

**Water Quality Monitoring in the Geronimo Creek Watershed and Facilitation of the  
Geronimo and Alligator Creeks Watershed Partnership**

Guadalupe-Blanco River Authority

FY2011 CWA Section 319(h)

Project No. 11-06

**Quarterly Report Number 8**

Covering work accomplished July through September, 2013

October 11, 2013

**I. Abstract**

The contract was extended through September 30, 2014. The Quality Assurance Project Plan amendment (Revision #1) was approved. Water quality monitoring was continued. Dry weather targeted monitoring for the fall quarter was conducted in September, with six stations being dry. GBRA and Extension held the meeting of the Geronimo Creek/Alligator Creek Watershed Partnership on September 10, 2013. The second newsletter, *The Geronimo Flow*, was distributed to stakeholders. A Texas Riparian & Stream Ecosystem Workshop was held September 17, 2013.

**II. Overall Progress and Results by Task**

**TASK 1: Project Administration**

**Subtask 1.1:** GBRA 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 15<sup>th</sup> of January, April, July and October. QPRs shall be distributed to all project partners and posted to the project website.

- GBRA prepared the progress report for July through September 2013 and submitted the report on October 11, 2013.

60% complete – On-going

**Subtask 1.2:** GBRA will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.

- GBRA submitted the invoice for April through June 2013 on July 30, 2013.

60% complete – On-going

**Subtask 1.3:** GBRA 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. GBRA will develop lists of action items needed following each project coordination meeting and distribute to project personnel.

- Many calls and emails were shared between GBRA, Extension, TSSWCB, and Partnership members, to plan for the quarterly partnership meeting.
- Discussions were had with Extension and TSSWCB concerning possible no-cost extension of project through September 30, 2014.
- GBRA called a project planning meeting in Temple on September 6, 2013 to organize project deliverables and clearly define roles of project partners.
- An extension for the project contract was executed in September, extending the project through September 30, 2014.

60% complete – On-going

**Subtask 1.4:** GBRA will continue to host and maintain a website (<http://geronimocreek.org/>) to serve as a public clearinghouse for all project- and watershed-related information. All presentations, documents and results will be posted to this website. The website will serve as a means to disseminate information to stakeholders and the general public. Extension shall contribute content matter for the website as appropriate.

- The Geronimo Creek Partnership webpage was updated with the Partnership meeting notice and other project related information (project maps) and to post the second newsletter.

60% complete – On-going

## **TASK 2. Quality Assurance**

**Subtask 2.1:** GBRA will develop a QAPP for activities in Task 4 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.

Consistent 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.

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).

- No work was performed under this task in this quarter.

100% completed – On-going

**Subtask 2.2:** GBRA will implement the approved QAPP. GBRA will submit revisions and necessary amendments to the QAPP as needed.

- GBRA submitted Revision #1 of the QAPP. Revision #1 was approved on September 23, 2013.

60% completed – On-going

### **TASK 3. Support and Facilitation of WPP Implementation**

**Subtask 3.1:** Extension will continue to employ a Geronimo Creek Watershed Coordinator to engage and facilitate the Geronimo Creek Watershed Partnership. In coordination with GBRA, the Watershed Coordinator will be responsible for the general oversight and coordination of all project activities, be responsible for reporting requirements and directing educational activities, and serve as the primary conduit for interaction with landowners, citizens, and entities to facilitate the implementation of the WPP. The Watershed Coordinator shall successfully complete (or have already completed) the Texas Watershed Planning Short Course. The Watershed Coordinator shall participate in Texas Watershed Coordinator Roundtables and the TSSWCB Southeast and South Central Texas Regional Watershed Coordination Steering Committee meetings, as necessary.

- The facilitation by AgriLife Extension continued under this contract. Major activities facilitated include the quarterly Partnership meeting and assisting with coordination of the Riparian Workshop and the coordination of the Homeowner Septic System classes offered in November.
- The Watershed Coordinator attended the Texas Watershed Coordinator Roundtable in Dallas July 30, 2013.
- GBRA partnered with Seguin ISD to assist in the production of their Project Based Learning (PBL) Academy this past summer. GBRA focused the PBL Academy on Geronimo Creek. GBRA staff helped with the production of Google fly-overs, maps and graphics. Some of the results from the class were the development of educational materials for the Geronimo Creek watershed. Students approached area restaurants and businesses and secured agreements with them to distribute placemats and other educational items developed through the summer academy. GBRA took the student designs, made final edits, and secured a printing company for production of 1,000 placemats, 500 brochures, and 500 magnets. Payment for production costs will come from the Extension budget. Distributed educational items to local restaurants and businesses for display and use on Water Monitoring Day on September 18, 2013.

60% completed – On-going

**Subtask 3.2:** Extension will facilitate public participation and stakeholder involvement in the watershed planning process, specifically by facilitating meetings of the Partnership Steering Committee (at least quarterly) and Work Groups (as needed) to provide regular updates on the status of monitoring efforts, progress in identifying implementation funding, and movement towards water quality restoration and seek input and recommendations on needed activities. Extension 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 WC will provide counties, cities and other partners with updates on progress of implementation of the WPP, if they are unable to regularly attend Partnership Steering Committee meetings.

- GBRA hosted the meeting of the Geronimo Creek/Alligator Creek Watershed Partnership on September 10, 2013. Extension facilitated. Extension prepared a press release to advertise the meeting, posted the meeting to the Seguin-Gazette and New Braunfels Herald-Zeitung community calendars, emailed the notice and reminders to the Partnership, and notified the Seguin radio station. Presentations attached. Students from Seguin High School and Texas Parks & Wildlife Department presented. It was also discussed when to schedule a feral hog workshop.
- Extension produced the second newsletter, *The Geronimo Flow*, and distributed it to stakeholders. The newsletter was posted to the project website.
- Extension is finalizing plans to begin purchasing space (on a near monthly basis) in the Seguin and New Braunfels newspapers, for the purpose of publishing articles to raise awareness of the project, educate readers regarding BMPs that can have a direct impact on water quality, and to inform readers about project highlights.

60% completed – On-going

**Subtask 3.3:** Extension will assist governmental and non-governmental organizations (i.e., responsible parties in the Geronimo Creek WPP) in identification and acquisition of resources (financial and technical) to enable WPP implementation. Extension 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.

- In September, TCEQ contacted Extension and GBRA to solicit 319(h) nonpoint source program grant applications for implementation projects in the Geronimo and Alligator Creeks watershed. Extension again made contact with representatives from the Cities of Seguin and New Braunfels for the purpose of engaging them in conversation to explore the potential for developing grant proposals for the TCEQ 319(h) Nonpoint Source Program. Seguin declined since they are starting their contract with TCEQ on a grant award to decommission failing septic systems in the Oak Village North subdivision as they tie those homes onto the city's wastewater collection system. Extension worked extensively with New Braunfels through the development of a 319(h) application to TCEQ for a feasibility and construction design project for the flood detention structure behind the Creekside development and for low impact development techniques at the New Braunfels Regional Airport.
- Contact was also initiated with the Seguin Outdoor Learning Center (SOLC) to engage them in the grant application process with TCEQ. The SOLC is identified in the WPP as the location for a potential outreach and education implementation project. After meeting with the SOLC September 11, 2013, and follow up communication, it was determined that GBRA would prepare and submit a grant application to TCEQ this September, partnering with the SOLC. GBRA worked expeditiously to develop and submit the application for funding to TCEQ, meeting the deadline. GBRA met with the SOLC executive committee on September 24 and supplied them with copies of the WPP. They voted to support and participate in the grant proposal. The proposal is attached.
- Last quarter, Extension contacted County Extension Agents to begin work on coordinating for both Comal and Guadalupe counties to participate this fall in the Texas Department of Agriculture Hog Out County Grants Program. However, this quarter, Extension contacted the Texas Department of Agriculture feral hog grant

coordinator to learn that the feral hog grant program is undergoing an extensive overhaul, and is not expected to be completed until Spring 2014. Until that time, work on feral hog grants to TDA will be suspended.

60% completed – On-going

**Subtask 3.4:** Extension will 1) evaluate and track progress toward achieving milestones established in the WPP; and, 2) work with GBRA to assess water quality data collected through the Clean Rivers Program, this project, and other data collection efforts in relation to achieving load reductions. Extension will develop, publish, print, and distribute to stakeholders, a biennial addendum to the Geronimo Creek WPP that describes modifications/updates to goals and milestones, explains new understandings of sources and cause of water quality issues, documents success in achieving goals and milestones, and success in achieving water quality improvement and load reductions. As the WPP will be published in fall 2012, this draft biennial addendum would most appropriately be published in fall 2014. This draft biennial addendum will function as the Final Report for this project.

- Extension continued development and updating the spreadsheets for the purpose of tracking implementation activities. All implementation activities listed in Tables 8.1 and 8.2 will be carefully monitored and updated as implementation proceeds.
- GBRA and Extension will look at the latest data collected and present it to the stakeholders at the January Partnership meeting.

60% completed– On-going

**Subtask 3.5:** Extension will coordinate education and outreach activities as identified in the Geronimo Creek WPP. GBRA will make presentations on the Geronimo Creek Partnership and WPP and general NPS pollution information to local schools and community organizations. Extension 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 Geronimo Creek watershed.

- The WC presented an overview of the project to the Seguin Kiwanis Club on July 17, 2013. Debbie Magin attended and answered questions and met with several interested stakeholders.
- Extension and GBRA are partnering to bring two homeowner septic system classes to the watershed in November. One will be hosted by GBRA in Seguin, and the other will be hosted by Extension in New Braunfels.
- Debbie Magin attended the TSSWCB's Coordination Council meeting held in Columbus, TX on September 5, 2013.
- Debbie Magin attended the City of Seguin's Planning and Zoning Committee Meeting held on August 13, 2013 in order to gather information on a zoning change in the watershed. There was discussion on the future site of the Helmerich and Payne (H&R) International Drilling Co.'s headquarters. The company would like to build on a site that is located between Continental and the Big Red Barn, in the Geronimo Creek watershed. There would be no oil and gas operation or production on the site. In addition to an office building, the company would store rigs temporarily as they move them from one job site to another. No action was taken by the Committee.

H&P will return in October to present their site utilization plan to meet the city's codes.

- Debbie Magin attended the City of Seguin's Unified Code Development meeting to represent the Geronimo Creek Watershed Partnership on August 27, 2013. Code is still in development. No action taken that would impact watershed.

60% completed – On-going

**Subtask 3.6:** GBRA will include information about this project in GBRA newsletters (e.g., *River Run*) and Clean Rivers Program publications regarding progress to implement the Geronimo Creek WPP. GBRA will solicit content matter for these publications from Project Partners as appropriate.

- GBRA's Public Communication Department worked with the Seguin High Schools Speech and Technology Summer School (Project-based Learning – PBL) class and the Environmental Science class.
- The PBL class gave a presentation on protection and stewardship of the Geronimo Creek to the GBRA Board of Directors on August 21, 2013, displaying the skills and technology they learned in their class.
- The PBL students also gave the presentation to the Seguin ISD Board of Trustees on August 27, 2013. GBRA representatives attended the meeting to thank the teachers, and students for their efforts and to thank the SISD for providing the opportunity to use the Geronimo Creek watershed as the class's focus.

60% completed– On-going

**Subtask 3.7:** Extension 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. Extension will solicit content matter for the newsletters from project partners as appropriate.

- Extension compiled the second newsletter, "*The Geronimo Flow*". The newsletter was distributed via email to stakeholders and posted to a new tab created on the project webpage.

60% completed – On-going

**Subtask 3.8:** Extension will facilitate communication with stakeholders in order to engage the public and affected entities in WPP implementation. Extension will utilize all appropriate communication mechanisms including direct mail, e-mail, the project website, and mass media (print, radio, television). Extension will develop and disseminate general project informational materials, including, but not limited to, flyers, brochures, letters, factsheets, news releases, and other appropriate promotional publications. Extension will develop and utilize a listserv (e.g., <http://listserv.tamu.edu/>) to facilitate direct discussion between stakeholders. Extension will explore the appropriate use of social media (i.e., Facebook) as a stakeholder communication mechanism for this watershed. Extension will solicit content matter for educational materials from project partners as appropriate.

- Extension emailed the steering committee information about the upcoming meeting, the Riparian workshop, and the upcoming Septic System classes. A press release was released, along with posting the meeting to the community calendars, and notifying local radio.
- Extension and GBRA partnered to make edits and fund the production of materials designed in the Seguin High School summer project based learning academy for distribution to the local restaurants and businesses.

60% completed – On-going

**Subtask 3.9:** Extension will make deliberate efforts to increase awareness of the WPP and secure implementation support thereof from county and municipal governments throughout the watershed.

- Extension made contact with representatives from the Cities of Seguin and New Braunfels for the purpose of engaging them in conversation to explore the potential for developing grant proposals for the TCEQ 319(h) Nonpoint Source Program. Extension worked extensively with New Braunfels through the development of a 319(h) proposal to TCEQ for a feasibility and construction design project for the flood detention structure behind the Creekside development and for low impact development techniques at the New Braunfels Regional Airport. Seguin declined since they are starting their contract with TCEQ on a grant award to decommission failing septic systems in the Oak Village North subdivision as they tie those homes onto the city's wastewater collection system.
- Contact was also initiated with the Seguin Outdoor Learning Center (SOLC) to engage them in the grant application process with TCEQ. The SOLC is identified in the WPP as the location for a potential outreach and education implementation project. After meeting with the SOLC September 11, 2013, and follow up communication, it was determined that GBRA would prepare and submit a grant application to TCEQ this September, partnering with the SOLC. GBRA worked expeditiously to develop and submit the application for funding to TCEQ, meeting the deadline. GBRA met with the SOLC executive committee on September 24 and supplied them with copies of the WPP. They voted to support and participate in the grant proposal. The proposal is attached.

60% completed– On-going

**Subtask 3.10:** Extension will maintain a spreadsheet of watershed stakeholders and affected parties for use in engaging the public in the watershed planning process. The spreadsheet will be added to based upon previous efforts of Extension in TSSWCB project 08-06. The spreadsheet will represent a diverse cross section of Geronimo Creek landowners, citizens, local businesses, local and regional governmental entities and elected officials, state and federal agencies, and environmental and special interest groups.

- Extension updated the stakeholder email spreadsheet with participant emails obtained from the Partnership meeting and the Riparian Workshop. These events added 35 new contacts to the stakeholder list.

60% completed – On-going

**Subtask 3.11:** Extension 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.

- Extension attended and participated in the Comal-Guadalupe SWCD board meeting on September 24, 2013. TSSWCB presented the final work plan for the new district technician position to the SWCD. Both Extension and TSSWCB answered questions from the SWCD and offered to assist with the hiring and new employee orienting process.

60% completed – On-going

#### **TASK 4. Water Quality Data Collection and Analysis**

**Subtask 4.1:** GBRA will conduct routine ambient monitoring at seven sites once per month, collecting field, conventional, flow and bacteria parameter groups. The QAPP developed in Task 2 will precisely identify the sites. The sampling period extends over 21 months. The number of samples planned for collection through this subtask is 147. Currently, routine ambient monitoring is conducted monthly at one station by GBRA (12576) through the Clean Rivers Program. Sampling through this subtask will complement existing routine ambient monitoring regimes such that routine water quality monitoring is conducted monthly at eight sites in the Geronimo Creek watershed. GBRA's Regional Laboratory will conduct sample analyses. Field parameters are pH, temperature, dissolved oxygen and conductance. Conventional parameters are total suspended solids, turbidity, sulfate, chloride, nitrate nitrogen, ammonia nitrogen, total kjeldahl nitrogen, chlorophyll-a, pheophytin, total hardness, and total phosphorus. Flow parameters are flow collected by gage, electric, mechanical or Doppler, including severity. Bacteria parameter is *E. coli* enumerated using USEPA Method 1603.

- July 24, 2013 -
  - Routine monitoring at seven sites - CRP monitoring at one site. One site was dry – Geronimo Creek at Huber Road (20742).
- August 6, 2013 -
  - Routine monitoring at seven sites - CRP monitoring at one site. One site was dry – Geronimo Creek at Huber Road (20742).
- September 18, 2013 -
  - Routine monitoring at seven sites - CRP monitoring at one site. One routine site was dry and not sampled (Geronimo Creek at Huber Road (20742)).

60% completed – On-going

**Subtask 4.2:** GBRA will conduct routine ambient monitoring at six sites once per quarter year, collecting field, conventional, flow and bacteria parameter groups; specific

parameters are defined in Subtask 4.1. The QAPP developed in Task 2 will precisely identify the sites. The sampling period extends over seven seasons. The number of samples planned for collection through this subtask is 42. Spatial and seasonal variation will be captured in these snapshots of watershed water quality. GBRA's Regional Laboratory will conduct sample analyses.

- Dry weather monitoring for the fall quarter was conducted on September 18, 2013. Of the six targeted and eight routine sites, six sites were dry (Geronimo Creek at Huber Road (20742), Alligator Creek at Barbarosa Road (20750), Alligator Creek at FM 1102 (20748). And Alligator Creek at FM 1101 (20749)), unnamed tributary at Laubach Road (20753) and Baer Creek at Walnut St. (20744). One site was dry with pools - Alligator Creek at Huber Road (20743).

60% completed – On-going

**Subtask 4.3:** GBRA will conduct biased flow monitoring at fourteen sites once per season under wet conditions, collecting field, conventional, flow and bacteria parameter groups; specific parameters are defined in Subtask 4.1. These sites shall be the same as the sites for routine ambient monitoring described in subtasks 4.1-4.2. If a storm event was captured under routine monitoring in subtasks 4.1-4.2, a separate biased flow sample will not be collected under this subtask. The QAPP developed in Task 2 will precisely identify the sites. The sampling period extends over seven seasons. The number of samples planned for collection through this subtask is 98. Spatial, seasonal and meteorological variation will be captured in these snapshots of watershed water quality. GBRA's Regional Laboratory will conduct sample analyses.

- Wet weather monitoring was conducted for the fall quarter on September 23 and 30, 2013. Because of two rain events in mid-September that subsequently caused runoff throughout the watershed all sites had flow and were sampled.

60% completed – On-going

**Subtask 4.4:** GBRA will conduct routine groundwater monitoring at up to four sites (e.g., two spring and two wells) once per quarter year, collecting field, conventional, flow and bacteria parameter groups; specific parameters are defined in Subtask 4.1. The QAPP developed in Task 2 will precisely identify the sites. The sampling period extends over seven quarters. The number of samples planned for collection through this subtask is 28. GBRA's Regional Laboratory will conduct sample analyses.

- GBRA collected groundwater well samples at two sites and one spring site September 18, 2013 (fall quarter).
- The spring site was resampled on September 30 for *E. coli* due to a laboratory error. The corrective action report supplied by the laboratory is attached.

60% completed – On-going

**Subtask 4.5:** GBRA will transfer monitoring data from activities in subtasks 4.1-4.4 to TSSWCB for inclusion in the TCEQ SWQMIS at least quarterly. Data will be transferred in the correct format using the TCEQ file structure along with a completed Data Summary, as described in the most recent version of the *TCEQ Surface Water Quality*

*Monitoring Data Management Reference Guide.* GBRA will post data from monitoring activities collected in subtasks 4.1-4.4 to the project website in a timely manner. GBRA will submit Station Location Requests to TCEQ, as needed, to obtain TCEQ station numbers for new monitoring sites. Data Correction Request Forms will be submitted to TSSWCB whenever errors are discovered in data already reported. All monitoring data files, data summary reports and data correction request forms will also be provided to Extension. GBRA will input monitoring regime, as detailed in the QAPP, into the TCEQ CMS.

- GBRA, under instructions from TCEQ, submitted monitoring data collected under this project directly to TCEQ for the months of February – July 2013 on September 12, 2013. The data was assigned specific tag numbers by TCEQ.
- GBRA began updating data tables for uploading to the project website. Will be completed and uploaded next quarter.

60% completed – On-going

**Subtask 4.6:** GBRA will develop a final Assessment Data Report summarizing water quality data collected through Task 4. The Report shall, at a minimum, provide an assessment of water quality with respect to effectiveness of BMPs implemented and a discussion of interim short-term progress in achieving the Geronimo Creek WPP water quality goals. GBRA will summarize the results from Task 4 in the GBRA's Clean Rivers Program Basin Highlights Report and Basin Summary Report. GBRA will provide updates on the results and activities of Task 4 to the Steering Committee.

- No work was performed under this task in this quarter.

0% completed– On-going

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

- Routine monitoring was conducted.
- A Texas Riparian & Stream Ecosystem Workshop was held September 17, 2013 which resulted in introducing an almost entirely new group of stakeholders to the project.
- Dry weather monitoring was conducted in the quarter. Six sites were dry.

### **IV. Projected Work for Next Quarter**

The following will be accomplished during the coming quarter:

- a. Monitoring will continue at routine sites.
- b. Data tables will be completed and uploaded to project webpage.
- c. Webpage will continue to be updated.
- d. Newsletter development and distribution will continue.
- e. Extension will have a booth set up at the 73<sup>rd</sup> Annual Meeting of SWCD Directors in Forth Worth in October.
- f. Extension will begin purchasing newspaper space for the purpose of publishing monthly articles that will educate about practices to improve water quality in the area.
- g. Extension will work with project partners to prepare for the new Comal-Guadalupe SWCD field technician position.

- h. Extension will work with Comal and Guadalupe Counties On-Site Sewage Facilities programs to advertise the homeowner septic system workshops coming in November.
- i. GBRA and Extension will look at the latest data collected and present it to the stakeholders at the January Partnership meeting.
- j. Debbie Magin will attend the City of Seguin's Planning and Zoning Committee meeting to hear about H&P International Drilling Company's plans for the site in the watershed.