December 20.
- Tyson Broad continued to have discussions with City of Junction Mayor to funding opportunities for stormwater runoff and water conservation.
- LRFS met with LRWA Alliance Board October 19 and December 1 to discuss State Wildlife Grant opportunities.

- Discussions began re the implementation of the Texas Parks and Wildlife Department Landowner Improvement Grant to the Llano River Field Station to fund a Stream Bank and Riparian Restoration Project. \$55,000

20% Complete

Subtask 3.3 The WC, with assistance from TWRI, will 1) evaluate and track progress toward achieving milestones established in the Upper Llano River WPP; and, 2) work with LCRA to assess water quality data collected through the Clean Rivers Program and other data collection efforts in relation to achieving load reductions.

- Tyson Broad is working with TWRI to track milestones in the WPP
- NRCS reported 1,377 acres of brush were treated in the watershed during the quarter
- There were zero acres treated with prescribed burning during the quarter

10% Complete

Subtask 3.4 The WC will facilitate public participation and stakeholder involvement in the watershed planning process, specifically by hosting meetings of the Upper Llano River WCC to provide regular updates on progress to implement the WPP and seek input and recommendations on needed activities. TWRI will assist with agenda development and facilitation as needed. The WC will coordinate meetings, secure meeting locations, prepare and disseminate meeting notices and agendas. Meeting summaries will be prepared and posted to the project website.

The following actions have been completed during this reporting period:

- A color brochure highlighting components of WPP has been completed and available for distribution.
- The WPP brochure has been translated into Spanish.

- **10% Complete**

Subtask 3.5 The WC will maintain a database of watershed stakeholders and affected parties for use in engaging the public in the watershed planning process. The stakeholder group will be added to based upon previous efforts of TTU-LRFS and TWRI in TSSWCB project 11-04, Development of the Upper Llano River Watershed Protection Plan. The spreadsheet will represent a diverse cross section of Upper Llano River landowners, citizens, local businesses, local and regional governmental entities and elected officials, state and federal agencies, and environmental and special interest groups.

The following actions have been completed during this reporting period:

- a. The Upper Llano Watershed Protection Plan stakeholder database is now at 466 landowners, citizens, local businesses, local and regional governmental entities and elected officials, state and federal agencies, and environmental and special interest groups.

10% Complete

Subtask 3.6 The WC will attend and participate in other public meetings as appropriate in order to communicate project goals, activities and accomplishments to affected parties. Such meetings may

include, but are not limited to, city councils, county commissioners' courts, Clean Rivers Program Basin Steering Committee and Coordinated Monitoring, local soil and water conservation districts (SWCDs), groundwater conservation districts and other appropriate meetings of critical watershed stakeholder groups.

The following actions have been completed during this reporting period:

- a. This quarter, TTU-LRFS met with/participated in the following meetings/activities:
- Tyson Broad and Tom Arsuffi participated in meetings of Llano River Watershed Alliance: October 19 and December 1, 2016.
 - Tyson Broad and Tom Arsuffi attended the Texas Section for Society for Range Management Annual Meeting entitled "Water: How can TSSRUM Lead its Stewardship?", Uvalde, October 11
 - TTU-LRFS assisted TPWD and Llano River Watershed Alliance with elephant ear eradication efforts on October 13.
 - TTU-LRFS assisted TPWD with Guadalupe Bass brood stock collection on the South Llano, November 10.
 - Tyson Broad made a presentation on the WPP to the South Central Texas Water Research Interest Group, San Antonio, December 1
 - Tyson Broad and Michael Schramm attended Hill Country Water Summit, New Braunfels, Dec 8.

20% Complete

Subtask 3.7 The WC will provide information to LCRA for inclusion in the Clean Rivers Program Basin Summary Report and Basin Highlights Report regarding progress to implement the Upper Llano River WPP.

The following actions have been completed during this reporting period:

- No action occurred this quarter.

10% Complete

Subtask 3.8 The WC will develop, publish, and distribute 4 semi-annual newsletters that are designed to keep landowners and entities informed of ongoing WPP implementation activities, including water quality data collection and progress toward achieving milestones in the WPP. The newsletter shall be distributed as most appropriate to individual landowners and entities in the watershed. The WC will solicit content matter for the newsletters from Project Partners as appropriate. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution.

The following actions have been completed during this reporting period:

0% Complete

Subtask 3.9 The WC will facilitate communication with stakeholders in order to engage the public and affected entities in WPP implementation. The WC will utilize all appropriate communication mechanisms including direct mail, e-mail, the project website, and mass media (print, radio, television). The WC, with assistance of TWRI, will develop and disseminate general project informational materials, including, but not limited to, flyers, brochures, letters, factsheets, news releases, and other appropriate promotional publications. The WC, with assistance of the LRWA, will utilize a website, listserv, and social media to facilitate direct discussion between stakeholders. The WC will solicit content matter for educational materials from Project Partners as appropriate. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution.

The following actions have been completed during this reporting period:

- a. The SLWA website, listserv, and Facebook page is a resource for stakeholders in the watershed on land and water stewardship, hydrologic and weather conditions, latest news, upcoming events, community participation, and the Watershed Protection Plan.
- b. For the quarter July through September of 2016, there were 1060 sessions and 605 users of the website, with daily visits at 12/day. A weekly newsletter, "Watershed Week in Review" is prepared by LRWA/LRFS and distributed to listserv subscribers and Facebook friends and via the website.
- c. The Facebook page for the Alliance currently has 424 "Likes" and reached a total of 617 Facebook users during the last quarter of 2016.
- d. Tyson Broad was interviewed about the WPP and funding opportunities for landowners on KHLB radio in Mason, October 19.
- e. WPP information was presented at Mason Film Festival on water, October 19.
- f. A color brochure highlighting components of WPP has been completed and available for distribution.

5% Complete

Task 4 Outreach, Education and Community Support

To promote involvement, provide information transfer and encourage participation in the Upper Llano River WCC and WPP implementation efforts

Subtask 4.1 The WC, with assistance from TWRI, will coordinate and conduct water resources and related environmental outreach/education efforts across the watershed, as identified in the Upper Llano River WPP. The WC will work with collaborating entities to organize the following training programs:

- *Lone Star Healthy Streams (Feral Hog component) workshop – 2 events*
- *Lone Star Healthy Streams (Grazing Cattle component) workshop – 2 events*
- *Lone Star Healthy Streams (Horses component) workshop – 1 event*
- *Riparian Area Management Workshops for landowners and land managers – 1 event*
- *Texas Watershed Steward Program – 1 event*
- *Rainwater harvesting workshop – 1 event*
- *Texas Well Owner Network training and well screening event – 1 event*

The WC will work with the entities that administer/fund these programs and try to direct delivery of these programs to the Upper Llano River watershed depending on priorities of those entities and programs.

The following actions have been completed during this reporting period: No actions this quarter.

5% Complete

Subtask 4.2 The WC will coordinate education and outreach activities as identified in the Upper Llano River WPP. The WC will make presentations on the Upper Llano River WPP and general NPS pollution information to local schools and community organizations. The WC will support, promote, and participate in, as appropriate, any field days, demonstrations, site tours, or education events sponsored by AgriLife Extension, USDA-NRCS, and/or SWCDs for the Upper Llano River Watershed.

The following actions have been completed during this reporting period:

- Participated in monthly meetings of Llano River Watershed Alliance
- Tyson Broad demonstrated riparian protection using the new LRFS Stream Trailer to Menard High School students at the Menard County Soil and Water Conservation District annual conservation program, Menard, November 22
- TTU-LRFS assisted TPWD and Llano River Watershed Alliance with elephant ear eradication efforts on October 13.
- TTU-LRFS promoted and attended Llano River Watershed Alliance and Hill Country Alliance film festival on water, October 19.
- TTU-LRFS promoted NRCS Conservation Steward Program through weekly newsletter

20% Complete

Task 5 Support and Facilitation of WPP Implementation

Subtask 5.1 Routine Water Quality Monitoring – Upon approval of the project QAPP, the TTU-LRFS will conduct routine, monthly, ambient water quality monitoring at 8 locations throughout the Upper Llano watershed over the course of at least 14 months. Sampling will include routine field parameters (Temp, pH, DO, conductivity, and flow) and field observations.

The following actions have been completed during this reporting period: No action has occurred this quarter. Awaiting approval of QAPP.

5% Complete

Subtask 5.2 Data Management – TTU-LRFS will conduct data management and will maintain a master database for all water quality data collected through this project. TTU-LRFS will import routine water quality monitoring data into the database and transmit data to TCEQ for inclusion in SWQMIS.

The following actions have been completed during this reporting period:

0% Complete

Subtask 5.3 Water Quality Data Assessment – TTU-LRFS and TWRI will conduct a water quality data assessment to reveal trends in water quality over the course of the project, track impacts of implementation, and aid in further identification of areas of concern in the watershed.

The following actions have been completed during this reporting period:

0% Complete

Task 6 Volunteer Monitoring

To monitor water quality benefits of WPP implementation efforts

Subtask 6.1 Volunteer Coordination and Training – Upon receipt of funding notification, TTU-LRFS will facilitate the organization and training of local watershed volunteers through the Texas Stream Team’s training programs. A training event will be hosted locally and TTU-LRFS personnel as appropriate will become trainers as well so that any new interested parties can be trained as needed.

The following actions have been completed during this reporting period:

- LRFS, along with LRWA, are facilitating coordination and training of volunteers and distribution of sampling kits.

5% Complete

Subtask 6.2 Volunteer Monitoring – Sampling will be conducted by volunteer monitors at multiple locations across the watershed in parallel with the routine monitoring. Parameters monitored will include water temperature, pH, DO, total dissolved solids, conductivity, salinity, water clarity, and E. coli enumeration. Volunteer data will be reported to the Texas Stream Team. Field observations will also be recorded and include flow level, algae cover, water color, water clarity, water surface, water conditions, water odor, present weather, days since last significant precipitation, rainfall accumulation, and stream velocity. Data collection and sample analysis will be conducted as described in the Texas Stream Team Water Quality Monitoring Manual and QAPP.

The following actions have been completed during this reporting period:

- Volunteer monitoring has begun at 3 sites. Monitoring at additional sites will begin this first quarter of 2017.

5% Complete

Subtask 6.3 Data Management – Volunteer monitors will utilize Texas Stream Team practices and procedures for recording, validating and submitting data into the Texas Stream Team database. Additionally, these data will be incorporated into the watershed specific database developed by and housed at TTU-LRFS as well as the Stream Team’s database and dataviewer. Volunteer monitoring data will not be sent to TCEQ for future water body assessment purposes, but will instead be utilized by the watershed coordinator for directing future BMP assessments and performance evaluations.

The following actions have been completed during this reporting period:

- Data sites were updated for Texas Stream Team database.

5% Complete

Subtask 6.4 Water Quality Data Assessment – TTU-LRFS and TWRI will conduct a water quality data assessment to reveal trends in water quality over the course of the project, track impacts of implementation, and aid in further identification of areas of concern in the watershed.

The following actions have been completed during this reporting period:

0% Complete

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

- N/A

IV. Projected Work for Next Quarter

The following actions are projected to occur during the next quarter:

- a. Approval of Water Quality Monitoring QAPP.
- b. Initiate Water Quality monitoring and other field work as described in QAPP.
- c. Developing the steering committee and scheduling their first meeting.
- d. Meeting with government entities and other stakeholders to discuss funding opportunities via WPP.
- e. Begin setting dates for Special Programs outlined in Subtask 4.1