

TEXAS TECH UNIVERSITY
AND
TEXAS WATER RESOURCES INSTITUTE
Implementation of the Upper Llano River Watershed Protection Plan
FY 2017 Work Plan 15-11

**EPA State Categorical Program Grants – Workplan Essential Elements
FY 2011-2015 EPA Strategic Plan Reference
Strategic Plan Goal – Goal 2 Protecting America’s Waters
Strategic Plan Objective – Objective 2.2 Protect and Restore Watersheds and Aquatic Ecosystems**

Quarter no. 8 from 10/01/17 through 12/31/17

I. Abstract

During this period, the reformed Coordination Committee met to receive updates on the WPP and to suggest funding strategies for implementation. At the suggestion of the Coordination Committee, LRFS met with Directors of Texas Wildlife Association to discuss the possibility of the Association serving as a non-profit fiscal agent for the Coordination Committee. LRFS, in conjunction with partners in the Hill Country Conservation Network were awarded \$5 million from NRCS to fund an RCPP. A grant proposal to TSSWCB for continued WPP Implementation was rejected. Next quarter, work will focus on (1) continuing water quality monitoring with Texas Stream Team volunteers; (2) implementing streambank demonstration projects at LRFS; (3) submitting proposals to fund implementation of WPP.

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 eighth quarterly report was prepared and submitted.

75% 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. \$109,302 of an available \$181,207 has been spent on the project.

60% 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. Met with project partners and TSSWCB December 11 in Temple to discuss deliverables
- b. Met with project partners December 21 to discuss grant funding opportunities.

60% 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:

- a. No actions occurred this quarter.

0% Complete

Task 2 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 2.1 TTU-LRFS will continue to employ an 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:

- a) 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.
- b) Tyson Broad continued meeting with local organizations and landowners regarding funding opportunities through the WPP. See Subtask 3.2

85% Complete

Subtask 2.2 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:

- a) LRFS discussed potential grant partnerships with Llano River Watershed Alliance Board, October 12
- b) LRFS participated in meeting of Hill Country Conservation Network, a partnership of organizations exploring collaborative efforts and funding on Hill Country natural resource issues, Oct 23.
- c) LRFS met City of Junction Mayor to discuss funding collection of additional water quality monitoring parameters for City's Wastewater Treatment Plant, November 30.
- d) LRFS submitted a grant proposal to the Southeast Aquatic Resource Partnership for riparian restoration work, December 1
- e) LRFS, in partnership with several Texas Tech Departments, submitted a proposal to the National Science Foundation to reduce anthropogenic ecological footprint on natural resources in Hill Country, Dec 19
- f) Update: LRFS partnered with several NGOs and governmental organizations (including Hill Country Conservancy, Hill Country Alliance, Texas Wildlife Association, Wimberley Valley Watershed Association, Llano River Watershed Alliance) to submit a Regional Conservation Partnership Program full proposal for Hill Country Headwaters Conservation Initiative to NRCS. *The proposal was selected for funding.*
- g) Update: LRFS partnered with TWRI, LCRA, and Llano River Watershed Alliance to submit Clean Water Act Nonpoint Source proposal to TSSWCB. *The proposal was not selected for funding.*
- h) LRFS assisted Edwards Aquifer Authority, UT-San Antonio, and Real-Edwards Conservation and Reclamation District in data collection associated with dye tracing activities on the Edwards Plateau.

75% Complete

Subtask 2.3 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.

The following actions have been completed during this reporting period: (b&c need updating)

- a) NRCS reported 4,011 acres of brush were treated in the watershed during the quarter for a total of 17,124 acres since WPP implementation began. The annual goal is 9,000 acres
- b) There were zero acres treated with prescribed burning during the quarter for a total of 6,752 acres since WPP implementation began. The annual goal is 5,400-7,700 acres.
- c) Crews from LRFS and TPWD treated 14 river miles of elephant ear along the South, North and main stem Llano River, October 31

65% Complete

Subtask 2.4 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:

- LRFS hosted Coordination Committee meeting consisting of new and former members of the original Coordination Committee, Oct 26, Junction
- Tyson Broad met with Texas Wildlife Association Board of Directors on November 8 in San Antonio to discuss potential for TWA to serve as non-profit financial agent to WPP.

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65% Complete

Subtask 2.5 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 482 landowners, citizens, local businesses, local and regional governmental entities and elected officials, state and federal agencies, and environmental and special interest groups.

75% Complete

Subtask 2.6 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:
 - Tom Arsuffi gave a lecture on the WPP to the Rochelle Study Club, Oct 2
 - Tyson Broad attended the Groundwater Management Area 7 meeting, Fredericksburg, Oct 19
 - Tom Arsuffi gave a lecture on the WPP to the Wayland Baptist University Conservation Ecology Class, Oct 21
 - Tyson Broad attended Texas State Comptroller Freshwater Mussels Workgroup meeting, Oct 24, Austin
 - LRFS attended Texas Water Symposium on Climate and Water in Central Texas, Nov 9, Kerrville

- Tyson Broad attended US Fish and Wildlife Mussel Summit, Nov 15, Austin

65% Complete

Subtask 2.7 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:

- After a technical delay in uploading data to the database, data are now being populated in the Stream Team database.

25% Complete

Subtask 2.8 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:

- a) Draft Winter Newsletter is being finalized.

15% Complete

Subtask 2.9 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 October to December of 2017, there were 1,080 sessions and 898 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 (325) and Facebook friends and via the website.
- c. The Facebook page for the Alliance currently has 470 "Likes" and reached a total of 3,269 Facebook users during the fourth quarter of 2017.

75% Complete

Task 3 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 3.1 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 – 1 event*
- *Lone Star Healthy Streams (Grazing Cattle component) workshop – 1 event*
- *Rainwater harvesting workshop – 1 event*
- *Texas Well Owner Network training and well screening event -1 event*
- *In partnership with the Llano River Watershed Alliance workshops -2 Watershed topic events*
- *LRFS Outdoor School K-12 STEM Watershed Curriculum – 20 Separate Independent School District Events*
- *LRFS Outdoor School K-12 STEM Teacher Professional Development (Water, Natural Resource and Environmental Literacy) – 2 workshops*

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:

- Texas Well Owners Network workshop was held November 14th at LRFS. A total of 23 people attended the workshop and 19 people had their water wells tested.
- Continued coordination for Feral Hog and Rainwater workshops

50% Complete

Subtask 3.2 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:

- a) Tyson Broad gave an overview of the Llano Watershed and WPP to Kerrville Chapter of Native Plant Society of Texas, October 10th.
- b) Tyson Broad presented brush control efforts and modeling results in the WPP to Headwaters Alliance, October 10, San Antonio
- c) Tyson Broad discussed Land Stewardship BMPs in WPP during radio interview in Mason, October 12.
- d) LRFS partnered with TPWD on Guadalupe Bass Brood Stock Fish Release Media Event, October 17, Junction
- e) LRFS and LRWA sponsored a booth and made stream trailer demonstrations at Octoberfish in Junction, October 21.

- f) LRFS provided educational segment on riparian restoration at Women on the Land Workshop in Junction, November 11.
- g) LRFS gave presentation on karst and spring protection for Menard County Soil and Water Conservation District High School Conservation Program, November 22

75% Complete

Task 4 Volunteer Monitoring

To monitor water quality benefits of WPP implementation efforts

Subtask 4.1 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, facilitated coordination and training of volunteers and distribution of sampling kits. LRFS continues to provide technical and monitoring supply support for volunteer monitors.

60% Complete

Subtask 4.2 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:

- a) Volunteer monitoring has begun at 8 sites with monthly sampling

25% Complete

Subtask 4.3 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:

- a) Database issues at Texas Stream Team continue to hamper data entry, but some preliminary data are being entered for evaluate database.

25% Complete

Subtask 4.4 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:

- a) Initiated data compilation for water quality assessment

5% Complete

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

- Water quality data entry has been delayed while database issues continue to be resolved with Texas Stream Team.

IV. Projected Work for Next Quarter

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

- a. Continue Water Quality monitoring and other field work with Texas Stream Team volunteers
- b. Finalize newsletter.
- c. Continue meeting with government entities and other stakeholders to discuss funding opportunities via WPP.
- d. Continue discussions with TWA re a potential role as Non-profit Financial Agent for WPP.
- e. Continue setting dates for Special Programs outlined in Subtask 4.1
- f. Complete engineering and riparian restoration activities for the streambank demonstration project at the LRFS.