

FY 2020 ANNUAL REPORT

*Bandera County
River Authority and
Groundwater District*

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Bob Williams, *Vice President*
Neil Boultinghouse, *Secretary-Treasurer*
Ernest DeWinne
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Design & Layout by Jason Casteel
Cover Photo Courtesy of Clinton Carter*



Bandera County
River Authority & Groundwater District
Protecting & Preserving our Natural Resources

MISSION STATEMENT

The principle mission of the Bandera County River Authority and Groundwater District is to protect and preserve the County's water and natural resources for the citizens of Texas. The District is also tasked with maintaining local accountability of the County's water resources to help safeguard the property rights of the citizens of Bandera County.

CORE VALUES

Professionalism, Dedication to Science, Honor and Integrity, Public Service, Stewardship, Leadership and Collaboration, Accountability, and Transparency

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ABOUT *the* DISTRICT

1971

Bandera County River Authority

- HB 988 of the 62nd Texas Legislature
- Article XVI, Section 59 of the Texas Constitution
- Vested with all of the rights, powers, privileges, authority and duties of a WCID

1989

Springhills Water Management District

- SB 1636 of the 71st Texas Legislature
- Joint surface and groundwater district
- Chapter 50, 52 of Texas Water Code + BCRA
- 9 directors

2003

Bandera County River Authority & Groundwater District

- TCEQ authorized name change
- Continues all programs and activities of SWMD
- Chapter 36, 49, and 51 of the Texas Water Code

Bandera County River Authority

In 1971, the 62nd Texas Legislature created the Bandera County River Authority under House Bill 988. It was created as a conservation and reclamation district under and pursuant to Article XVI, Section 59, of the Texas Constitution. As defined by Article 8280-526, Vernon's Texas Civil Statutes, the River Authority encompassed all of the territory contained in Bandera County except the territory included in the Bandera County Fresh Water Supply District No.1 (Pebble Beach) and the Bandera County Water Control and Improvement District No.1 (City of Bandera). According to the provisions of the legislation, the Bandera County River Authority shall have and exercise and is hereby vested with all of the rights, powers, privileges, authority and duties conferred and imposed by the general laws of this state now in force or hereafter enacted, applicable to water control and improvement districts created under authority of Article XVI, Section 59 of the Texas Constitution; but to the extent that the Provisions of any such general laws may be in conflict or inconsistent with the provisions of this Act, the provisions of this Act shall prevail. All such general laws are hereby adopted and incorporated by reference with the same effect as if incorporated in full in this Act.

Springhills Water Management District

In 1985, the Board of Directors began working with State and local officials, and concerned citizens to determine the most advantageous method to manage groundwater in Bandera County. After numerous public meetings, the decision was made to pursue legislation creating a joint surface and groundwater district in Bandera County. The result was the creation of the Springhills Water Management District.

Springhills Water Management District was created under Senate Bill 1636. The District's enabling legislation, appearing as Act of June 17, 1989, Ch. 654, 1989, Tex. Gen. Laws 2155 (Vernon), granted the District the rights,

powers, privileges, authority, functions, and duties provided by Chapters 50 and 52; and the rights, powers, purposes, authority, and functions of the Bandera County River Authority. The legislation defines the District's boundaries as all of the territory contained within Bandera County. The legislation further stipulates that the Board of Directors will be comprised of nine (9) directors. The directors will be elected from commissioner precincts with one director at large. The Springhills Water Management District continued all of the programs and activities initiated by the River Authority, and implemented the programs required of a groundwater conservation district.

Bandera County River Authority and Groundwater District

On April 10, 2003, the Texas Commission on Environmental Quality (TCEQ) authorized changing the District's name to Bandera County River Authority and Groundwater District (BCRAGD). The BCRAGD continues all the programs and activities of Springhills Water Management District. BCRAGD has all of the rights, powers, privileges, authority, functions, and duties now provided by Chapter 36, 49, and 51 of the Texas Water Code.

PURPOSE of a DISTRICT

Texas Water Code, Chapter 51, Water Control and Improvement District

51.121. Purposes of a District (River Authority)

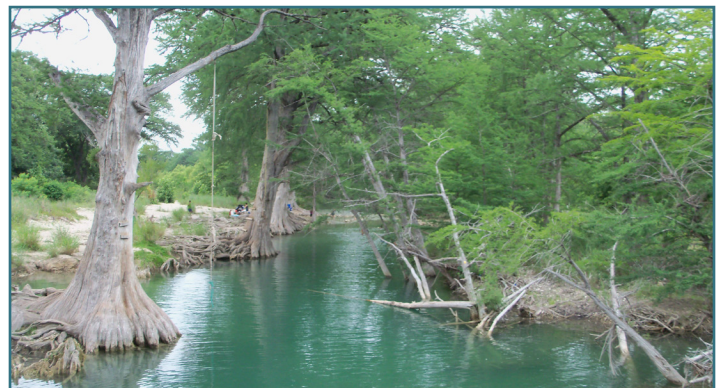
A water control and improvement district organized under the provisions of Article XVI, Section 59, of the Texas Constitution, may provide for:

1. The control, storage, preservation, and distribution of its water and floodwater and the water of its rivers and streams for irrigation, power, and all other useful purposes;
2. The reclamation and irrigation, power, and all other useful purposes;
3. The reclamation, drainage, conservation, and deployment of its forests, water, and hydroelectric power;
4. The navigation of its coastal and inland water;
5. The control, abatement, and change of any shortage or harmful excess of water;
6. The protection, preservation, and restoration of the purity and sanitary condition of water within the state; and
7. The preservation and conservation of all natural resources of the state.

Texas Water Code, Chapter 36, Groundwater Conservation Districts

36.0015. Purpose (Groundwater)

In order to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions, consistent with the objective of Section 59, Article XVI, Texas Constitution, groundwater conservation districts may be created as provided by this chapter. Groundwater conservation districts created as provided by this chapter are the state's preferred method of groundwater management.



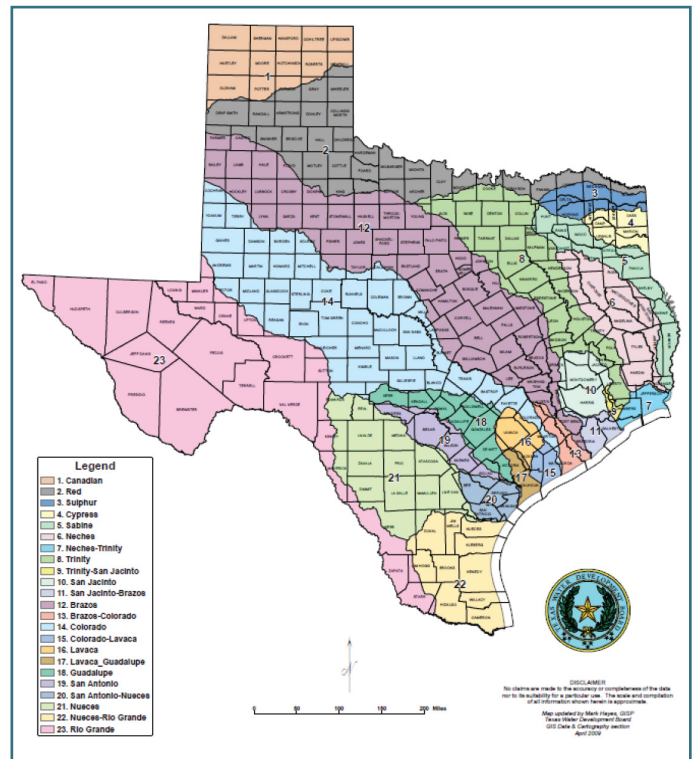
LOCATION

The District's office is located at 440 FM 3240 Bandera, Texas. Bandera County lies in the south central part of Texas, in the hill country region of the Edwards Plateau. The County has an aerial extent of 768 square miles, or 491,520 acres. The County seat, the city of Bandera, is

centrally located at the intersection of South Highways 16 and 173. Kerr, Kendall, Bexar, Medina, Uvalde, and Real Counties bound the County, in a clockwise pattern. Bandera County River Authority and Groundwater District encompasses all of Bandera County.

RIVER BASINS

Bandera County contains parts of three major drainage basins. The Nueces River basin occupies approximately 25 percent of the County to the west and southwest, with drainage to the south. The San Antonio River basin occupies approximately 73 percent of the County; located from the north central, to the southeastern portion of the County, where the river has been dammed to form Medina Lake. Drainage from the San Antonio River basin is to the southeast. The Guadalupe River basin occupies approximately 2 percent of the County as a small portion of the central northern section. The two major rivers in the County are the Sabinal River, located in the Nueces River basin, and the Medina River, located in the San Antonio River Basin. The larger rivers are dominantly effluent and form wide valleys. Two dominant types characterize the smaller creeks and streams: the perennial spring-fed streams and the intermittent creeks that only transport precipitation runoff.



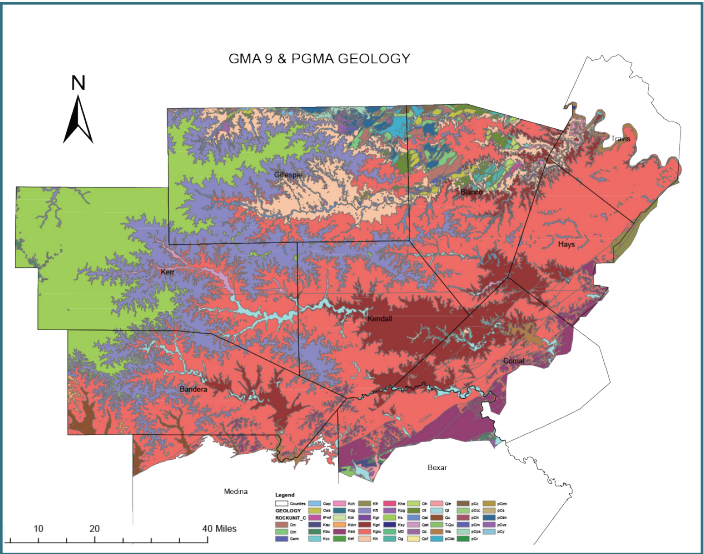
MAJOR AQUIFERS

The Trinity Group aquifer underlies all of Bandera County, underlying the Edwards Plateau aquifer in the northwest portion of the County and extending south into Medina and Uvalde counties and east into Kendall and Bexar counties. The Trinity Group aquifer is the primary source of groundwater in Bandera County. This aquifer is divided into three groups: the Upper Trinity, Middle Trinity, and Lower Trinity. The Upper Trinity aquifer

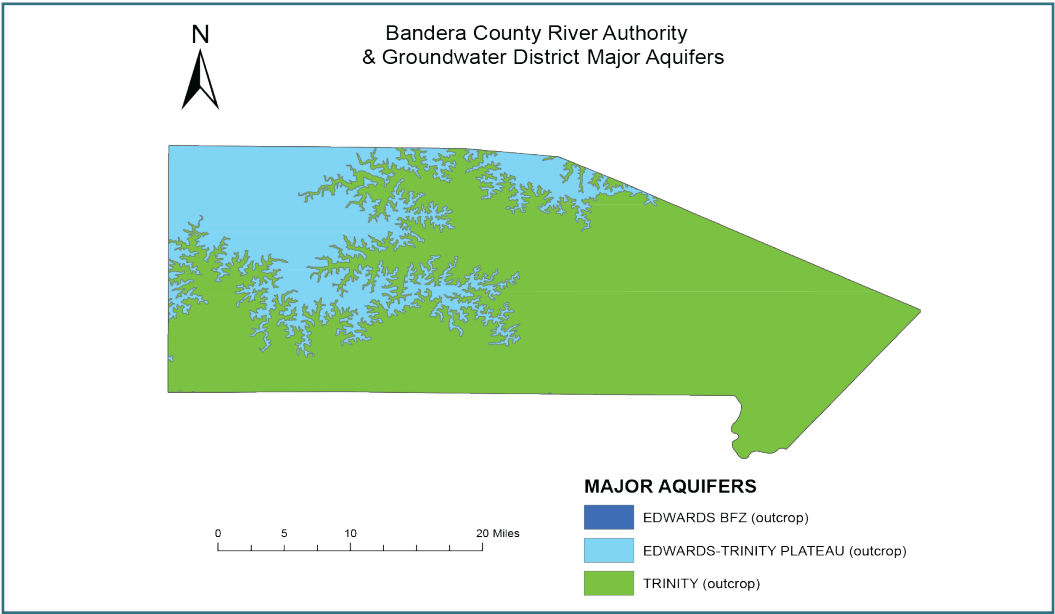
contains the Upper Glen Rose Limestone. The Middle Trinity aquifer contains the Lower Glen Rose Limestone, the Hensell Sand, and the Cow Creek Limestone. The Lower Trinity aquifer is composed of the Sligo Limestone and Hosston Sands. The Trinity Group aquifer yields groundwater from the Upper and Lower units of the Glen Rose Formation; and the Hensell, Cow Creek, Sligo, and Hosston members of the Travis Peak Formation of the

Trinity Group of Cretaceous age. Downdip from the outcrop area, in the artesian pressure portion of the aquifer, groundwater production supplies water to all wells. Primary sources of recharge to the Trinity Group aquifer include the infiltration of precipitation on the outcrops to the north and northwest of Bandera County and infiltration of surface water from lakes and streams through vertical leakage from overlying formations. The Trinity Group aquifer primarily exists under water-table conditions along the outcrop and under artesian conditions downdip, where confining beds of limestone and shale bound the water-bearing units. Movement of shallow groundwater is primarily down gradient, from high to low elevations, and at right angles to the potentiometric surface contours, which denote the configuration of the water table. The overall groundwater movement is to the southeast with local movement away from groundwater highs, and along the surface drainage system, with groundwater lows that have developed as a result of production in large well fields.

Alluvial deposits are found in the flood plain of the major tributaries of streams, which make up the surface drainage system in the county. The alluvial deposits are highly permeable with a maximum thickness of approximately 50 feet and small areal extent. They yield only



small amounts of good quality water. Due to the naturally occurring anhydrate and gypsum beds, the overall quality of groundwater obtained from the Upper Trinity aquifer, which contains the Upper Glen Rose formation is of poor quality, with small yield. The Middle Trinity aquifer, which contains the Lower Glen Rose Limestone, Hensell Sand, and Cow Creek Limestone formations, yields small to moderate amounts of water with a good to excellent water quality. The lower Trinity aquifer that contains the Sligo Limestone and Hosston Sand yields moderate to large quantities of water of good to excellent quality.



DISTRICT STAFF



General Manager, Dave Mauk, CFM

The General Manager is the Chief Executive Officer responsible for the planning, development, and implementation of policies of the District for the protection, management, and conservation of groundwater and surface water, or any other natural resource within the District. The General Manager works closely with the elected Board of Directors to assure that the District's goals and policies are met in a timely manner. The General Manager is responsible for hiring, discharging, and supervising District Staff.



Office Manager, Prari Blair, M.Ed.

Under the direction of the General Manager, the Office Manager is primarily responsible for supporting the General Manager in implementing all District policies and programs; ensuring office operations are conducted efficiently, properly, and in accordance with District, Federal, and State rules, policies, and regulations. The Office Manager serves as the supervisor for all office operations. This position is also tasked with providing complex and high level executive assistance to the General Manager. Some of the primary duties include serving as the District's Finance Coordinator, Human Resources representative, completing Annual Finance Audits and Annual Reports, and serving as the District Records Management Officer.



Intergovernmental Affairs Manager, Hayli Phillips

Under the direction of the General Manager, the Intergovernmental Affairs Manager is primarily responsible for supporting the General Manager in implementing all District policies and programs. The Intergovernmental Affairs Manager serves as the supervisor for all intergovernmental affairs operations. Some of the primary duties include assisting the General Manager with issues during the Legislative session, interim changes, and any other political or policy issue. She is also tasked with Board Meeting coordination, meeting minutes, agendas, Public Relations, serves as the District's Election Coordinator, and records the minutes for Groundwater Management Area 9 meetings. This position is also tasked with providing confidential, complex, and high level executive assistance to the General Manager.



River Authority Operations Manager, Levi Sparks, M.S., CLM

Under the direction of the General Manager, the River Authority Operations Manager is primarily responsible for supporting the General Manager with the implementation of the District's surface water quality, natural resources, watershed protections, and monitoring programs. The River Authority Operations Manager serves as the supervisor for the River Authority field operations and oversees the District's laboratory operations as well as serving as liaison between the District and partner organizations. Some of the primary duties include implementing invasive species monitoring, the District's In-House sampling program, and the Clean Rivers Program. The River Authority Operations Manager will be serving as the District's Compliance and Enforcement Officer (Code Enforcement Officer) by Spring 2021.



Groundwater District Operations Manager, Alyssa Balzen, M.S., GIT

Under the direction of the General Manager, the Groundwater District Operations Manager is responsible for maintaining and implementing the Groundwater Monitoring and Protection Programs. The Groundwater District Operations Manager serves as the supervisor for all groundwater operations. Some of the primary duties include implementing the District's Well Permitting and Registration Programs, Monitor Well Program, Well Plugging Program, and assisting the General Manager in the management and planning of groundwater resources and data. The Groundwater District Operations Manager is currently the District's Geologist In Training, and just passed her Fundamentals of Geology Exam in December 2020.

DISTRICT STAFF



Education & Outreach Manager, Corrina Fox

Under the direction of the General Manager, the Education & Outreach Manager is primarily responsible for promoting science-based educational programs and best management practices that promote water conservation and water quality protection. The Education & Outreach Manager serves as the supervisor for all education operations. Some of the primary duties include providing educational presentations and hands-on learning activities to local schools that promote water conservation and water quality protection. In addition, the Education & Outreach Manager is tasked with maintaining CEUs to preserve her Teacher Certification and aligning the District's curriculum with the TEKS. The Education & Outreach Manager also supervises the District's Social Media pages and Newsletters.



Chief Data Officer, Larry B. Thomas, CFM

Under the direction of the General Manager, the Chief Data Officer is primarily responsible for maintaining, reviewing, and ensuring that quality control measures are implemented in regards to District data. The Chief Data Officer is ultimately responsible for ensuring the integrity and retrievability of the District's data. The Chief Data Officer serves as the liaison between the District and other organizations as needed and serves as the Project Manager to the District's Flood Early Warning System (FEWS) Projects. In addition, he also assists the Natural Resource Specialist, Groundwater District Operations Manager, and Field Technician with field work as needed.



Natural Resource Specialist, Clinton Carter

Under the direction of the River Authority Operations Manager, the Natural Resource Specialist is primarily responsible for supporting the implementation of the District's surface water quality, natural resources, and monitoring programs. His primary duties include implementing the District's laboratory operations, In-House Sampling program, Clean Rivers Program, EAA Sampling program, environmental investigations, invasive species programs, and enforcement. The Natural Resource Specialist works closely with the River Authority Operations Manager and Groundwater District Operations Manager to assure that the District's goals and policies are met in a timely fashion. The Natural Resource Specialist is currently studying under the Professional Science Master's Program in Natural Resources Management through Texas Tech University. The Natural Resource Specialist will be serving as the District's Compliance and Enforcement Officer (Code Enforcement Officer) by Spring 2021.



Office Coordinator, Charley Curd

Under the direction of the Office Manager and the Education & Outreach Manager, the Office Coordinator is primarily responsible for supporting and assisting the Office Manager and Education & Outreach Manager in implementing all District policies and programs, ensuring office operations are conducted efficiently, properly, and in accordance with District, Federal, and State rules, policies, and regulations. The Office Coordinator also assists the Education & Outreach Manager during educational presentations and hands-on learning activities to local schools to promote water conservation and water quality protection. Some of the primary duties include citizen assistance, front desk operations, serving as the District's Public Information Request Coordinator, maintaining the District's website, and updating the District's Social Media pages and Newsletters. The Office Coordinator is currently studying for a Master's degree in Public Health.



Field Technician-Well Inspector, Jay McEwen

Under the direction of the Groundwater District Operations Manager, the Field Technician-Well Inspector is primarily responsible for conducting site visits before and while registered and permitted wells are being drilled, as well as after they have been completed, to verify that they are in adherence to applicable rules and construction standards for all programs administered by the District.



DISTRICT TEAMS

Staff members are organized into nine teams.
Many employees serve on more than one team:

General Management

Office Operations

Groundwater District Operations

River Authority Operations

Performance Management and Quality Improvement

Water Resource Management and Policy

Education and Community Outreach

Flood Warning and Awareness

Data Management

GENERAL MANAGER'S STATEMENT

Bandera County tends to experience either periods of drought or heavy rainfall. Unfortunately, it seems that we are starting to fall back into severe drought conditions once again.

Additionally, this region is one of the most flash flood prone areas in the world. In recent years, several rain events in our area have threatened life and property. Seeing the public safety need, the District applied for and received a TWDB grant for a USGS flood warning project in 2016. The Flood Early Warning System (FEWS) utilizes river gages and basin modeling, which will give Emergency Managers in Bandera County a set of predictive tools that will allow them to anticipate what areas will potentially flood during an event. This science-based project had its completion date in May of 2019. Citizen training for the project is underway, occurring throughout FY 2020 and will continue into FY 2021.

Our region continues to be threatened by the spread of invasive species. The District is particularly concerned with *Arundo donax* and Zebra Mussels. *Arundo donax* is a noxious weed native to Europe and Asia which is easily spread and can obstruct habitat along our watercourses. The District has partnered with the Nueces River Authority and Texas Parks and Wildlife Department (TPWD) to aggressively control the weed in both the Sabinal and Medina river basins. Zebra Mussels are a fingernail-sized mollusk native to lakes in Ukraine and Southern Russia. Zebra Mussels spread primarily by clinging to boat hulls, bait buckets, and boat bilge tanks. This invasive species hinders water recreation and destroys aquatic ecosystems. The District, in conjunction with TPWD, have instituted a Zebra Mussel surveillance program for Medina Lake.

The District continues to promote conservation, rainwater harvesting, and drought awareness. District personnel have assisted and counseled landowners on how to protect both their water quantity and quality.

This year, COVID-19 prevented a lot of in person meetings, education events, lectures, etc.. However, BCRAGD personnel quickly adapted to a virtual manner of communication and remained

constantly accessible to the public. Throughout the pandemic, the District continued water quality monitoring, environmental investigations, accepting well registrations and permit applications, as well as our presence on social media. Moving forward, the District will continue to enforce rules and follow our management plan. BCRAGD continues to host events and educational talks over water conservation, drought awareness, invasive species management, and riparian information that is open to the public.

The District will continue to implement key conservation and water quality programs including the Clean Rivers Program, Aquifer Monitor Well Program, Community Outreach and Education, Illegal Dumping Abatement, and our Flood Awareness Program. District personnel are constantly revisiting and improving operating procedures. We continue to strive to be as transparent as possible. As General Manager, I have an open door policy, making myself available for any citizen's questions and concerns.

As a District, we continue to be a regional player to help safeguard the rights and natural resources of the people of Bandera County. We have been an active participant in the Regional Water Planning Groups, GMA-9, TCEQ's Clean Rivers Program, and Bay and Basin Stakeholder Committee. Our District has established lasting collaborations with other Districts and community organizations. The District will continue to improve its programs and processes to further the policies of the Board. This continued progress and regional engagement will help ensure that the interests and water resources are protected for the people of Bandera County and the entire basin.

Very Respectfully,



Dave Mauk
General Manager



DISTRICT COVID-19 RESPONSE

Bandera County River Authority and Groundwater District

COVID-19 Public Health Crisis Policy

Whereas interaction with the public is prevalent in the day-to-day operations of Bandera County River Authority and Groundwater District;

Whereas Bandera County River Authority and Groundwater District places public safety as a top priority;

Whereas the health, safety, and well being of all employees and directors is of great concern to the Bandera County River Authority and Groundwater District;

Whereas Bandera County River Authority and Groundwater District, hereinafter referred to as the District, desires to adopt a contingency plan in the case of the spread of COVID-19 that would affect the Districts operations;

SECTION 1. Staff Health Protocol

In the event of public health risk all staff should follow the fundamental steps for any illness which include, but are not limited to: frequently washing your hands with soap for a duration of at least 20 seconds; cover your mouth when coughing or sneezing; avoid close contact with people who are sick; if you experience flu-like symptoms, stay home. Also, the District will follow any additional guidelines from the U.S. Centers for Disease Control.

SECTION 2. Individual Quarantine Protocol

In the event that a staff member, or any individual residing in their home, contracts COVID-19, that staff member will not be permitted on District premises for at least 14 days and should self-quarantine themselves. If the staff member has come in contact with any additional staff members 21 days prior to their diagnosis, the additional staff members will also be subject to self-quarantine for a minimum of 14 days. In the event that the original disease contracting staff member comes in contact with the entire staff please see Section 3 (C).

SECTION 3. Staff Safety Protocol

In the event that a pandemic illness affects the operations of the District, the following are contingency plans that are to be set in place per the General Manager's discretion:

- A. **HALTING PUBLIC INTERACTION:** In the event that COVID-19 is present in the community but not threatening to the immediate well being of the District staff, the District will halt the acceptance of water samples, public meetings, education and

DISTRICT COVID-19 RESPONSE

outreach events, and any other day-to-day operations that require in-person contact with the public. This contingency plan would last for a minimum of 7 days and end at the discretion of the General Manager.

- B. **CLOSED TO PUBLIC:** In the event that a COVID-19 outbreak occurs in Bandera County, but is only passed through contact (not community / environmental spread), the District will be closed to the public, but remain operational from District facilities. This contingency plan would last for a minimum of 3 days and end at the discretion of the General Manager.
- C. **TEMPORARY CLOSING OF OFFICES:** In the event that COVID-19 is community or environmentally spread and present in Bandera County, or surrounding areas, at the discretion of the General Manager, the District will close the office and continue essential operations remotely (i.e. work from home). This contingency plan will have the following protocol:
- i. All calls to the main office will be forwarded to the General Manager
 - ii. All water sampling from surface water and groundwater will be suspended
 - iii. Office staff will work from home and communicate with each other and the General Manager via video conferencing, telephone calls, e-mail, instant messaging through work email accounts, etc...
 - iv. Mandatory board meetings will be conducted via telephone conference

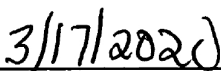
SECTION 4. Following Local Government Ordinances

In the event of widespread pandemic illness, the District will always follow City Ordinances and local ISD Protocols. As we are not a public health institution and do not have the institutional knowledge or resources to make sound decisions regarding the concerns of public health, it is determined that it is best that we take all necessary precautions to prevent the further spread of illness.

Signature:



Dave Mauk
General Manager



Date

*Effective date of signature approval from General Manager

DISTRICT COVID-19 RESPONSE

March 13, 2020
Governor Abbott issues
Disaster Proclamation.

March 19, 2020
Governor Abbott issues
Executive Order 8:
Mitigating the spread of
COVID-19.

April 27, 2020
Governor Abbott issues
Executive Order 18: Phase
One of Re-opening the
state.

June 03, 2020
Governor Abbott issues
Executive Order 26: Phase
Two of Re-opening the state.

March 17, 2020
BCRAGD's Public Health
Crisis Policy takes effect.

March 30, 2020
General Manager extends
BCRAGD staff working
from home until April 13,
2020.

April 30, 2020
BCRAGD Quarterly Board
Meeting is held virtually.

July 06, 2020
BCRAGD Closes to the
Public, but remains open
to staff.

Dec. 30, 2020
BCRAGD extends the
Staggered Working
Schedule until February 8,
2021.

Mar. 29, 2021
BCRAGD extends the
Staggered Working
Schedule until May 1, 2021.

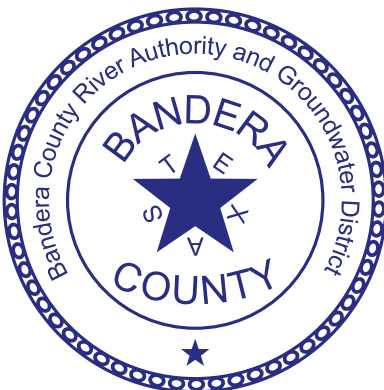
March 19, 2020
BCRAGD staff begins
working from home, with
exception to essential in
office duties until April 3,
2020.

April 13, 2020
BCRAGD staff begins a
staggered work schedule
until April 30, 2020.

May 04, 2020
BCRAGD staff is back in
the office with increased
health and safety
procedures.

Dec. 18, 2020
BCRAGD Moves to a
Staggered Working
Schedule for 30 days to
prevent exposure.

Jan. 20, 2021
BCRAGD extends the
Staggered Working
Schedule until March 29,
2021.



A serene landscape featuring a calm body of water, a large tree with a bird's nest on a log in the foreground, and a grassy field in the background.

DISTRICT PROGRAMS & INITIATIVES

DISTRICT PROGRAMS & INITIATIVES

Groundwater Programs

Groundwater Management Plan
Registered/Exempt Well Program
Permitted Well Program
Monitor Well Program
Groundwater Sampling and Analysis
Geophysical Logging
Well Camera Inspections
Abandoned Well Plugging Program
Drought Management Plan
Rainfall Monitoring Program

Surface Water Programs

TCEQ Clean Rivers Program
In-House Surface Water Quality Monitoring Programs
EAA Sampling
Invasive Species Management
Medina Lake Management

Enforcement / Investigations

Enforcement of State and District Rules
Environmental Investigations
 Illegal Dumping Litter Abatement
 Public Safety / Pollution

Education & Community Outreach

USGS Flood Early Warning System (FEWS)
Sabinal River- TWDB Flood Protection Grant
USGS Flood Early Warning System (FEWS)
Medina River
Public Safety - Flood Preparedness
Public Education and Community Outreach Program
 Bandera, Medina, & Utopia ISD Programs
 Expanding Your Horizons
University Internship Program
Water Conservation & Natural Resource Stewardship

Invasive Species & Healthy Riparian Education

Annual Medina River Clean-Up

Resource Planning & Collaboration

GMA-9 Representative
Region J (Plateau) Water Planning Group
TAGD Member- Legislative and Education Committees
GSA BBASC Environmental Flows member and representative
US Department of Agriculture
Natural Resource Conservation Services
State Technical Committee

COLLABORATION HIGHLIGHTS

BCRAGD highlights many of the local, regional, and state agencies and organizations that assist with programs and initiatives each year.

United States Geological Survey

BCRAGD contracted USGS to finalize and provide training for the Flood Early Warning System (FEWS) Tool Set for Bandera County and the Sabinal River under the grant awarded to the District by Texas Water Development Board. In addition, BCRAGD contracted USGS to implement the tool set for the USGS Flood Early Warning System (FEWS) of the Medina River under the grant awarded to the District by Texas Water Development Board.

Texas Water Development Board

On August 25, 2016, TWDB awarded \$265,150 in Flood Protection Grant funding to BCRAGD for Bandera County. Working with USGS, this project will protect the lives of local residents and also the communities downstream through a flood warning tool set.

Texas Commission on Environmental Quality

Environmental Investigations

San Antonio River Authority

Clean Rivers Program partners; Aquatic Life Monitoring, collaborators; Laboratory services

Nueces River Authority

Clean Rivers Program partners; ISD Education collaboration; Invasive plant collaboration - Arundo donax

Edwards Aquifer Authority

EAA Sampling, Aquifer science, streamflow study collaboration, rainfall gages

TAMU AgriLife Extension Service

Educational Outreach; water conservation and land stewardship workshops

Schreiner University

Expanding Your Horizons Program
Internship Program

Texas Water Development Board (TWDB)

United States Geological Survey (USGS)

Texas Commission on Environmental Quality (TCEQ)

Texas Department of Licensing and Regulation (TDLR)

Texas Parks and Wildlife Department (TPWD)

Texas Alliance of Groundwater Districts (TAGD)

Texas Water Resources Institute

GSA BBASC Environmental Flows

Groundwater Management Area 9

Region J Water Plateau Planning Group

Texas Water Conservation Association (TWCA)

Texas A&M AgriLife Extension

US Dept of Agriculture-Natural Resource Conservation Services

State Technical Committee

San Antonio River Authority (SARA)

Nueces River Authority

Edwards Aquifer Authority

Blanco Pedernales Groundwater District

Central Texas Groundwater Conservation District

Hill Country Groundwater Conservation District

Schreiner University

Bandera Electric Cooperative

Bandera County Constables

Bandera County Sheriff's Department

Bandera, Medina, and Utopia ISDs

Bandera Co. Commissioners' Court

City of Bandera

LAMCOS

Medina River Protection Fund

Hill Country Alliance

GROUNDWATER PROGRAMS

Groundwater Management Plan

All Texas Groundwater Conservation Districts are required to develop and implement a TWDB approved management plan to effectively manage their groundwater resources. BCRAGD revised and approved its Management Plan on February 8th, 2018. TWDB approved the Management Plan on March 15th, 2018 and all parties approved the Management Plan on April 12, 2018.

During FY 2020, BCRAGD:

- Upheld management plan as required by TCEQ, TWDB, and the DFC process.
- Ensured management goals were met and documented to compliance.

In order to protect groundwater resources in FY 2020 BCRAGD:

- Registered and issued authorization to drill domestic and livestock wells.
- Registered existing exempt wells.
- Ensured registered wells met exempt requirements.
- Maintained files and database of registered wells.
- Provided water logs to the general public when requested.
- 121 Registrations were issued in FY 2020.

Registered / Exempt Well Program

All exempt wells to be drilled are registered, approved, and inspected by the District to ensure compliance with both State and District rules and requirements. BCRAGD maintains a proactive policy of inspecting well sites before well registrations are issued. District staff inspect wells during the drilling and completion phases to ensure compliance with District and State rules. This approach has helped protect both the landowners and groundwater resources in Bandera County.



A Registered Well in the middle of being inspected by Jay McEwen, the BCRAGD Well Inspector.



Well Inspector, Jay McEwen, going through his post-drilling inspection of a Registered Well.

Permitted Well Program

The District maintains a permitting program for non-exempt wells. Pumping reports are collected each January and the amount of water is tabulated. Newly permitted wells are inspected to ensure compliance with District and State rules and requirements. These pumping amounts will help the District to evaluate the groundwater resources in the county for Desired Future Conditions (DFC) compliance and management.

GROUNDWATER PROGRAMS

In order to protect groundwater resources in FY 2020 BCRAGD:

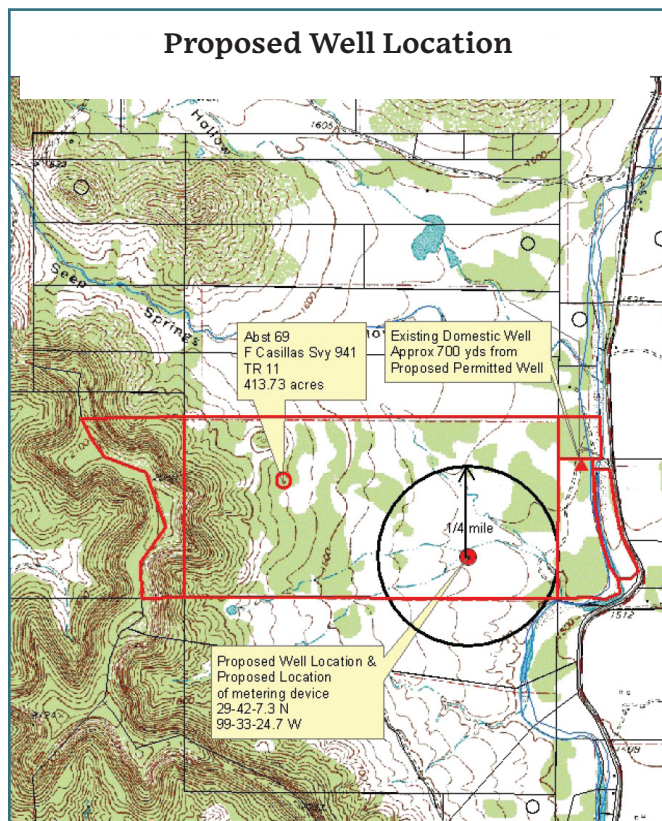
- Identified wells that needed to be permitted.
- Permitted existing wells which required permits.
- Prepared permit applications for Board approval.
- Posted permit hearing information as required by District rules and by the Open Meetings Act.
- Gave permit recommendations to the Board as needed.
- Conducted contested case hearings.
- Ensured compliance with annual pumping reporting requirements.
- Transferred permits for changes in property ownership.
- Identified permits that require permit amendments.
- Tracked annual usage for DFC purposes.
- 6 Permits were issued in FY 2020.

Monitor Well Program

The District maintains and operates a monitor well program to track and assess aquifer conditions in Bandera County. This is done through quarterly water level measurements and biannual water quality sample collection from designated monitor wells.

As a result of this program, during FY 2020 the District:

- Conducted surveillance of aquifer conditions.
- Tracked aquifer recharge.
- Managed for Desired Future Conditions (DFC). Reported data to Texas Water Development Board for DFC purposes.
- Kept the public informed via the District's website and quarterly meetings.
- Submitted to the local newspaper level aquifer information when available.



One portion of BCRAGD's permit application includes a map of the proposed well location with the property line and any other existing wells in the immediate area.



BCRAGD's Groundwater District Operations Manager, Alyssa Balzen, checking Monitor Well levels.

GROUNDWATER PROGRAMS



BCRAGD's Groundwater District Operations Manager, Alyssa Balzen, checking Monitor Well levels.

Geophysical Logging Program

BCRAGD is partnered with Blanco Pedernales Groundwater Conservation District, Hill Country Underground Water Conservation District, and Central Texas Groundwater Conservation District in shared ownership of a geophysical logging trailer, in which the geophysical properties of our aquifers are regularly recorded and monitored. Data recorded further informs aquifer science and groundwater management in the region.



BCRAGD logging a well in the logging trailer shared by other districts in the region.



A Monitor Well in Bandera County.

Well Camera Inspection

BCRAGD's WellVu Camera is a recorded media used to assess collapsed and/or damaged wells. It can also be used as a tool to investigate compliance with district well construction rules.

The District provides a camera well inspection service to identify problems and assess damaged wells to determine if the well needs to be rehabilitated or plugged.

GROUNDWATER PROGRAMS

Groundwater Sampling and Water Analysis Program

BCRAGD operates a non-certified laboratory that tests for the presence/absence of total fecal coliforms and E. coli, as well as mineral testing, including total hardness, pH, TDS and EC of water samples. BCRAGD tests groundwater samples collected from newly inspected wells at no cost to the owner and offers groundwater testing services to the public for an at-cost fee.

Below is a breakdown of BCRAGD's efforts during FY 2020:

- Conducted chemical and bacterial analysis of monitor well samples.
- Sampled and analyzed samples from newly drilled wells when possible.
- Tested groundwater samples brought in by the public.
- Provided information to the public on avoiding sources of contamination and disinfecting identified contaminated wells.
- Investigated complaints relating to contaminants and waste.
- Educated and counseled citizens about sources of possible contamination.
- Advised citizens about corrective and preventive measures for contamination.



Shown here are lithological samples that drillers are required by BCRAGD Rules to provide.



This photo shows BCRAGD staff analyzing the water quality of a Monitor Well using a probe while in the field. Some of the measurements taken here were temperature, pH, conductivity, and total dissolved solids.

GROUNDWATER PROGRAMS



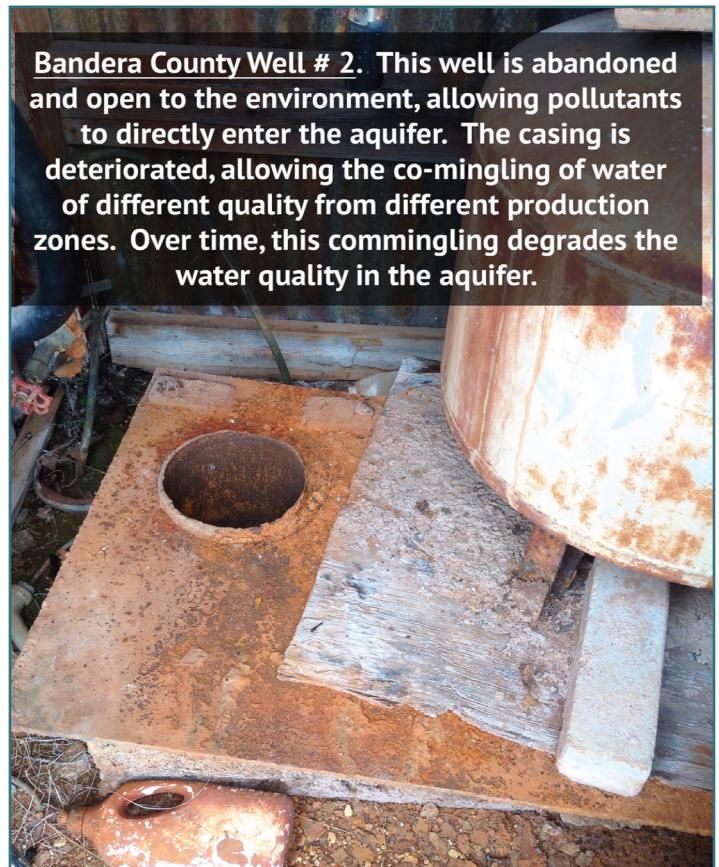
Graphics from a presentation given to the State Legislature illustrating the importance of plugging wells to protect groundwater quality for the public.

Abandoned Well Plugging Program

There is a high environmental risk associated with abandoned/deteriorated wells, as they are a direct conduit from the surface to our groundwater resources. In response to the existence and threat of abandoned wells to the health of Bandera County's groundwater, BCRAGD offers the public a well plugging program.

Below are descriptions of the FY2020 Abandoned Well Program accomplishments:

- The District plugged 1 well for the general public during the Fiscal Year 2020.
- BCRAGD issued violations to well owners to plug or repair abandoned wells.
- The District contributed abandoned well information to presentation and aquifer model components of the Nueces River Authority Water Resource Stewardship Program and other outreach efforts.

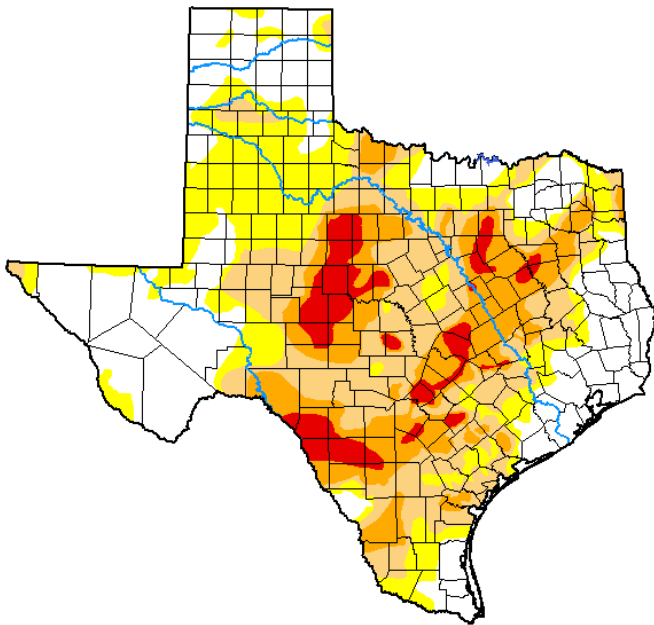


GROUNDWATER PROGRAMS

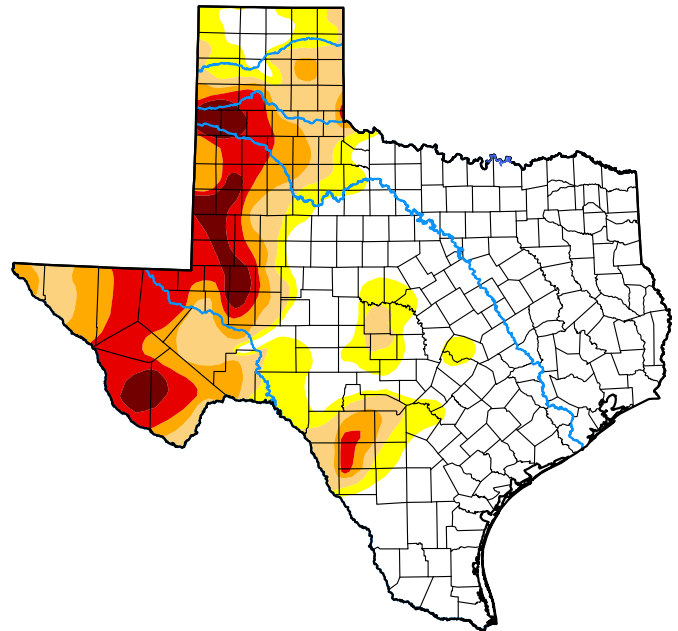
Drought Management Plan

During FY 2020, BCRAGD:

- Implemented drought stages.
- Notified permit holders of drought stages and restrictions.
- Investigated allegations of waste and issued Notices of Violation as warranted.
- Reported drought conditions at quarterly meetings.
- Record the Drought Severity Index each month, and when drought conditions exist, post the drought stage and any appropriate drought restrictions at the District's office.
- Reviewed Drought Management Plan.



October 1, 2019
(Released Thursday, Oct. 3, 2019)
Valid 8 a.m. EDT



September 29, 2020
(Released Thursday, Oct. 1, 2020)
Valid 8 a.m. EDT

Drought Classification

None D0 (Abnormally Dry) D1 (Moderate Drought) D2 (Severe Drought) D3 (Extreme Drought) D4 (Exceptional Drought)

SURFACE WATER PROGRAMS

Rainfall Monitoring Program

Gages and Weather Station:

BCRAGD is partnered with Bandera County and the Bandera Electric Cooperative in sponsorship of a USGS streamflow station for water surface stage and river flow and a rainfall gage at Patterson Road in Medina. This gage displays all parameters real time via a telemetry unit, and is accessible to the public through the USGS website (www.usgs.gov). The Texas Water Development Board, Flood Protection Grants for the Medina River, Sabinal River, and West Sabinal River watersheds, allows significant expansion of USGS hydrologic conditions monitoring, resulting with a more comprehensive flood warning tool set for Bandera County.

The District maintains an official Weather Station utilizing HOBOLink courtesy of the EAA's gage at BCRAGD's District office. Conditions can be accessed from the District's website, www.bcragd.org. BCRAGD records rainfall data, and contrasts rainfall data with monitor well results. The results are available to USDA and the County Extension office.



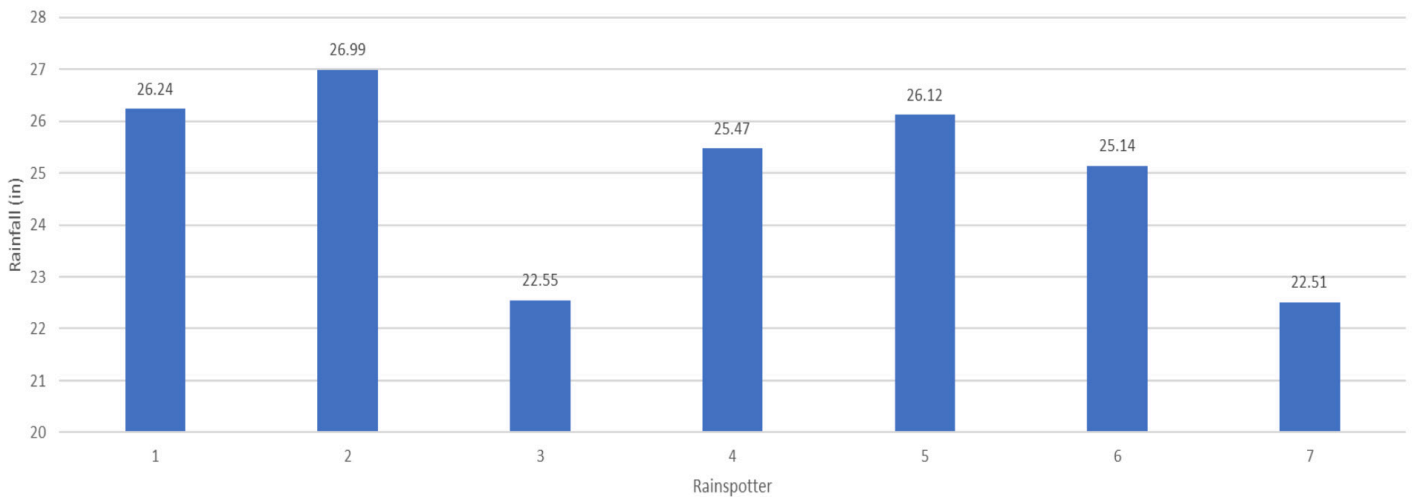
The image above shows the EAA weather station and rain gage that provides information to the HOBOLink.

SURFACE WATER PROGRAMS

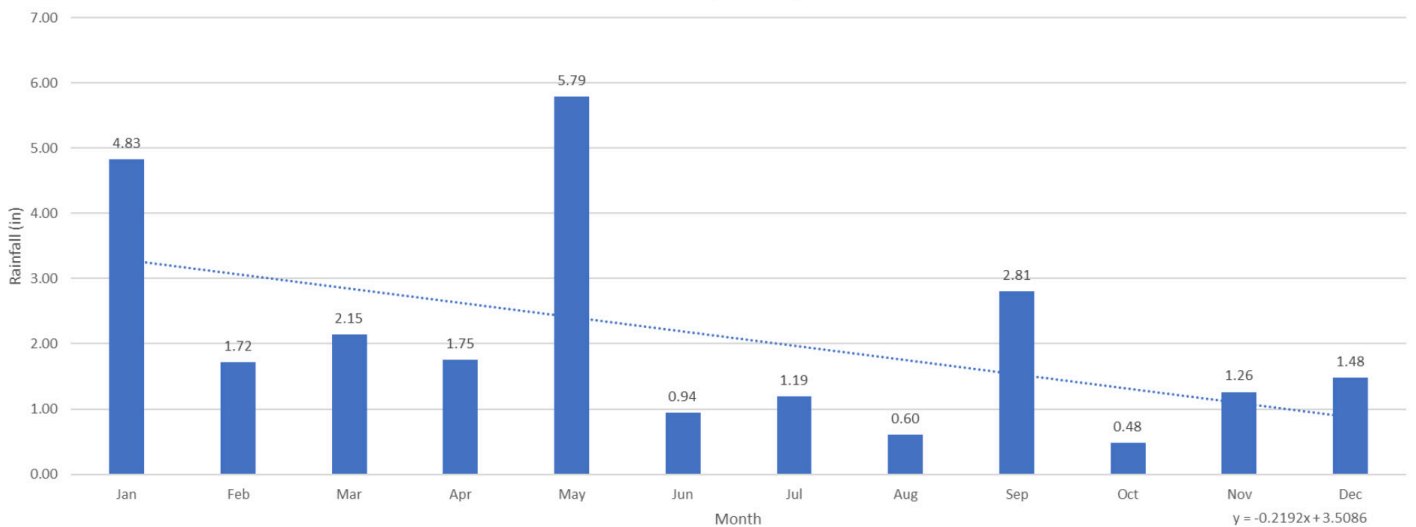
Rainspotters Program:

The District continues to support its all-volunteer Rainspotters Program. Bandera County residents report monthly rainfall amounts from their District issued gages on a quarterly basis. During each BCragd Quarterly Board Meeting, the data is presented in report form.

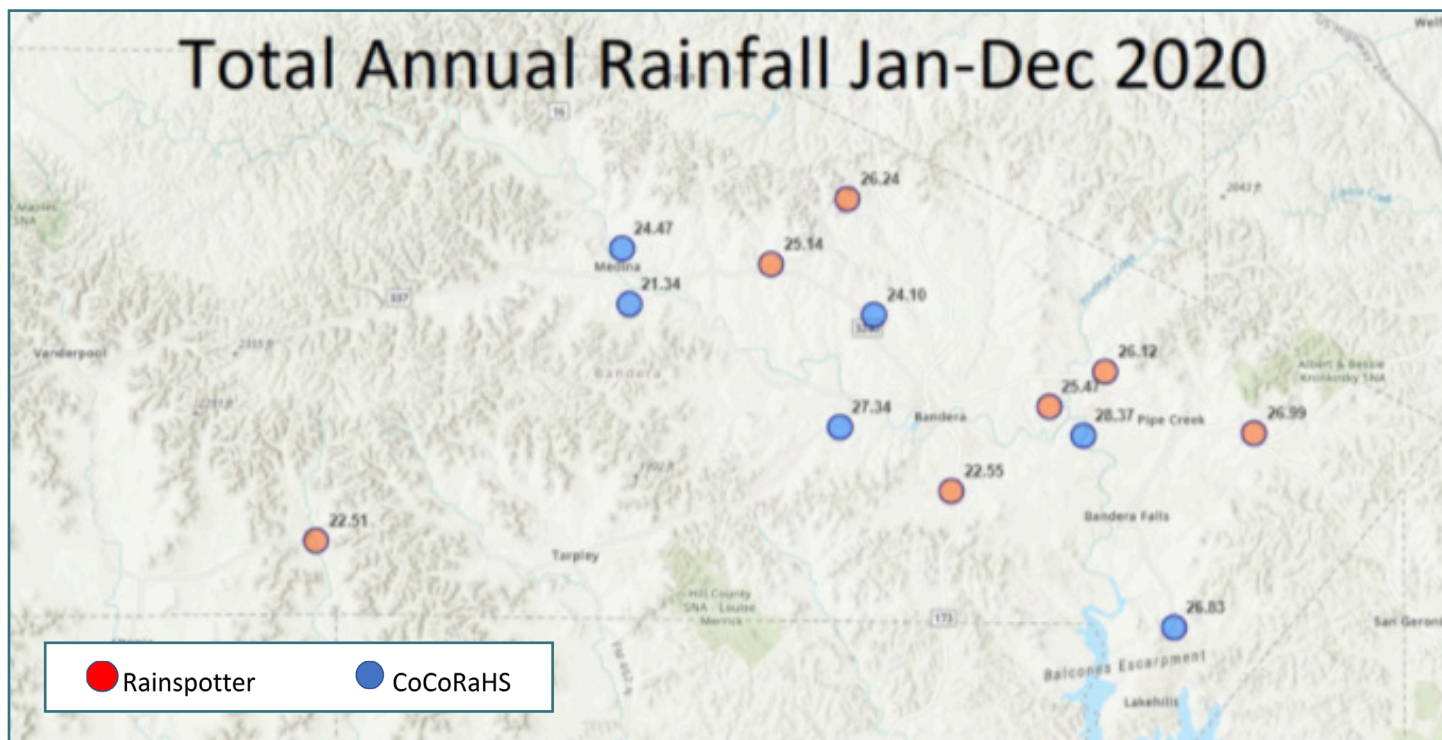
Rainspotter's Report
Jan-Dec 2020
Total Annual Rainfall



Rainspotter's Report
Jan-Dec 2020
Mean Monthly Averages



SURFACE WATER PROGRAMS



BANDERA COUNTY, TEXAS 2020 RAINSPOTTER - RAINFALL DATA

Rainspotter	Map-Grid Location	Year	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	Rainspotter Monthly RF / Avg.'s	Annual Total's
1	69-15-08	2020	4.85	1.43	2.34	2.52	4.86	0.41	1.76	0.05	3.53	0.52	1.13	2.84	2.19	26.24
2	68-18-04	2020	5.01	1.93	1.7	1.95	6.91	1.2	1.41	0.83	3.13	0.19	1.79	0.94	2.25	26.99
3	69-24-05	2020	2.78	1.58	1.84	1.32	5.48	0.76	2	0.39	2.48	0.32	1.37	2.23	1.88	22.55
4	69-24-03	2020	6.31	1.79	2.03	1.66	5.56	1.39	0.7	0.52	2.71	0.25	1.38	1.17	2.12	25.47
5	68-09-05	2020	6.57	2.05	1.94	1.27	6.03	0.73	0.84	0.28	2.83	1.32	1.3	0.96	2.18	26.12
6	69-15-06	2020	4.42	1.57	2.55	1.81	6.29	0.57	1.36	0.21	3.5	0.42	1.25	1.19	2.1	25.14
7	69-21-05	2020	3.88	1.68	2.62	1.75	5.39	1.54	0.26	1.95	1.46	0.36	0.62	1	1.88	22.51
Combined	Monthly	Mean Avg.	4.83	1.72	2.15	1.75	5.79	0.94	1.19	0.64	2.81	0.48	1.26	1.48	2.09	25.00
2020 Annual Average Rainfall			25.0 in/ft													
2020 Monthly Mean Average			2.09 in/ft													

The availability of rainspotters have changed over the years during the duration of the program. Growth and decline of rainspotters within the program has been sporadic in number of participants. The increased opportunity of technological uses for automated rainfall data collection and dissemination is critical as well as needing additional active rainspotter participants.

SURFACE WATER PROGRAMS

TCEQ Texas Clean Rivers Program

BCRAGD partnered with San Antonio River Authority (SARA) to participate in the Clean Rivers Program in the San Antonio River Basin in 2012. BCRAGD staff are responsible for sampling 8 sites, which are in Bandera County on the Medina River, and summarized to the right. FY 2020 sample dates were: November 13, 2019; November 21, 2019; January 2, 2020; January 29, 2020; February 13, 2020; May 20, 2020; May 21, 2020; July 23, 2020; and August 11, 2020. The District was audited by SARA for the TCEQ Clean Rivers Program on August 26, 2020.

At the end of FY 2016, BCRAGD added 5 CRP sites on Medina Lake along with 1 CRP site on Diversion Lake, partnering with SARA. The sample dates for Medina Lake were: November 18, 2019; November 19, 2019; February 02, 2020; February 19, 2020; February 26, 2020; May 28, 2020; August 20, 2020; and August 26, 2020. The sample dates for Diversion Lake were October 10, 2019; February 02, 2020; May 26, 2020; and June 25, 2020.

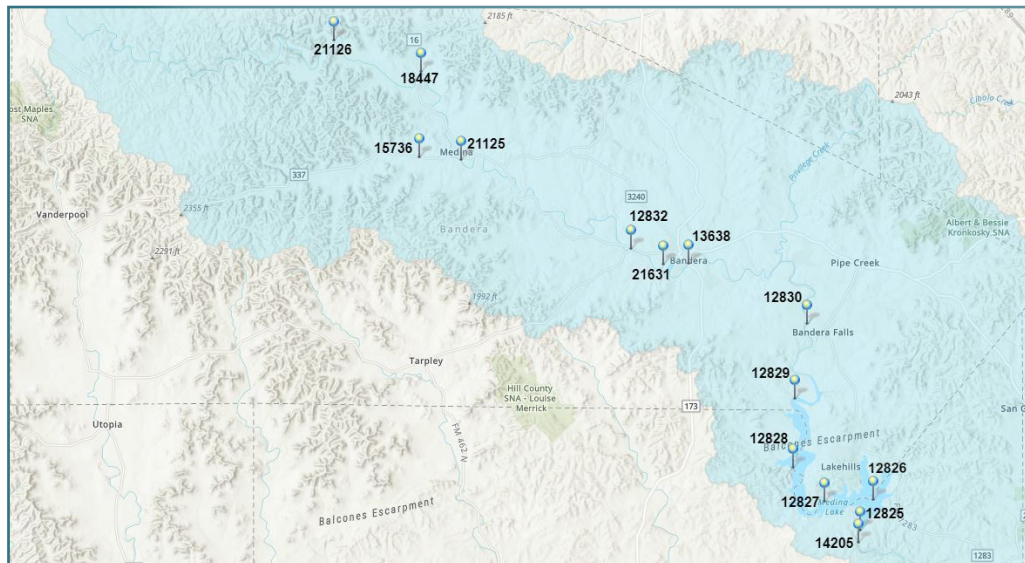
BCRAGD partnered with Nueces River Authority (NRA) in 2016 to participate in the Clean Rivers Program in the Nueces River Basin. BCRAGD staff are responsible for 3 sites shown in the chart to the right. The FY 2020 sample dates for the Nueces River Basin were October 02, 2019; January 08, 2020; May 19, 2020; and August 13, 2020. In September of 2020, BCRAGD added 1 additional CRP site on Commissioner's Creek in the Nueces Basin, partnering with the NRA.

The table to the right lists all of the CRP sites that BCRAGD sampled each quarter. They are separated into sections as follows: Medina River sites, Medina Lake sites, Diversion Lake sites, and Nueces River/Sabinal Basin sites.

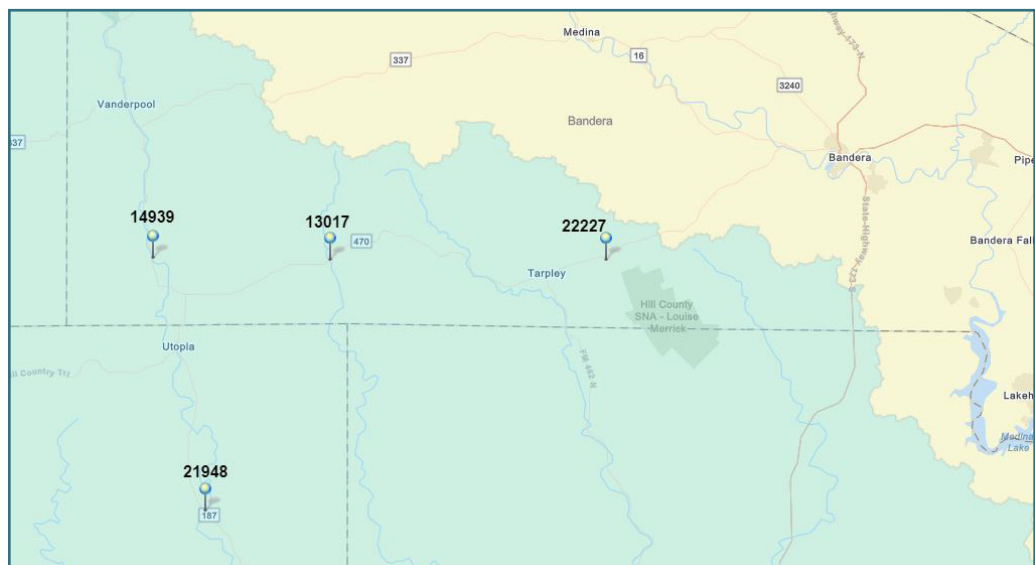
The maps shown in the next two pages show all of the CRP sites covered by San Antonio River Authority and Nueces River Authority. The sites sampled by BCRAGD are included in both.

Station ID	Site Name
12830	Medina R. @ English Crossing
18447	North Prong Medina R. @ Hwy 16 - Wallace Creek
13638	Medina R. @ S Hwy 173 (Bandera City Park)
12832	Medina R. @ FM 470 - Tarpley Crossing
21125	Medina R. @ Moffett Park
21126	N. Prong Medina R. @ FM 2107 - Brewington
15736	W. Prong Medina R. - Coalkiln Road
21631	Medina R. @ The Mayan Ranch
12829	Medina Lake Mid near Headwater
12828	Medina Lake between Cypress & Spettel Coves
12827	Medina Lake @ Mormon Bluff
12826	Medina Lake near Red Cove
12825	Medina Lake @ ML Dam West of San Antonio
14205	Medina R. Downstream Medina Reservoir in Mico, TX @ low water crossing
13017	Seco Creek @ RR 470
14939	Sabinal River @ FM 187
21948	Sabinal River @ Onion Creek
22227	Commissioner's Creek Downstream of Camp Ozark (added September 2020)

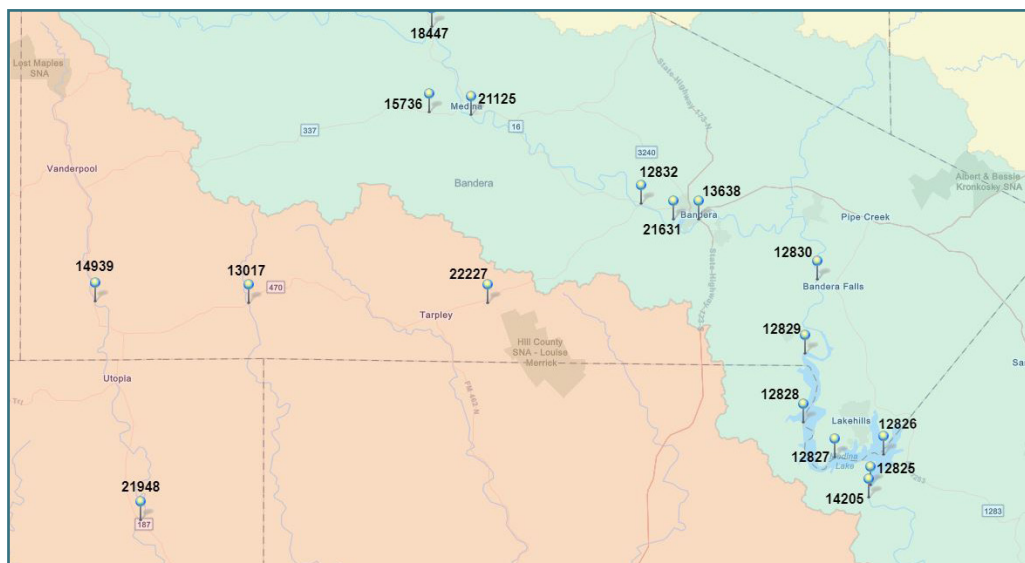
SURFACE WATER PROGRAMS



**MEDINA RIVER
CLEAN RIVERS
PROGRAM
SAMPLE SITES**

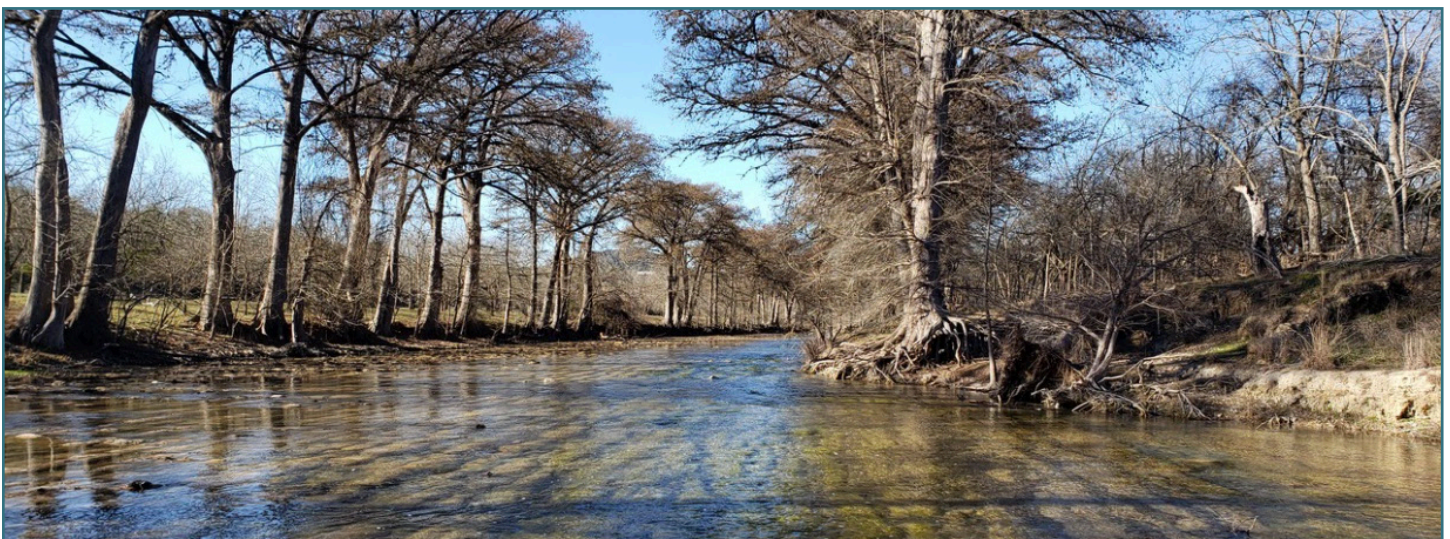


**NUECES RIVER
CLEAN RIVERS
PROGRAM
SAMPLE SITES**



**COMBINED
CLEAN RIVERS
PROGRAM
SAMPLE SITES**

SURFACE WATER PROGRAMS



SURFACE WATER PROGRAMS



During FY 2020, BCRA GD District Staff did the following events related to Surface Water:

- Attended a Women's Bennett Land Stewardship Conference by AgriLife Extension Office on 01-OCT-2019.
- Attended a Webinar presented by the Texas AgriLife Extension on 03-OCT-2019.
- Attended the SWQM (Surface Water Quality Monitoring Program) Workshop in conjunction with SARA for the Clean Rivers Program from 21-OCT-2019 to 23-OCT-2019.
- Attended the HCI (Healthy Creeks Initiative) Meeting on 30-OCT-2019.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 03-DEC-2019.
- Attended the Hill Country Watershed Stewardship & Restoration Gathering on 06-DEC-2019.
- Presented at AgriLife in Uvalde on 13-DEC-2019.
- Attended the Texas Chapter of American Fisheries Society Conference from 21-JAN-2020 to 25-JAN-2020.
- Attended an American Fisheries Society (AFS) Webinar on Multispecies & Watershed Approaches to Freshwater Fish Conservation on 28-JAN-2020.
- Hosted/Attended the Medina River Protection Fund Board Meeting (2 BCRA GD Staff Members are Members of the Board) on 29-JAN-2020.
- Attended a Webinar over New Tools for Environmental Flow Information on 12-FEB-2020.
- Co-sponsored a Land Stewardship Event with the Hill Country Alliance (HCA) on 25-FEB-2020.
- Collaborated with the City, HCA, and TPWD for an upcoming project on a kayaking tour 27-FEB-2020.
- Met w/ Hill Country Alliance (HCA), Texas Parks & Wildlife Department (TPWD), & City of Bandera to Discuss & Plan Future Erosion Control Project for City Park on 11-MAR-2020.
- Worked on the creation and data of a Riparian Field Guide on 02-APR-2020.
- Worked on the creation and data of a Bandera County Fish Field Guide on 03-APR-2020.
- Communicated with Texas Game Warden on Delineating the Gradient Boundary on 08-APR-2020.
- Created a Riparian Plant Database on 09-APR-2020.
- Worked on the creation and data of a Bandera County Fish Field Guide on 10-APR-2020.
- Attended the Coordinated Monitoring Meeting with San Antonio River Authority to Discuss Sampling Events for FY2021 on 16-APR-2020.

SURFACE WATER PROGRAMS



- Attended a Watershed Coordinator's Roundtable Meeting on 23-APR-2020.
- Attended a Webinar over Aquatic Species Research on 19-MAY-2020.
- Completed the Buoy Deployment on Medina Lake on 22-MAY-2020.
- Completed the Texas Parks and Wildlife Department Boaters & Paddlers Safety Courses on 27-MAY-2020.
- Completed a Buoy Reposition on Medina Lake on 02-JUN-2020.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 05-JUN-2020.
- Attended a Meeting with the Texas Water Foundation's Photos of Medina Lake Project on 09-JUN-2020.
- Completed a Buoy Anchor Deployment on Medina Lake on 11-JUN-2020.
- Completed Aquatic Life Monitoring with San Antonio River Authority (SARA) at the Mayan Ranch on 15-JUN-2020.
- Attended a Webinar over Urban Water Cycle and City of Waco Water Drop Tour on 17-JUN-2020.
- Completed a BCRAIGD District CleanUp Initiative for Trash Removal @ Brewington River Crossing on 18-JUN-2020.
- Attended a Webinar on Geophysical Pilot Study of Surface Water and Groundwater on 19-JUN-2020.
- Attended the Surface Water Quality Standards Advisory Work Group (SWQSAWG) Meeting from 29-JUN-2020 to 30-JUN-2020.
- Attended a Webinar over Isotopes 101: Nutrient Source Tracking on 01-JUL-2020.
- Attended a Webinar over Wildlife Conservation Changes on 08-JUL-2020.
- Attended a Webinar on Upper Coast Wetland Ecosystem Project on 16-JUL-2020.
- Attended the Texas Chapter of American Fisheries Society (TCAFS) Pond Management Committee Meeting on 28-JUL-2020.
- Attended a Webinar on Informing Rare Species Management Using Genomics on 05-AUG-2020.
- Completed Aquatic Life Monitoring with San Antonio River Authority (SARA) at Mayan Ranch on 06-AUG-2020.
- Completed a Cypress Tree Removal on 15-AUG-2020.
- Attended a Green Infrastructure Tour of East Bandera County on 17-AUG-2020.
- Attended a Virtual Texas Water Conservation Association (TWCA) Manager's Meeting on 28-AUG-2020.
- Completed a Tree Removal @ Bridlegate on 01-SEP-2020.

SURFACE WATER PROGRAMS

District In-House Sampling Programs

In order to preserve and protect the headwaters of the Medina and Sabinal Rivers, as well as Medina Lake, BCRAGD conducts multiple In-House programs to monitor water quality and inform the public of any potential concerns.

Surface Water Quality Monitoring

The Surface Water Quality Sampling Program was initiated in order to monitor water quality throughout Bandera County. It has been modified to better serve the community by increasing the number of sites for a more representative data collection, reporting E. coli counts via local newspapers and the District website to the citizens of Bandera County for safety. BCRAGD's In-House Surface Water Sampling Program allows District staff to detect bacteria spikes in the Medina and Sabinal Rivers, as well as Medina Lake, and follow up with an immediate investigation.

From October 2019 to September 2020, there were 17 instances with E. coli counts over the TCEQ standard of 399 MPN (most probable number) per 100 mL of sample water. The District recommends no swimming to take place in areas where the count is over the limit. That sample site area was then investigated, beginning with a re-sample effort. If the MPN remains above 399 MPN, further investigations are made.

Site #	Location	Site #	Location
ML-1.04	Medina Lake @ County Park NE of Boat Ramp	MP-3.01	Medina R @ Moffett Park
MR-1.01	Medina R @ English Crossing	MRN-3.01	N. Prong Medina R @ Rocky Creek Crossing FM 2107
MR-1.02	Medina R @ Bridlegate Park	MRN-3.03	N. Prong Medina R @ Brewington Crossing FM 2107
MR-1.03	Medina R @ Bandera River Ranch Park	WC-3.01	N. Prong Medina R @ Wallace Creek
BC-2.01	Bandera Creek @ SH 16	MRW-3.01	W. Prong Medina R @ Coal kiln Rd RR 337
LMC-2.01	Lower Mason Creek @ Chipman Ln.	MRW-3.03	W. Prong Medina R @ Carpenter Creek @ RR 337
MR-2.025	Above Sewage Treatment Plant Effluent	SC-4.01	Seco Creek @ RR 470 Crossing
MR-2.03	Medina R @ Bandera City Park HWY 173	CC-4.01	Sabinal R @ Cornelius Rd Crossing
MR-2.05	Medina R @ Bandera City Park 1st Street Bridge	SR-4.03	Sabinal R in Vanderpool @ SH 187
MR-3.01	Medina R @ RR 337	LM-4.03	Sabinal R @ Lost Maples 1st Bridge
MR-3.04	Medina R @ Tarpley Crossing	WVC-2.01	Hill Country State Natural Area @ FM 1077
MR-3.05	Medina R @ Ranger Crossing HWY 16	WC-4.01	Williams Creek Crossing
UTOP	Utopia City Park	CC-1.01	Can Creek @ Lost Maples SNA

SURFACE WATER PROGRAMS

EAA Sampling

The Bandera County River Authority & Groundwater District has partnered with the Edwards Aquifer Authority to collect water samples along a seven-mile reach of the Medina River. BCRAGD staff collects samples bi-weekly at the following three locations: Bridlegate, Coal Springs, and English Crossing. The EAA is interested in analyzing the stable isotopic structure of the water in this area of the river along with many other segments across the region.

Below is the combined summary of BCRAGD's In-House, Clean Rivers Program, and EAA Sampling:

1st Quarter: (October 2019–December 2019)

- Oct 1st- EAA Sampling
- Oct 2nd- Sabinal/Nueces River CRP
- Oct 10th- Diversion Lake CRP
- Oct 17th- EAA Sampling
- Oct 31st- EAA Sampling
- Nov 12th & Nov 13th- EAA Sampling
- Nov 13th- Medina River CRP
- Nov 18th & 19th- Medina Lake CRP
- Nov 20th- EAA Sampling
- Nov 21st- Medina River CRP
- Nov 27th- EAA Sampling
- Dec 11th & 17th- Quarterly In-House Sampling
- Dec 13th- EAA Sampling
- Dec 27th- EAA Sampling

2nd Quarter: (January 2020–March 2020)

- Jan 2nd- Medina River CRP
- Jan 8th- Sabinal/Nueces River CRP
- Jan 21st- EAA Sampling
- Feb 2nd- Diversion Lake CRP
- Feb 6th- EAA Sampling
- Feb 13th- Medina River CRP
- Feb 19th & Feb 26th- Medina Lake CRP
- Feb 21st- EAA Sampling
- Mar 5th- EAA Sampling
- Mar 5th & 10th- Quarterly In-House Sampling
- Mar 19th- EAA Sampling
- Mar 31st- EAA Sampling



Above is an example of the BCRAGD warning signs. The District posts these in areas that test above 399 MPN after re-samples.

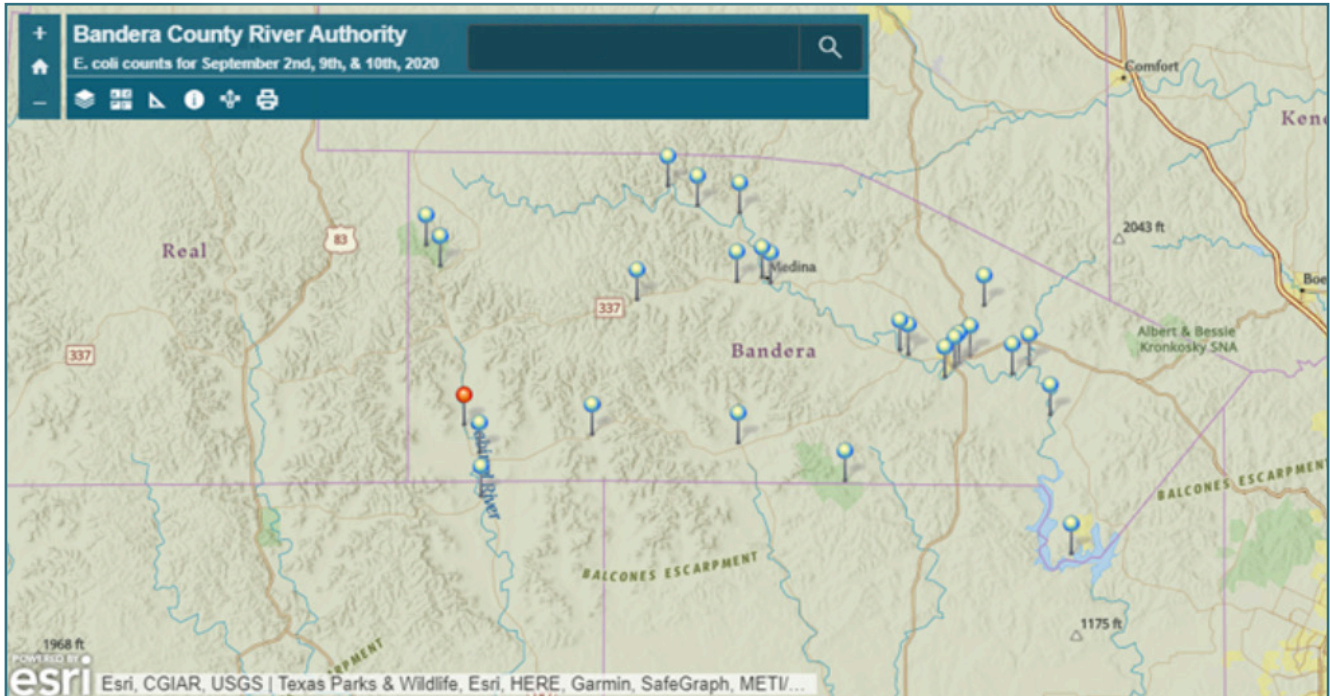
3rd Quarter: (April 2020–June 2020)

- Apr 16th- EAA Sampling
- Apr 30th- EAA Sampling
- May 6th & 7th- Qtrly/Summer In-House Sampling
- May 15th- EAA Sampling
- May 19th- Sabinal/Nueces River CRP
- May 20th & 21st- Medina River CRP
- May 26th- Diversion Lake CRP
- May 28th- Medina Lake CRP
- Jun 2nd- EAA Sampling
- Jun 10th- EAA Sampling
- Jun 15th- Aquatic Life Monitoring
- Jun 18th & 24th- Qtrly/Summer In-House Sampling
- Jun 25th- EAA Sampling

4th Quarter: (July 2020–September 2020)

- Jul 1st & 7th- Qtrly/Summer In-House Sampling
- Jul 9th- EAA Sampling
- Jul 15th & 21st- Qtrly/Summer In-House Sampling
- Jul 23rd- EAA Sampling
- Jul 23rd- Medina River CRP
- Jul 30th & Aug 4th- Qtrly/Summer In-House Sampling
- Aug 5th- EAA Sampling
- Aug 6th- Aquatic Life Monitoring & Medina River CRP
- Aug 11th- Medina River CRP
- Aug 12th- Qtrly/Summer In-House Sampling
- Aug 13th- Sabinal/Nueces River CRP
- Aug 19th- EAA Sampling
- Aug 20th- Medina Lake CRP
- Aug 25th- Qtrly/Summer In-House Sampling
- Aug 26th- Medina Lake CRP
- Aug 26th- CRP Audit
- Sep 2nd, 9th, & 10th- Qtrly/Summer In-House Sampling
- Sep 3rd- EAA Sampling
- Sep 17th- EAA Sampling

SURFACE WATER PROGRAMS



The District has utilized Esri's ArcGIS software to create an interactive web application to allow public users to view water quality results on a mapping platform. This map contains information from our In-House Sampling program to include site location, bacteria results, water temperature, and a picture of current stream conditions. This map can be found on our website under Water Quality Testing and will be updated to reflect the most recent In-House Sampling results.



BCRAD's Natural Resource Specialist, Clinton Carter conducting lab analyses on In-House Samples.

SURFACE WATER PROGRAMS



Photo of Coal Springs, captured and provided by Clinton Carter.



Photo of Bridlegate Riparian, captured and provided by Clinton Carter.

SURFACE WATER PROGRAMS



BCRAGD's River Authority Operations Manager, Levi Sparks measuring flow at Brewington Crossing for Clean Rivers Program Sampling on May 20, 2020.



BCRAGD's Natural Resource Specialist, Clinton Carter at Brewington Crossing for Clean Rivers Program Sampling on May 20, 2020.



BCRAGD's Natural Resource Specialist, Clinton Carter standing in front of a large cypress tree found during an Arundo Survey near Medina, Texas.



BCRAGD's Natural Resource Specialist, Clinton Carter conducting an EAA Sample.

SURFACE WATER PROGRAMS

Invasive Species Management

BCRAGD Staff monitor invasive species activity in Bandera County. Of particular interest is the invasive and noxious species *Arundo donax* (Giant Reed), classified as a “noxious plant species” under the Administrative Code, Title 4, Part 1, Chapter 19, Subchapter T. The classification means *Arundo donax* has “serious potential to cause economic or ecological harm to the State.”

The Nueces River Authority has been actively and successfully managing *Arundo donax* along a portion of the Sabinal River in Bandera County for the past 11 years. BCRAGD has provided funding for the Nueces River Authority to continue treating the *Arundo donax* within their original project boundaries. BCRAGD Staff has also assisted the Nueces River Authority in the chemical treatment and physical removal of *Arundo*.

The District is currently implementing *Arundo donax* management on the headwaters of the Medina River by joining the Healthy Creeks Initiative partnership with the Texas Parks and Wildlife Department. This initiative offers workshops, no-cost treatment of *Arundo* which began in the summer of 2018, and maintains ongoing monitoring and re-treatment as needed. If you have *Arundo donax* on your property and want more information on how to properly control it, please call BCRAGD at (830) 796-7260. To learn more about the Healthy Creeks Initiative, visit the Texas Parks and Wildlife Department website: <https://tpwd.texas.gov/landwater/water/aquatic-invasives/healthy-creeks.phtml>.

BCRAGD also monitors Zebra Mussels- small, fresh-water mussels that spread by clinging to boat hulls, bilges, and bait buckets. Zebra Mussels hinder water recreation, destroy aquatic ecosystems, ruin beaches, and damage municipal water supplies and intake structures. To prevent this, remove all debris from your boat and trailer, drain all water from the boat, engine, and bait bucket. Then, let the boat dry for at least a week or wash it with high-pressure, hot, soapy water before boating on another waterbody.



Levi Sparks assisting the Texas Parks and Wildlife to map and record information about Arundo patches along the North Prong of the Medina River.



The above picture shows Texas Parks and Wildlife contractors spraying an Arundo patch with herbicide at the Bandera City Park.



BCRAGD's River Authority Operations Manager, Levi Sparks on a Kayak Arundo Survey, just down stream of Brewington Crossing on the North Prong of the Medina River.

SURFACE WATER PROGRAMS

During FY 2020, BCRA GD District Staff did the following for Invasive Species Management:

- Conducted an Arundo Survey on 09-OCT-2019 & 11-OCT-2019.
- Mailed Arundo Informative District Postcards to County Citizens for Arundo Awareness on 17-OCT-2019 & 31-OCT-2019.
- Conducted Zebra Mussel Monitoring on 24-OCT-2019.
- Attended the HCI (Healthy Creeks Initiative) Meeting on 30-OCT-2019.
- Conducted Zebra Mussel Sampling on 05-NOV-2019.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 03-DEC-2019.
- Collaborated with the City, HCA, and TPWD for an Upcoming Arundo Survey Project on a Kayaking Tour 27-FEB-2020.
- Conducted a Zebra Mussel Sediment Sampling & Survey on 02-JUN-2020.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 05-JUN-2020.
- Conducted Zebra Mussel Sampling on 11-JUN-2020.
- Attended a Webinar on What Freshwater Mussels Are Worth on 16-JUN-2020.
- Conducted an Arundo Survey on 17-JUN-2020 & 24-JUN-2020.
- Attended the Surface Water Quality Standards Advisory Work Group (SWQSAWG) Meeting from 29-JUN-2020 to 30-JUN-2020.
- Conducted an Arundo Survey on 07-JUL-2020 & 08-JUL-2020.
- Conducted Zebra Mussel Sampler Check on 09-JUL-2020.
- Attended a Webinar on the New Freshwater Mussel Silo: Design, Construction, & Conservation Application on 14-JUL-2020.
- Conducted an Arundo Survey on 16-JUL-2020.
- Conducted an Arundo Survey on 21-JUL-2020 & 22-JUL-2020.
- Attended the Texas Chapter of American Fisheries Society (TCAFS) Pond Management Committee Meeting on 28-JUL-2020.
- Attended a Webinar on Genomics as an Essential Tool for Freshwater Mussel Conservation on 28-JUL-2020.
- Completed a Zebra Mussel Sampler Check on 20-AUG-2020.
- Attended a Webinar on the Functional Ecology of Freshwater Mussels on 25-AUG-2020.
- Attended a Webinar on Tagging & Monitoring Freshwater Mussels on 08-SEP-2020.
- Completed taking Zebra Mussel Sampling to San Marcos on 10-SEP-2020.
- Completed a Zebra Mussel Sampler Check on 15-SEP-2020.
- Conducted an Arundo Survey on 16-SEP-2020.
- Attended a Webinar on Freshwater Mussels, Conservation & Systematics Conference on 22-SEP-2020.



Untreated Arundo donax.



This photo shows a good example of what treated Arundo donax looks like.

SURFACE WATER PROGRAMS



Levi Sparks underneath an untreated Arundo donax canopy on the North Prong.



Clinton Carter is preparing a Zebra mussel settlement sampler for continual monitoring on Medina Lake.



Clinton Carter is preparing a Zebra mussel settlement sampler for continual monitoring on Medina Lake.

SURFACE WATER PROGRAMS

STOP THE SPREAD

CLEAN

Before leaving the ramp, do a quick “walk around” inspection. Remove any plants, mud, and other debris from the boat, anchor, trailer and gear.

DRAIN

Drain your boat, motor, bait buckets and other water-retaining compartments. Keep your drain plug out until the boat is dry.

DRY

Let your boat dry for a week or more before visiting another lake. Leave all compartments open and gear out to air dry. If you aren’t able to dry it this long, wash everything thoroughly with high-pressure water at a carwash or at home.

<https://tpwd.texas.gov/landwater/stop-invasives/#:-:text=DRAIN%3A%20Drain%20your%20boat%2C%20motor,gear%20out%20to%20air%20dry.>

ZEBRA MUSSELS HIDE HERE.

Protect our Lake and Rivers from Invasive Species



IT'S THE LAW: Remove invasive plants and debris and drain all water before leaving this water body.

TexasInvasives.org



**CLEAN, DRAIN AND DRY
YOUR BOAT AND GEAR EVERY TIME**



Bandera County
River Authority & Groundwater District
Preserving & Restoring our Natural Resources

SURFACE WATER PROGRAMS

Medina Lake Management

Medina Lake is an important natural resource for the citizens of Texas. The lake serves not only as an irrigation water source and a popular recreational site, but it also is an important drinking water reservoir for the entire region. The waters in the lake are some of the most pristine in the county. It is imperative that the lake be preserved and protected.

The Bandera County River Authority and Groundwater District is committed to protecting, preserving, and monitoring Medina Lake. Since 2015, the BCRAGD has taken a much more active approach in protecting the quality of Medina Lake. In recent years, the organization has created a Zebra Mussel monitoring program in partnership with TPWD. The District also monitors the quality of the water through the CRP program and a study in partnership with USGS.

The BCRAGD has an interest in the human health and safety associated with Medina Lake as well. BCRAGD Staff acquired a Hazard Buoy for immediate deployment in the lake to warn boaters of hazards. Staff have also advised numerous people all around the lake on potential best management practices for improvements of both their land and reducing the environmental impacts harmful practices could have on Medina Lake. BCRAGD also participated in numerous Fish Surveys and Fish Stockings completed by TPWD in the lake over the past few years.

On May 22, 2020, BCRAGD employees Clint Carter and Levi Sparks worked with Bandera County personnel to deploy four No Wake Buoys at the County Park in Medina Lake. Buoys were deployed to increase the public's safety during recreational activities at the park. Establishing a No Wake zone will also serve to protect the shoreline from abnormally fast erosion caused by boat wakes.



No Wake Buoy Deployment on Medina Lake on May 22, 2020.

SURFACE WATER PROGRAMS

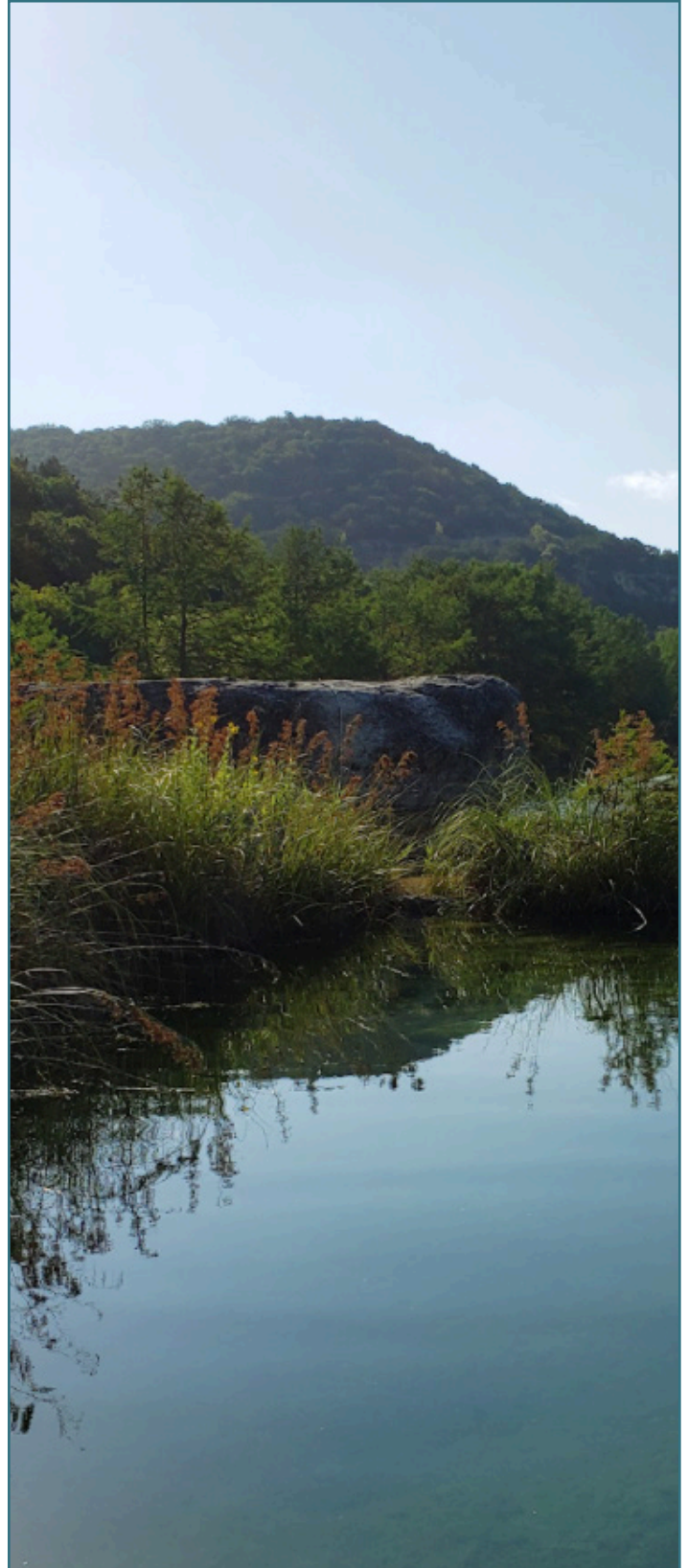


Constructing anchors for No Wake Buoys for Medina Lake.



No Wake Buoy Deployment on Medina Lake on May 22, 2020.

SURFACE WATER PROGRAMS



Zebra Mussel equipment wash, June 11, 2020.

A healthy Riparian located at the North Prong.

SURFACE WATER PROGRAMS



Clinton Carter setting a Zebra Mussel Settlement Sampler in Medina Lake.



Photo of Medina Lake, captured and provided by Clinton Carter.

SURFACE WATER PROGRAMS



Photo of Medina River at Waste Water Treatment Plant, captured and provided by Clinton Carter.



Photo of Turks Head, captured and provided by Clinton Carter.



Photo of Utopia City Park, captured and provided by Clinton Carter.

SURFACE WATER PROGRAMS

Axis Deer Control Project

In FY 2020, BCRAGD began a partnership with the Hill Country Alliance and Texas Tech University's Department of Natural Resources Management along with other select partners to launch a 2021 Axis Deer Control Project throughout the Hill Country. This project aims to help the natural populations of white-tailed deer combat competition with natural resources, provide education to landowners about this exotic species, and assist Texas Tech University with ongoing research projects about axis deer.



Surface Water Quality Monitoring (SWQM) Workshop in conjunction with San Antonio River Authority (SARA) hosted by Texas Commission on Environmental Quality (TCEQ), October 21, 2019 - October 23, 2019.

SURFACE WATER PROGRAMS

Surface Water Highlights FY2020

Levi and Clint attended the Surface Water Quality Monitoring (SWQM) Workshop hosted by Texas Commission on Environmental Quality October 21, 2019–October 23, 2019. This workshop brings professionals from all over the state to discuss and update sampling protocols for the Clean Rivers Program.

On December 6, 2019, Levi and Clint also attended the Hill Country Watershed Stewardship Gathering which brings watershed practitioners from the Hill Country to discuss substantial watershed issues and possible solutions.

On January 21-25, 2020, District employees Levi Sparks and Clint Carter attended the Texas Chapter of the American Fisheries Society. The Society meets once a year to present scientific research done on aquatic organisms in the state. The meeting provides invaluable networking opportunities for the District for the involvement of future projects of the District.

On March 11, 2020, District employees Levi Sparks and Clint Carter met with the Hill Country Alliance, Texas Parks & Wildlife Department, and employees of the City of Bandera to discuss and plan a future erosion control project for the City Park. This will improve both the aesthetic value and the environmental value of the City Park and in turn, will improve the overall health of the Medina River.



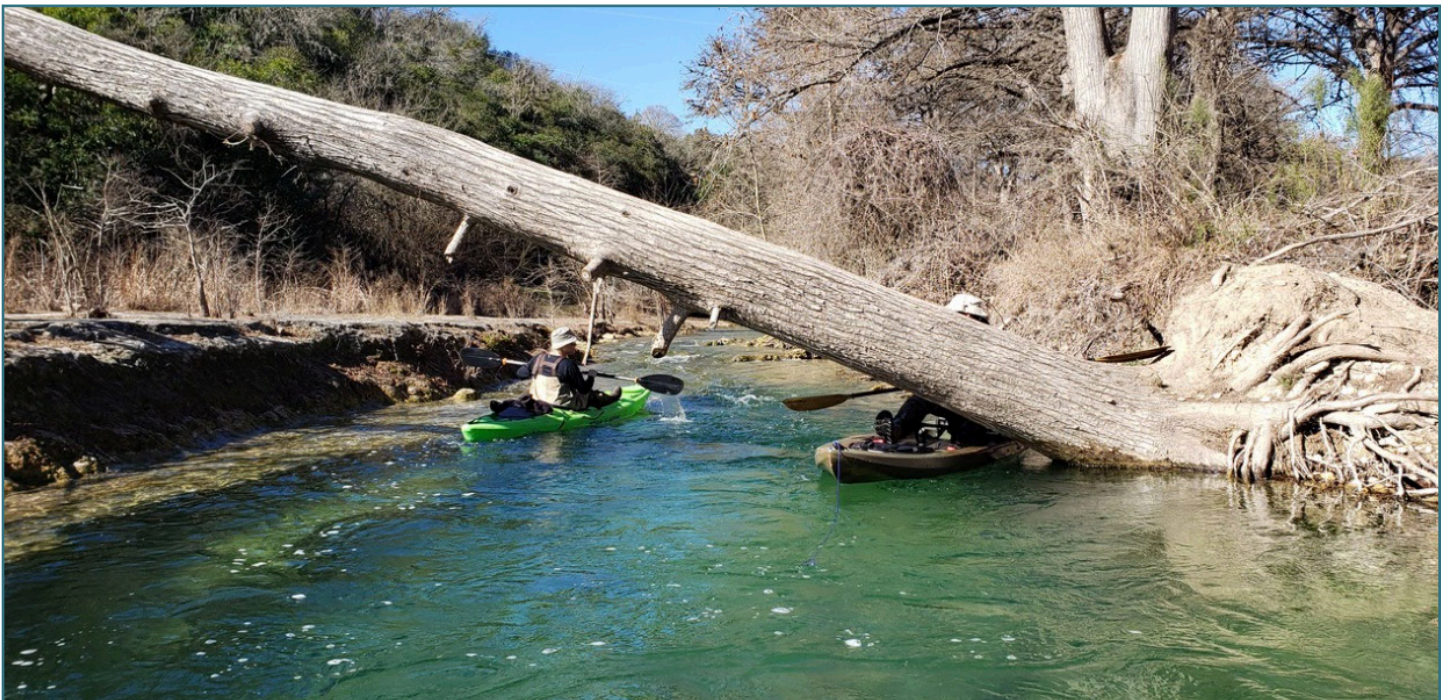
Levi Sparks at the Aquatic Life Monitoring event with SARA, August 6, 2020.

SURFACE WATER PROGRAMS

Tree Removal on Medina River

The District had received multiple calls from concerned community members regarding a large tree that fell perpendicular across the Medina River. Typically, we like to leave fallen debris instream to promote river health by slowing flow, trapping sediment, and providing habitat structure for fish and other aquatic organisms. Upon inspection of the tree, BCRA GD's Levi Sparks and Clint Carter quickly determined that the cypress was creating a navigational hazard. This causes kayakers and other recreationalists to portage around the tree by stepping foot on private property. Furthermore, this mature cypress tree had enough potential energy to cause serious damage downstream during our next flood event.

On August 15, 2020, BCRA GD staff member Clint Carter teamed up with Moffet & Lee Woodworks to successfully extract the tree by using chainsaws, winching material, and a tractor. We were able to remove the main stem of the tree while also leaving the crown instream for ecological purposes. A local riparian landowner granted us permission to use his bank during the extraction.



SURFACE WATER PROGRAMS

Aquatic Life Monitoring with San Antonio River Authority

On June 15, 2020 and August 6, 2020, employees Levi Sparks and Clint Carter assisted employees from the San Antonio River Authority in an Aquatic Life Monitoring Event. The results of these monitoring events are used by state agencies to monitor species composition, diversity, and functional organization of a community of organisms in an environment relatively unaffected by pollution.



Tree Removal on Medina River at Bridlegate

On September 1, 2020, BCRAGD staff Levi Sparks and Clint Carter assisted residents of the Bridlegate subdivision in the tree removal in a dry river bed at their park.



ENFORCEMENT/INVESTIGATIONS

Enforcement of State & District Rules

BCRAGD proactively enforces both State and District rules for Well Drilling. These rules are taken from TDLR Administrative Code and BCRAGD's Adopted Chapter 36 Rules. As a result of this program, during FY 2020, the District:

- Inspected all permitted and registered wells in Bandera County to ensure compliance with both District and State Rules
- Investigated Nuisance Complaints
- Issued Notice of Violations and ensured compliance with Notice of Violations
- Conducted investigations with TDLR

Chapter 36 Administrative Requirements

During FY 2020, the District maintained and reviewed policies mandated by Chapter 36 of the Texas Water Code including: Public Funds Investment Policy, Ethics Policy, Financial Management Policy, and Travel Policy. Additionally, the District reviewed and adjusted rules and District activities.



The image above shows a picture from a nuisance complaint from 2014 regarding a leaking septic.

Environmental Investigations

Illegal Dumping Litter Abatement Program

BCRAGD operates an illegal dumping litter abatement program to proactively protect and manage surface water and groundwater resources. The District adopted Rules out of Chapter 51 of the Texas Water Code, dealing specifically with illegal dumping that affects water quality. The Rules are in both the civil and penal code.

During FY 2020, BCRAGD attended or conducted the following Illegal Dumping / Environmental Investigation / Regulatory Compliance programs:

- Environmental Investigation: 01-OCT-2019
- Environmental Investigation: 02-OCT-2019
- Healthy Creeks Initiative (HCI) Meeting: 30-OCT-2019
- Highway Cleanup Plan and Safety Meeting: 06-NOV-2019



The image above shows an environmental investigation from 2014 regarding an illegal tire dump.

ENFORCEMENT/INVESTIGATIONS

- Environmental Investigation: 06-NOV-2019
- South Central Texas Regional Environmental Task Force (SCTRETF Meeting): 07-NOV-2019
- Groundwater Management Area (GMA) 9 Meeting: 18-NOV-2019
- Inspection of Public Water Supply: 19-NOV-2019
- Plateau Water Planning Group Region J Meeting: 21-NOV-2019
- South Central Texas Water Research Interest Group (SCTWRIG) Meeting: 03-DEC-2019
- Environmental Investigation: 04-DEC-2019
- Environmental Investigation: 05-DEC-2019
- Environmental Investigation: 26-DEC-2019
- Environmental Investigation: 07-JAN-2020
- Environmental Investigation: 09-JAN-2020
- Texas Alliance of Groundwater Districts (TAGD) Business Meeting: 30-JAN-2020 to 31-JAN-2020
- Texas Water Conservation Association (TWCA) Regional District & Authority General Managers Meeting: 30-JAN-2020 to 31-JAN-2020
- Environmental Investigation: 06-FEB-2020
- Webinar over New Tools for Environmental Flow Information: 12-FEB-2020
- South Central Texas Regional Environmental Task Force (SCTRETF) Quarterly Meeting: 05-MAR-2020
- Texas Water Specialist Seminar on Groundwater Management in Texas: 07-APR-2020
- Meeting w/Texas Game Warden on Delineating the Gradient Boundary: 08-APR-2020
- Intake Environmental concern @ Medina Lake: 15-APR-2020
- Texas Water Conservation Association (TWCA) General Managers Meeting: 23-APR-2020 to 24-APR-2020
- Plateau Water Planning Group Region J Public Hearing: 23-APR-2020
- Environmental Investigation w/ Fire Marshall: 13-MAY-2020
- Texas Alliance of Groundwater Districts (TAGD) Business Meeting: 27-MAY-2020
- South Central Texas Regional Environmental Task Force (SCTRETF) Meeting: 04-JUN-2020
- South Central Texas Water Research International Group (SCTWRIG) Meeting: 05-JUN-2020
- BCRAGD District CleanUp Initiative for Trash Removal @ Brewington River Crossing: 18-JUN-2020
- Attended the Surface Water Quality Standards Advisory Work Group (SWQSAWG) Meeting from 29-JUN-2020 to 30-JUN-2020
- Illegal Dumping/Littering Call: 06-JUL-2020
- Illegal Dumping Strategy Meeting: 07-JUL-2020
- Illegal Dump Investigation: 20-JUL-2020
- Environmental Investigation- Upper Sabinal & Bridlegate: 18-AUG-2020
- Environmental Investigation- Illegal Dumping @ Lake Meeting: 24-AUG-2020
- Texas Water Conservation Association (TWCA) Manager's Meeting: 28-AUG-2020
- Environmental Investigation- WC Soap: 08-SEP-2020
- Environmental Investigation- Lakehills: 23-SEP-2020



Dave Mauk, Levi Sparks, and Clinton Carter conducting Environmental Investigations.

ENFORCEMENT/INVESTIGATIONS

Public Safety / Pollution

BCRAGD serves as a first responder in cases of possible surface water or groundwater pollution or contamination. They investigate and identify the potential problem and refer to outside regulatory agencies when warranted.

The District's In-House Surface Water Quality Programs allow Staff to detect bacteria spikes and follow up with immediate investigation and re-sampling.

BCRAGD District Clean Up at Brewington River Crossing, June 18, 2020



ENFORCEMENT/INVESTIGATIONS



EDUCATION & OUTREACH PROGRAMS

USGS Flood Early Warning System (FEWS)

August 2016, BCRAGD entered into a 50/50 cost share contract agreement with The Texas Water Development Board (TWDB) for a Flood Early Warning System (FEWS) of the Medina River to be installed and maintained by the U.S. Geological Survey (third party federal contractor). The total cost of the project was \$530,000. TWDB awarded a 50 percent cost share of \$265,000 in Flood Protection Grant funding to BCRAGD for Bandera County. Working with USGS, the Medina River FEWS will greatly enhance protection of property and the lives of our residents as well as the communities downstream through use of the flood early warning tool set. Two additional USGS stream gages (West Prong Medina River at

Carpenter Creek Rd, and the North Prong Medina River at Brewington Rd. Crossing) were installed upstream of the existing USGS stream gage located at Medina River at Patterson Rd. Medina, TX. The additional stream gages will provide data of near real-time hydrologic conditions allowing for best management of flood early warning response time and provide strategies and early planning through advanced modeling and mapping. Parts of the Midwest have successfully implemented a similar USGS flood early warning system tool set, and the Bandera County FEWS serves as an example to all of Texas. This project is fully functional and data is available online.

The following existing USGS stream-gage stations are of the Medina River Flood Early Warning System (FEWS) (and can be found at www.bcragd.org/early-flood-warning-system/). These stations are routinely monitored daily by USGS and by BCRAGD staff during storm related events and are significant for providing storm related information of impending storms. They are:

- USGS National Water Information System <https://waterdata.usgs.gov/nwis/>
- North Prong gage at Brewington Creek https://waterdata.usgs.gov/nwis/inventory/?site_no=08178861
- West Prong gage at Carpenter Creek Road https://waterdata.usgs.gov/nwis/inventory/?site_no=08178871
- Patterson Rd. gage https://waterdata.usgs.gov/nwis/inventory/?site_no=0817887350
- Bandera gage https://waterdata.usgs.gov/tx/nwis/inventory/?site_no=08178880
- USGS Texas Water Dashboard <https://txpub.usgs.gov/txwaterdashboard/>
- USGS WaterAlert <https://water.usgs.gov/wateralert/>
- USGS Water On-The-Go <https://txpub.usgs.gov/water-onthego/>
- USGS Twitter
- #TX RainWatch https://twitter.com/USGS_TexasRain
- #TX FloodWatch https://twitter.com/USGS_TexasFlood
- #USGS[streamgage number] (e.g. #USGS08178880)



BCRAGD's Chief Data Officer, Larry B. Thomas, presenting the installed USGS stream gages to the Texas Water Development Board.

EDUCATION & OUTREACH PROGRAMS

- National Weather Service River Forecast – only available for Bandera gage (USGS gage number 08178880, NWIS identifier BDAT2) <https://water.weather.gov/ahps2/hydrograph.php?wfo=ewx&gage=bdat2>

The (FEWS) includes the development and data calibrations of a ‘Hydrologic Engineering Center’ – ‘River Analysis System’ (HEC-RAS) and a Flood Inundation Map (FIM) for the Medina River watershed, Bandera County.

In addition to the Medina River FEWS, a second 50/50 cost share Flood Protection Grant project proposal with a total cost of \$460,000 was submitted to TWDB in 2018 for a USGS / FEWS of the Sabinal River Western Bandera County. On November 12, 2018 TWDB approved a Grant cost shared agreement with BCRAGD for Bandera County and awarded \$230,000. USGS also agreed to supplement a 50/50 project cost share with BCRAGD as a third-party Federal Contractor for \$115,000. A USGS stream gage installation has been installed at the Sabinal River Bridge located on FM-1050, below Utopia Park at Utopia, TX as Station ID:08197970 (see photo). The Sabinal River FEWS will include the development and data calibrations of a ‘Hydrologic Engineering Center’ – ‘River Analysis System’ (HEC-RAS) and a Flood Inundation Map (FIM) for the Sabinal River watershed, Western Bandera County.

In addition, the USGS has installed several Insitu ‘non real time’ continuous data loggers at locations along the Sabinal and West Sabinal River (see photo) from Utopia TX and above the existing USGS streamgage located at the confluence of the Sabinal River and Mill Creek. The study area and planned inundation (FIM) river reach is from near Lost Maples Texas State Park to Utopia, TX. The insitu data loggers will provide water surface ‘stage’ elevations during storm related events for use with the development and calibration of the HEC-RAS model and Flood Inundation Map (FIM).

Working with USGS, the Sabinal River FEWS will greatly enhance protection of property and the lives of our Western Bandera County residents as well as residents of Uvalde, County at Utopia,

TX. and communities downstream, through use of the flood early warning tool set. The additional stream gages and insitu data loggers will provide data of hydrologic conditions allowing for best management of flood early warning response time and provide strategies and early planning through advanced modeling and mapping.



USGS Stream Gage at Sabinal River Bridge at Utopia, TX FM-1050, 08197970 Sabinal Rv at Utopia, TX. Photo taken March 4, 2020. Stream Gage is located on the Left Bank-Downstream side of the bridge near the top of the stream bank.



One of Five USGS Insitu Pressure Transducer, Water Level Electronic Data Loggers – Installed Above Utopia, TX, along the Sabinal and West Sabinal River.

EDUCATION & OUTREACH PROGRAMS

The extreme and below normal average rainfall totals and the current severe drought conditions within the State of Texas since pre 2018 and specifically referencing Western Bandera County, TX has caused a void of opportunities for USGS to collect streamflow and water surface elevation values above low flow conditions. Water surface elevations and streamflow data of greater than minimum base flows are required for the development and calibration of the HEC-RAS model.

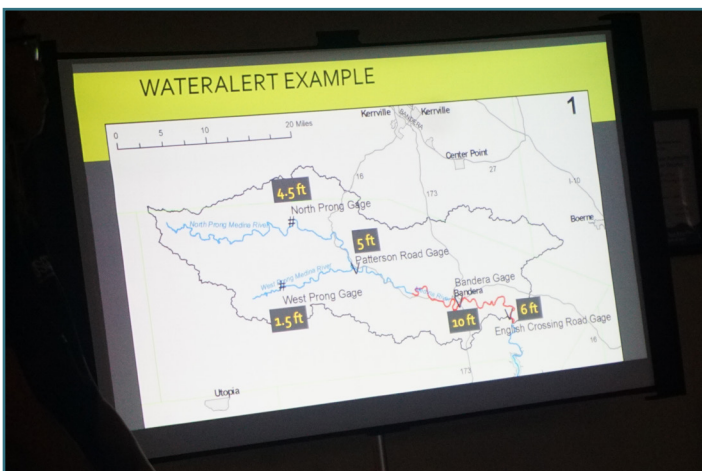
At present, USGS has requested an extension of the existing Sabinal River FEWS project completion timeline, in hopes of securing much needed hydrologic data for the Sabinal FEWS. BCRAGD has communicated with TWDB and will provide an official request for a full 1-year extension from the project completion date of

May 31, 2021 to a requested May 31, 2022 and extended contractual expiration date from August 31, 2021 to August 31, 2022.

The following USGS stream-gage stations are of the Sabinal River Flood Early Warning System (FEWS) (and can be found at www.bcragd.org/early-flood-warning-system/).

These stations are routinely monitored daily by USGS and by BCRAGD staff during storm related events and are significant for providing storm related information of impending storms. They are:

- Sabinal River at Panther Hill Rd. near Vanderpool, TX USGS station ID: 08197938
- Sabinal River Up Stream of Long Hollow, near Utopia, TX. USGS station ID: 08197940



Flood Early Warning System (FEWS) presentation and training provided by hydro-geologists Frank Engle and Namjeong Choi of the United States Geological Survey (USGS), hosted by the Bandera County River Authority and Groundwater District (BCRAGD). The training was located at the Bandera County River Authority and Groundwater District Office Board Meeting Room on November 5th, 2019.

EDUCATION & OUTREACH PROGRAMS

- Sabinal River Down Stream of Blackjack Hollow, near Utopia, TX. USGS station ID: 08197945
- West Sabinal River at West Sabinal Road near Utopia, TX. USGS station ID: 08197965
- West Sabinal River at Spring Branch Road near Utopia, TX. USGS station ID: 08197968

Larry B. Thomas, BCRAGD's Chief Data Officer, also serves as the Project Manager for all Flood Early Warning Systems. Additional USGS Stream gages along the Sabinal River and West Sabinal River above Utopia are potential and contingent upon pending Landowner access and right of way permissions.

BCRAGD hosted and attended multiple meetings concerning flood awareness as well as administratively prepared flood data spearheaded by BCRAGD's Chief Data Officer. See details below:

- Prepped for FEWS Administrative Meeting 04-NOV-2019 to 05-NOV-2019
- Flood Early Warning System (FEWS) Training hosted by BCRAGD, Prepared by United States Geological Survey (USGS) on 05-NOV-2019
- Held an Internal Meeting Regarding Texas Floodplain Management Association (TFMA) Renewals & CEU Logging Requirements on 25-NOV-2019
- TWDB Quarterly Report Due on 30-NOV-2019
- TWDB 1st Quarter FY2020 Report Sent Out on 10-DEC-2019
- Presentation Over FEWS Given at Texas Agri-Life in Uvalde on 13-DEC-2019
- Presentation Over FEWS Given at City Council Meeting on 16-JAN-2020
- Secured FEWS Meeting Locations for February on 22-JAN-2020
- Presentation Over FEWS Given at City Council Meeting on 06-FEB-2020
- Sabinal FEWS Meeting Hosted by BCRAGD & Prepared by USGS and Texas Water Development Board (TWDB) on 26-FEB-2020



In conjunction with the U.S. Geological Survey, Bandera County River Authority and Groundwater District held an update meeting on the Upper Sabinal River Flood Early Warning System (FEWS) in Utopia, Texas. The presentation from the U.S. Geological Survey gave a general overview of the project and provided a current status update of the project. The February 26, 2020 meeting was held at the Utopia Senior Center and was open to the public.

EDUCATION & OUTREACH PROGRAMS

- Public Training for Medina FEWS Meeting hosted by BCRAGD & Prepared by USGS and TWDB on 26-FEB-2020
- Worked on TWDB Report on 04-MAR-2020
- USGS Data Entry from Storm Event (No Flooding) on 04-MAR-2020
- Held an Internal Conference Call for Specs on FEWS Portion on Annual Report FY2019 on 25-MAR-2020
- Submitted TWDB Payment Request with USGS Invoice Dec-Feb on 30-MAR-2020
- Worked on Environmental/ Catastrophic Hazards- Workplace Contingency Plan on 01-APR-2020 to 02-APR-2020
- Monitored All USGS Flood Gages/24 hour Weather Watch for Potential Flooding on 01-APR-2020 to 02-APR-2020
- Edited Rainspotter Annual Data Entries from Last Year for Period 1991-2007 on 01-APR-2020 to 02-APR-2020
- Recorded USGS Payments on 06-APR-2020
- Reviewed ECI Plan on 08-APR-2020
- Worked on Environmental/ Catastrophic Hazards- Workplace Contingency Plan & Completed 1st Draft for Internal Review on 08-APR-2020 to 09-APR-2020
- Monitored All USGS Flood Gages/24 hour Weather Watch for Potential Flooding on 08-APR-2020 to 09-APR-2020
- Edited Rainspotter Annual Data Entries from Last Year for Period 1991-2007 on 08-APR-2020 to 09-APR-2020
- Meeting with TWDB & USGS: Invoicing, Flood Gages, & Postponing Construction on 13-APR-2020 to 14-APR-2020
- Completed 2nd Draft of Environmental/ Catastrophic Hazards- Workplace Contingency Plan and Submitted for Internal Review on 16-APR-2020
- Attended a Meeting with USGS Over Flood Project Billing on 28-APR-2020
- Drafted Letters/Invoices for O&M Gage ILA/ JFA Joint Funding on 04-MAY-2020
- Mailed Out Signed Letters/Invoices for O&M Gage ILA/JFA Joint Funding on 06-MAY-2020
- Held a Video Conference Meeting with USGS Over FEWS Billing & Held a Post Meeting for Updated Data on 03-JUN-2020
- Completed 1st Draft of TWDB Quarterly Report and Submitted for Internal Review on 08-JUN-2020
- Worked on Flood Regional Planning Group Nomination Form on 18-JUN-2020
- Worked on Flood Regional Planning Group Nomination Form Specs on 29-JUN-2020
- Completed Flood Regional Planning Group Nomination Form on 30-JUN-2020
- Reviewed BCRAGD Flood Plan Annual Report on 15-JUL-2020
- Review & Sign FY2021 JFA to Admin on 05-AUG-2020
- Reviewed & Edited Flood Monitoring Sabinal Progress Report Jun 1-Aug 31 on 10-AUG-2020
- Held an Internal Meeting Over Edits, TWDB Payment Receival, Rainspotter Forms, and Open/Paid FEWS Invoices on 10-AUG-2020
- Completed Sabinal FEWS Quarterly Report on 15-SEP-2020
- Prepared Rainspotter Rainfall Data Graph Comparisons Jan-Jun on 15-SEP-2020
- Review Completed Cost Shared Payment Requests to TWDB and USGS Invoices Completed by USGS on 16-SEP-2020
- Completed Flood Account Deposit on 17-SEP-2020
- Mailed Off USGS Check#001013 on 21-SEP-2020
- Completed & Submitted TWDB Annual Report for the Medina River FEWS on 22-SEP-2020
- Tracked USGS Check#001013 & Notate Arrival & Correspondence on 24-SEP-2020
- Held an Internal Meeting Over Future Bandera Flood Planning w/ Multiple Agencies on 29-SEP-2020 to 30-SEP-2020
- Rainspotter Data / Mail Out Rainspotter Packets / Rainfall Monitoring Program Data Entry (as received): 06-NOV-2019; 03-DEC-2019; 11-DEC-2019; 04-MAR-2020; 05-MAR-2020; 19-MAR-2020; 06-APR-2020; 07-APR-2020; 13-APR-2020; 14-APR-2020; 10-AUG-2020; 10-SEP-2020; 17-SEP-2020

EDUCATION & OUTREACH PROGRAMS



Also on February 26, 2020, the U.S. Geological Survey held a public training for the Medina River Flood Early Warning System (FEWS), which was hosted by Bandera County River Authority and Groundwater District. This meeting highlighted the finished product of the Flood Early Warning System that was completed in August of 2019. Additionally, it provided the public with the tools and resources to access the system should the community see a flood event in the future.

EDUCATION & OUTREACH PROGRAMS



On February 26, 2020, a Medina River Flood Early Warning System (FEWS) Public Training Meeting was held in Bandera County at 2pm. This meeting was hosted by BCRA GD and prepared by USGS and TWDB.

- Internal Meetings Held for Organizing/Cross Referencing/Corresponding/ FEWS USGS Payments Open Invoices & Paid Invoices: 27-JAN-2020; 16-MAR-2020; 26-MAY-2020; 27-MAY-2020; 04-JUN-2020; 08-JUN-2020; 15-JUN-2020; 23-JUN-2020; 24-JUN-2020; 31-AUG-2020; 14-SEP-2020; 15-SEP-2020
- Drought Stage Monitor Posted at Bandera Courthouse & BCRA GD Bulletin Board & Website: 03-OCT-2019; 07-NOV-2019; 05-DEC-2019; 02-JAN-2020; 06-FEB-2020; 10-MAR-2020; 16-APR-2020; 07-MAY-2020; 04-JUN-2020; 09-JUL-2020; 10-AUG-2020; 03-SEP-2020

The 2013 Light Detection and Ranging (LiDAR) data acquisition enhances the modeling and mapping capabilities for this Flood Early Warning System (FEWS) tool set. The LiDAR data for Bandera County was the result of a partnership between BCRA GD, Texas Water Development Board, Edwards Aquifer Authority, San Antonio River Authority, Bandera County, and Bandera City EDC. This data improves the accuracy of FEMA's risk map, flood risk and emergency planning, watershed protection, water resource, and invasive species monitoring.

EDUCATION & OUTREACH PROGRAMS

Public Safety- Flood Preparation Programs

BCRAGD has several Certified Floodplain Managers in its employ and is an active member of the Texas Floodplain Management Association.

Educational Recognition for Flood Awareness

The District won the 2017 John Patton Community Service Award in April 2017 from the Texas Floodplain Management Association. This was awarded to BCRAGD for promotions and educational activities initiated in schools and in the community to promote awareness over flood hazards. The award was presented to the BCRAGD Board on Thursday, July 13th at the BCRAGD Quarterly Meeting.

In 2018, an article was published in the Texas Water Conservation Association's Confluence magazine for Fall and Winter. BCRAGD's former Intergovernmental Affairs Manager, Kayla Shearhart, wrote an article in collaboration with USGS's J. Ryan Banta, Frank Engle, and Namjeong Choi about Bandera County River Authority and Groundwater District working with USGS on the Flood Warning System for Bandera County.

The Texas Water Development Board (TWDB) congratulated the Bandera County River Authority and Groundwater District with a certificate of completion on the Medina River Flood Early Warning System (FEWS) at the Joint Press Release Conference on August 26, 2019 last fiscal year. Pictured is Don Sloan (BCRAGD Board President), Kathleen Jackson (TWDB Board Member), and David Mauk (BCRAGD General Manager).



CONFLUENCE

FALL/WINTER 2018 Texas Water Conservation Association | twca.org

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- PUC Rate Case Update
- TWDB's Water for Texas Event Preview by Chairman Peter Lake
- State and Federal Legislative Outlooks
- New Flood Warning System in Bandera County

Bandera County River Authority and Groundwater District Works with USGS on Flood Warning System for Bandera County

By Kayla Shearhart (BCRAGD) and J. Ryan Banta, Frank Engle, and Namjeong Choi (USGS)

Over the past 30 years, annual flood losses averaged about \$7.96 billion with 82 fatalities per year. The Texas Hill Country is known for high intensity rain rates, and steep terrain, earning the area the title of "Flash Flood Alley." Historically, devastating flooding in Bandera County resulted in massive loss of property and loss of life in 1978 and 2002. The 2015 Memorial Day floods that the region endured were a painful reminder of just how susceptible we are to flash floods.

This year, the Texas Hill Country experienced high intensity rainfall in the Llano and Lower Colorado River Basins producing catastrophic flooding throughout the region.

While floods are impossible to prevent, and there is no way to guarantee protection of property, many federal, state, and local agencies have demonstrated that the loss of life can be greatly reduced with better warning. Real-time rainfall data, streamflow gaging stations, and flood-inundation mapping can serve as helpful tools for local authorities, emergency

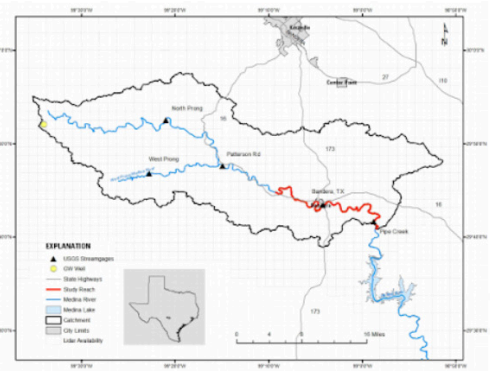


Figure 1: Map of study area (USGS)

District (BCRAGD) is currently working with the U.S. Geological Survey (USGS) to establish a Flood Warning System on the Medina River in Bandera County. This project was made possible through funding from a Texas Water Development Board grant and BCRAGD. The USGS has successfully implemented a similar type of early warning system in other regions in the United States. The goal is to enhance the communication of flood risk and provide Bandera

Management to make proactive decisions before and during flooding events.

The USGS is developing the technical toolset to monitor and predict potentially flooded areas from storm events. Once complete, the tool set will include a continuous streamflow-gage monitoring network, development of a Hydrologic Engineering Center River Analysis System (HEC-RAS) hydraulic model of the Medina River, and the inclusion of the generated flood inundation maps

EDUCATION & OUTREACH PROGRAMS

Public Education and Outreach Programs

The District prioritizes the education of students and the public regarding surface water and groundwater in Bandera County. Educational strategies emphasize hands-on activities, presentations, and workshops. On September 26, 2020 BCRAGD's Education and Outreach Manager and Coordinator attended the Texas Association for Environmental Education (TAEED) Training Conference (virtually due to the COVID-19 Pandemic) to assist in implementing education strategies.

The Education & Outreach Manager and Education Coordinator attended Project WILD Workshops on February 27, 2020, and March 6 & 7, 2020. Both became facilitators for presenting and hosting Project WILD Workshops. Project WILD is a part of the National Association of Fish and Wildlife Agencies and hosted through Texas Parks and Wildlife. Project WILD's mission is to help students learn how to think, not what to think, about wildlife and the environment. This allows BCRAGD to offer low-cost workshops for community teachers and other environmental educators.

Educational Programs in the ISDs

Since 2012, BCRAGD has sponsored and co-facilitated the Nueces River Authority Water Resource Stewardship Education Program for Bandera, Medina, and Utopia middle school students. The program features a water use and conservation presentation, and presented the demonstration of a surface water runoff model and an aquifer model, with an emphasis on nonpoint source pollution. The BCRAGD Education & Outreach Manager and the Education & Outreach Coordinator held Educational Programs with NRA during the following dates: Hill Country Elementary for Bandera ISD on February 11, 2020.

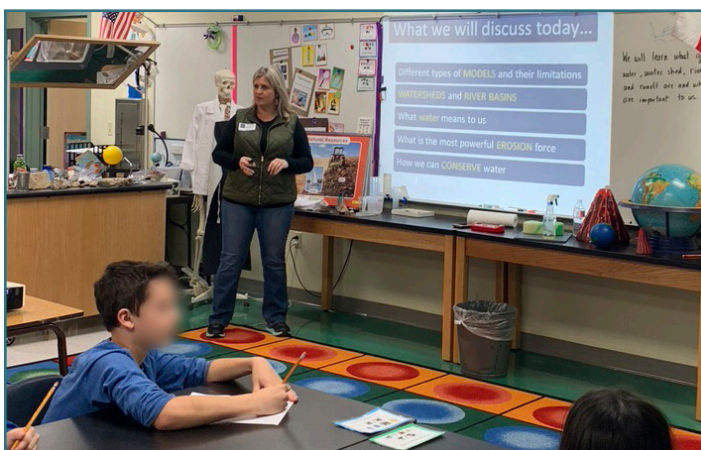
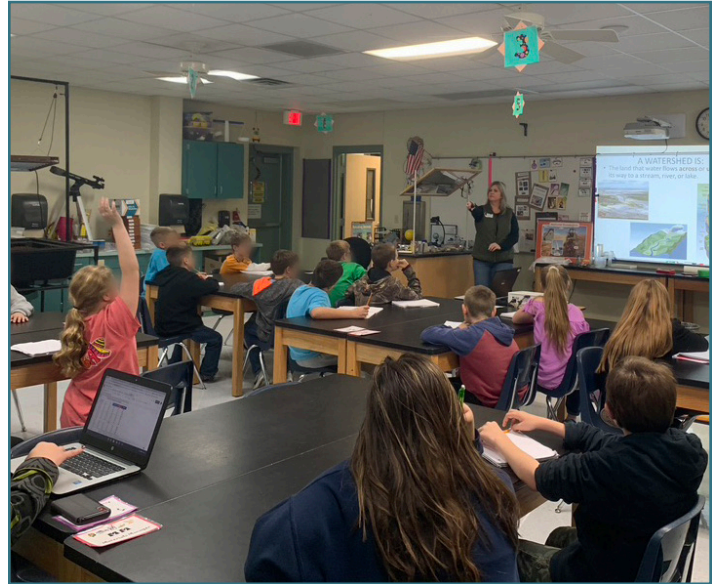


Project WILD Facilitators Workshop.

EDUCATION & OUTREACH PROGRAMS

The Nueces River Authority Water Resource Stewardship Program, in collaboration with BCRADG, heavily emphasizes water conservation, water quality protection, and natural resource systems to the 5th and 7th grade students in Bandera County throughout each Spring season. Our District wasn't able to present as often as years prior due to the COVID-19 Pandemic, however, we will resume the program as safely as possible in FY2021. Our District sponsors and co-facilitates the program every year.

BCRADG, in collaboration with the Nueces River Authority, presented information to the 5th graders at Hill Country Elementary school in Bandera ISD on February 11, 2020. Students learned about watersheds, water conservation, and riparian ecosystems and engaged in a hands-on experiment with a river basin model to demonstrate how pollution travels into water streams and ends up in the ocean, and had a thorough discussion on ways to be good stewards of our streams and waterways.



EDUCATION & OUTREACH PROGRAMS

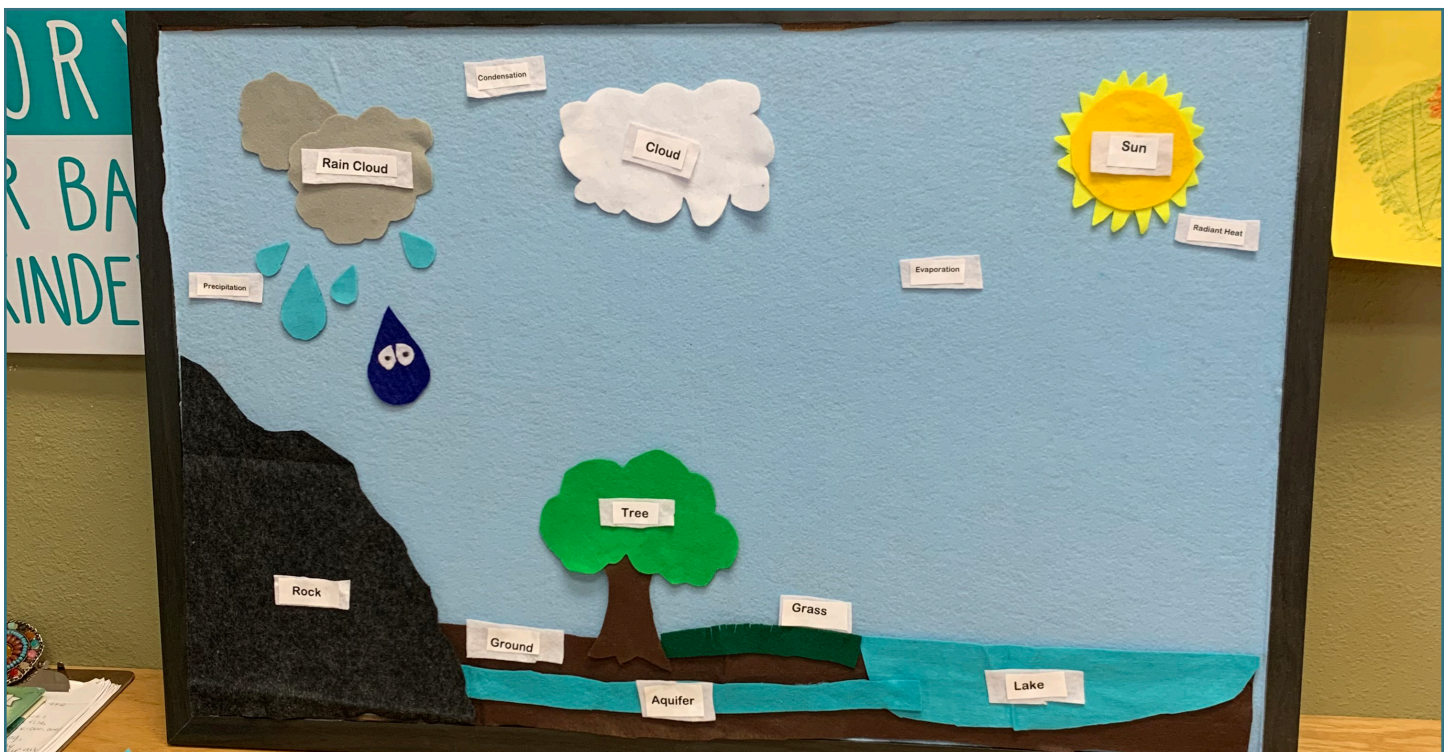
The local Soil and Water Conservation Board invites the District to participate in 6th Grade Ag Day at Mansfield Park in Bandera. In recent years, BCRAGD has collaborated with Nueces River Authority at this event. For FY 2020, this event took place on October 25, 2019. Corrina, Charley, and the Education Team with the Nueces River Authority attended a workshop to teach 6th graders in Bandera County about various sources of pollution, including point and nonpoint source pollution and hazardous contaminants present in water, and the effects of these contaminants on humans. Students engaged in laboratory experimentation by collecting water samples from the Ag Barn and conducted pH, chlorine, iron, and total hardness tests to determine water quality.



District Education and Outreach Manager, Corrina Fox, and District Office Coordinator & Education & Outreach Coordinator, Charley Curd, presenting at the 6th Grade Ag Day at Mansfield Park in Bandera, TX on October 25th, 2019.

EDUCATION & OUTREACH PROGRAMS

On October 21, 2019, The BCragd Education Team- Charley, Corrina, and Hayli, presented during Story Time at the Bandera Library. There, the Education Team taught how “Rowdy the Raindrop” moves through the water cycle. The team used an interactive felt storyboard to teach a group of children all under the age of 5 years old.



The BCragd Education Team presented during Story Time at the Bandera Library. There, the Education Team taught how “Rowdy the Raindrop” moves through the water cycle. The team used an interactive felt storyboard to teach a group of children all under the age of 5 years old.

EDUCATION & OUTREACH PROGRAMS

For FY2020, the District did the following for Education & Community Outreach:

- Women's Bennett Land Stewardship Conference by AgriLife Extension Office on 1-OCT-2019.
- BCRA GD Newsletter Launch on 03-OCT-2019.
- BCRA GD Social Media Presentation Preparations on 16-OCT-2019.
- Mailed *Arundo donax* Informative District Postcards to County Citizens for Awareness & Outreach on 17-OCT-2019 & 31-OCT-2019.
- District Education & Outreach Team Completed Preparations for Bandera Library Story Time Event on 21-OCT-2019.
- Presented at Bandera Library Story Time- (District Education & Outreach Team) on 21-OCT-2019.
- Internal Presentation of BCRA GD Social Media Policy for Lunch & Learn Staff Meetings on 21-OCT-2019.
- Attended the SWQM (Surface Water Quality Monitoring Program) Workshop in conjunction with SARA for the Clean Rivers Program from 21-OCT-2019 to 23-OCT-2019.
- Presented at 6th Grade Ag Day Barn Conservation Workshop in conjunction with the local Soil & Water Conservation Board at Mansfield Park in Bandera, TX by BCRA GD Education & Outreach Team & Nueces River Authority on 25-OCT-2019.
- Created Highway Clean-Up Plan & Reviewed Tax Code 6.03 on 30-OCT-2019.
- Attended the HCI (Healthy Creeks Initiative) Meeting on 30-OCT-2019.
- Prepped for FEWS Administrative Meeting 04-NOV-2019 to 05-NOV-2019.
- Flood Early Warning System (FEWS) Training hosted by BCRA GD, Prepared by United States Geological Survey (USGS) on 05-NOV-2019.
- Held an Internal Highway Clean-Up Plan & Safety Meeting on 06-NOV-2019.
- Meeting between BCRA GD Education & Outreach Team and the NRA Education Team on 13-NOV-2019.
- Presentation at SU by BCRA GD Education & Outreach Team for Expanding Your Horizons (EYH) Program on 16-NOV-2019.
- Attended an Education Collaborative Hydrology 101 Course on 20-NOV-2019.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 03-DEC-2019.
- Attended an Internal Meeting to Plan Upcoming Education Events on 04-DEC-2019.
- Attended the Hill Country Watershed Stewardship & Restoration Gathering on 06-DEC-2019.
- Presented over FEWS at Texas Agri-Life in Uvalde on 13-DEC-2019.
- Prepared Items, Decor, & Set-Up of Meeting Room for Office Christmas Water Conservation Event on 17-DEC-2019 & 18-DEC-2019.
- Presented and Hosted Annual BCRA GD Christmas Water Conservation Event on 18-DEC-2019.
- 1st Quarter FY2020 Social Media Posts: Facebook- 2, Instagram-2, Twitter-1.
- Attended Internal Meeting to Plan Upcoming Education Events & Project WILD Training on 15-JAN-2020.
- Presentation Over FEWS Given at City Council Meeting on 16-JAN-2020.
- Attended an Internal Meeting to Plan Upcoming Education Events & Materials Required on 28-JAN-2020.
- Hosted/Attended the Medina River Protection Fund Board Meeting (2 BCRA GD Staff Members are Members of the Board) on 29-JAN-2020.
- Ordered Promotional Pens for Educational Giveaways & Outreach Prizes on 05-FEB-2020.
- Hung Flyers for Hill Country Alliance Stewardship Event on 06-FEB-2020.
- Presentation Over FEWS Given at City Council Meeting on 06-FEB-2020.
- Presented at Hill Country Elementary for a Bandera 5th Grade School Visit Event with BCRA GD Education & Outreach Team and the NRA Education Team on 11-FEB-2020.
- Completed Pryor Training over Social Media & Marketing by the District Education & Outreach Team on 20-FEB-2020.
- Co-sponsored the Land Stewardship Event with Hill Country Alliance on 25-FEB-2020.
- Sabinal FEWS Meeting Hosted by BCRA GD & Prepared by USGS and Texas Water Development Board (TWDB) on 26-FEB-2020.

EDUCATION & OUTREACH PROGRAMS

- Public Training for Medina FEWS Meeting hosted by BCRAGD & Prepared by USGS and TWDB on 26-FEB-2020.
- Attended the Go WILD Combo Workshop (BCRAGD Education & Outreach Team) on 27-FEB-2020.
- Attended the Go WILD Facilitators Workshop (BCRAGD Education & Outreach Team) on 06-MAR-2020 to 07-MAR-2020.
- Worked on the BCRAGD April Newsletter on 26-MAR-2020.
- Completed BCRAGD Website Updates on 30-MAR-2020.
- Held an Internal Meeting over Website Updates on 31-MAR-2020.
- 2nd Quarter FY2020 Social Media Posts: Facebook-17, Instagram-3, Twitter-1.
- Reviewed Website Material on 02-APR-2020.
- Reviewed Texas Education Standards / TEKS on 02-APR-2020.
- Held an Internal Meeting over Website Content Update on 02-APR-2020.
- Set-Up Constant Contact for Public Outreach PSA's and Emails on 06-APR-2020.
- Organization and Data Entry for Constant Contact on 06-APR-2020.
- Attended an Internal Conference Call on Outreach Strategies on 06-APR-2020.
- Created an Email List for Medina River Protection Fund (MRPF) on 07-APR-2020.
- Emailed MRPF List for Cancellation of Medina River Clean-Up Event Due to COVID-19 Pandemic on 07-APR-2020.
- Reviewed TEKS for Potential Lesson Plans (Education & Outreach Manager) on 08-APR-2020.
- Completed Intro to Watershed Modeling Training on 15-APR-2020.
- Internal Conference Call on Website Banner Creation on 16-APR-2020.
- Internal Meeting on Website Updates on 16-APR-2020.
- Completed a Social Media Review on 04-MAY-2020.
- Completed Employee Grad School Recommendation for Education & Outreach Manager on 21-MAY-2020.
- Internal Meeting on Upcoming Education Events, Programs, Signatures, & Trainings on 26-MAY-2020 & 24-JUN-2020.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 05-JUN-2020.
- Attended the Surface Water Quality Standards Advisory Work Group (SWQSAWG) Meeting from 29-JUN-2020 to 30-JUN-2020.
- 3rd Quarter FY2020 Social Media Posts: Facebook-16, Instagram-2, Twitter-2.
- Held an Internal Conference Call with GM over Quarterly Report Summary & Material Pricing on 01-JUL-2020.
- Held an Internal Conference Call with GM over Social Media Posts & Vendor Research on 02-JUL-2020.
- Shared Social Media FB Water Safety & COVID Policy on 03-JUL-2020.
- Shared Social Media FB Fourth of July Community Post on 04-JUL-2020.
- Held an Internal Conference Call with the Dumping/Littering Outreach Team on 07-JUL-2020.
- Completed Research on Social Media Topics on 08-JUL-2020.
- Completed in Internal Website Review Meeting on 13-JUL-2020.
- Completed a Website Clean-Up / Overhaul on 14-JUL-2020.
- Attended an Internal Meeting over Education Events & Updates on 14-JUL-2020.
- Researched Additional Virtual Education Options on 15-JUL-2020.
- Attended an Internal Conference Call over Office Space Utilization on 16-JUL-2020.
- Completed Website Updates on 21-JUL-2020.
- Completed Education Planning & Strategies from 22-JUL-2020 to 23-JUL-2020 & 28-JUL-2020.
- Held an Internal Meeting on Education Updates & Future Planning on 29-JUL-2020 & 03-AUG-2020.
- Reviewed Similar Agency Educational Programs on 30-JUL-2020.
- Held an Internal Phone Conference with GM over Education Restructuring on 05-AUG-2020.
- Developed a New Education Program on 06-AUG-2020.
- Reviewed Learning Cycle Lesson Plan Format from 11-AUG-2020 to 12-AUG-2020.

EDUCATION & OUTREACH PROGRAMS

- Completed In-Office Material Organizations on 13-AUG-2020.
- Posted In-House Sampling PSA Results on Social Media on 17-AUG-2020.
- Held an Internal Phone Conference Education Team Meeting on 18-AUG-2020.
- Held an Internal Education Update Meeting on Planning & Event Ideas on 20-AUG-2020.
- Completed Social Media Content Creation on 30-AUG-2020 & 08-SEP-2020.
- Completed Social Media & Infographic Content Creation on 01-SEP-2020.
- Held an Internal Meeting over Updates & Upcoming Education Implementations on 09-SEP-2020 & 15-SEP-2020.
- Presented to the Medina Water Supply Company at the Medina Library Over Water Conservation on 14-SEP-2020.
- Held an Education Project Work Meeting on 09-SEP-2020.
- Completed Website Updates on 10-SEP-2020.
- Completed Work on Hill Country Rainwater Revival Festival Project Work on 10-SEP-2020.
- Presented on Water Conservation at Medina Public Meeting: 14-SEP-2020.
- NRA Documents from School Visits w/ Photos & Signatures & Scheduling on 15-SEP-2020.
- Prepared Hill Country Alliance Rainwater Revival Video Idea, Recording, Editing, and Submission from 15-SEP-2020 to 17-SEP-2020.
- Created Promotional Sticker Design / Enhancement on 17-SEP-2020.
- Held an Internal Meeting over Upcoming Events, Planning, and Event Coordinating on 23-SEP-2020.
- Attended the Hill Country Alliance's (HCA) 2020 Virtual Hill Country Leadership Summit from 23-SEP-2020 to 25-SEP-2020.
- Researched Rainwater Harvesting Material for Presentation Preparation on 23-SEP-2020.
- Attended the Texas Association of Environmental Education (TAAEE) 2020 Conference (BCRAGD's Education & Outreach Team) on 26-SEP-2020.
- Presentation for Public over Rainwater Harvesting Online on 30-SEP-2020.
- 4th Quarter FY2020 Social Media Posts: Facebook-21, Instagram-3, Twitter-0.



EDUCATION & OUTREACH PROGRAMS

Expanding Your Horizons (EYH)

The Expanding your Horizons (EYH) Network is a global platform that seeks to increase female participation in STEM (Science, Technology, Engineering, and Mathematics). EYH facilitates local conferences that engage middle school aged girls with hands-on workshops.



Schreiner University sponsors this educational event annually for students in the Hill Country area. Bandera County River Authority and Groundwater District is invited every year to participate. On November 16, 2019, the District Education Team facilitated a workshop on the conservation and preservation of water. Sixteen students were given materials and information on how to design and build a watershed model showing the importance of riparian plants and created a rain event to show how water flows through the watershed, and how pollution moves from each body of water, to ultimately end up in the ocean. Students also performed water quality testing on fresh water samples from a nearby creek and performed data analysis on those water test results. Discussions about limited fresh water availability and contamination of water resources were led by BCRA GD staff. These future scientists learned first-hand the importance of water quality testing and preservation of fresh water resources. Students gained a good understanding of what conservation scientists do and how important conservation is to the community and to the world.



EDUCATION & OUTREACH PROGRAMS

University Internship Program

Bandera County River Authority and Groundwater District actively participates in the Schreiner University Community Internship Program (CIP). This allows a qualified student the opportunity to work and learn at the District. The work includes both laboratory and field work. In April of 2021, BCRAGD will be reviewing resumes and interviewing candidates to hire a Schreiner University intern for the District to work during the Summer of 2021.

Bandera County River Authority and Groundwater District hired an intern, Ross Potter, on November 18, 2019. Mr. Potter has a Bachelor of Science Degree in Bioenvironmental Sciences with a Minor in Business from Texas A&M University.

His experience includes: working in a Texas Plant Disease Diagnostics Lab, being an undergraduate researcher at the Department of Plant Pathology and Microbiology, and working as a Roustabout. While at Texas A&M University, he gained leadership skills as Vice-Chair at MSC Townhall and was a Chairperson during Fish Camp.

While interning with the District, Ross gained exposure to a variety of fields. He performed tasks such as collecting flow measurement data, assisting with collecting samples for BCRAGD's In-House Surface Water Quality Monitoring Study, completing fieldwork, and assisting with BCRAGD's Monitor Wells Program, Well Plugging Program, and Clean Rivers Program.

He attended various regional meetings such as GMA-9 and Region J, as well as attended a variety of environmental meetings such as SCTWRIG and HC Watershed Stewardship. He also assisted in administrative items such as Records Management, Disposition and Destruction, Public Information / Open Meetings, and Intergovernmental Affairs. Shown below is Ross Potter gaining experience in District fieldwork during the Quarterly In-House and EAA Sampling. Mr. Potter concluded his District internship on December 12, 2019.



Invasive Species /Healthy Riparian Education Programs

In addition to working in the field to manage invasive species, BCRAGD provided many different educational programs and presentations to spread awareness:

- Attended a Women's Bennett Land Stewardship Conference by AgriLife Extension Office w/ topics including Healthy Riparian on 01-OCT-2019.
- Attended a Webinar presented by the Texas AgriLife Extension on 03-OCT-2019.
- Attended the SWQM (Surface Water Quality Monitoring Program) Workshop in conjunction with SARA for the Clean Rivers Program from 21-OCT-2019 to 23-OCT-2019.
- Presented at 6th Grade Ag Day Barn Conservation Workshop in conjunction with the local Soil & Water Conservation Board at Mansfield Park in Bandera, TX by BCRAGD Education & Outreach Team & Nueces River Authority on 25-OCT-2019.
- Attended the HCI (Healthy Creeks Initiative) Meeting on 30-OCT-2019.

EDUCATION & OUTREACH PROGRAMS

- Mailed Arundo Informative District Postcards to County Citizens for Arundo Awareness on 17-OCT-2019 & 31-OCT-2019.
- Flood Early Warning System (FEWS) Training hosted by BCRAED, Prepared by United States Geological Survey (USGS) on 05-NOV-2019.
- Held an Internal Highway Clean-Up Plan & Safety Meeting on 06-NOV-2019.
- Meeting between BCRAED Education & Outreach Team and the NRA Education Team on 13-NOV-2019.
- Presentation at SU by BCRAED Education & Outreach Team for Expanding Your Horizons (EYH) Program on 16-NOV-2019.
- Attended an Education Collaborative Hydrology 101 Course on 20-NOV-2019.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 03-DEC-2019.
- Attended the Hill Country Watershed Stewardship & Restoration Gathering on 06-DEC-2019.
- Presented and Hosted Annual BCRAED Christmas Water Conservation Event on 18-DEC-2019.
- Hosted/Attended the Medina River Protection Fund Board Meeting (2 BCRAED Staff Members are Members of the Board) on 29-JAN-2020.
- Hung Flyers for Hill Country Alliance Stewardship Event on 06-FEB-2020.
- Presented at Hill Country Elementary for a Bandera 5th Grade School Visit Event with BCRAED Education & Outreach Team and the NRA Education Team on 11-FEB-2020.
- Co-sponsored a Land Stewardship Event with the Hill Country Alliance (HCA) on 25-FEB-2020.
- Sabinal FEWS Meeting Hosted by BCRAED & Prepared by USGS and Texas Water Development Board (TWDB) on 26-FEB-2020.
- Public Training for Medina FEWS Meeting hosted by BCRAED & Prepared by USGS and TWDB on 26-FEB-2020.
- Collaborated with the City, HCA, and TPWD for an Upcoming Arundo Survey Project on a Kayaking Tour 27-FEB-2020.
- Attended the Go WILD Combo Workshop (BCRAED Education & Outreach Team) on 27-FEB-2020.
- Attended the Go WILD Facilitators Workshop (BCRAED Education & Outreach Team) on 06-MAR-2020 to 07-MAR-2020.
- Met w/ Hill Country Alliance (HCA), Texas Parks & Wildlife Department (TPWD), & City of Bandera to Discuss & Plan Future Erosion Control Project for City Park on 11-MAR-2020.
- Worked on the creation and data of a Riparian Field Guide on 02-APR-2020.
- Created a Riparian Plant Database on 09-APR-2020.
- Attended a Watershed Coordinator's Roundtable Meeting on 23-APR-2020.
- Attended the South Central Texas Water Research International Group (SCTWRIG) Meeting on 05-JUN-2020.
- Conducted Aquatic Life Monitoring with San Antonio River Authority (SARA) at the Mayan Ranch on 15-JUN-2020.
- Attended a Webinar on What Freshwater Mussels Are Worth on 16-JUN-2020.
- Completed a BCRAED District CleanUp Initiative for Trash Removal @ Brewington River Crossing on 18-JUN-2020.
- Attended the Surface Water Quality Standards Advisory Work Group (SWQSAWG) Meeting from 29-JUN-2020 to 30-JUN-2020.
- Attended a Webinar over Isotopes 101: Nutrient Source Tracking on 01-JUL-2020.
- Held an Internal Conference Call with the Dumping/Littering Outreach Team on 07-JUL-2020.
- Attended a Webinar over Wildlife Conservation Changes on 08-JUL-2020.
- Attended a Webinar on the New Freshwater Mussel Silo: Design, Construction, & Conservation Application on 14-JUL-2020.
- Attended a Webinar on Upper Coast Wetland Ecosystem Project on 16-JUL-2020.
- Attended a Webinar on Genomics as an Essential Tool for Freshwater Mussel Conservation on 28-JUL-2020.
- Status Update on City of Bandera ASR Project: 30-JUL-2020.
- Conducted Aquatic Life Monitoring with San Antonio River Authority (SARA) at Mayan Ranch on 06-AUG-2020.
- Completed a Cypress Tree Removal on 15-AUG-2020.

EDUCATION & OUTREACH PROGRAMS

- Attended a Green Infrastructure Tour of East Bandera County on 17-AUG-2020.
- Attended a Webinar on the Functional Ecology of Freshwater Mussels on 25-AUG-2020.
- Audited during the Annual Clean Rivers Program (CRP) Audit with SARA & NRA on 26-AUG-2020.
- Completed a Tree Removal @ Bridlegate on 01-SEP-2020.
- Attended a Webinar on Tagging & Monitoring Freshwater Mussels on 08-SEP-2020.
- Completed taking Zebra Mussel Sampling to San Marcos on 10-SEP-2020.
- Completed Work on Hill Country Rainwater Revival Festival Project Work on 10-SEP-2020.
- Presented to the Medina Water Supply Company at the Medina Library Over Water Conservation on 14-SEP-2020.
- NRA Documents from School Visits w/ Photos & Signatures & Scheduling on 15-SEP-2020.
- Prepared Hill Country Alliance Rainwater Revival Video Idea, Recording, Editing, and Submission from 15-SEP-2020 to 17-SEP-2020.
- Attended a Webinar on Freshwater Mussels, Conservation & Systematics Conference on 22-SEP-2020.
- Researched Rainwater Harvesting Material for Presentation Preparation on 23-SEP-2020.
- Attended the Hill Country Alliance's (HCA) 2020 Virtual Hill Country Leadership Summit from 23-SEP-2020 to 25-SEP-2020.
- Attended the Texas Association of Environmental Education (TAEE) 2020 Conference (BCRAGD's Education & Outreach Team) on 26-SEP-2020.
- Presentation for Public over Rainwater Harvesting Online on 30-SEP-2020.
- Arundo site visits occurred over the course of several days. These days were: 09-OCT-2019; 11-OCT-2019; 17-JUN-2020; 24-JUN-2020; 07-JUL-2020; 08-JUL-2020; 16-JUL-2020; 21-JUL-2020; 22-JUL-2020; & 16-SEP-2020.
- Zebra Mussel sampling / monitoring occurred over the course of several days. These days were: 24-OCT-2019; 05-NOV-2019; 02-JUN-2020; 11-JUN-2020; 09-JUL-2020; 20-AUG-2020; & 15-SEP-2020.

If you identify any invasive species on your property such as Arundo donax or Zebra Mussels, take a picture of it, record the location, and call BCRAGD at (830) 796-7260.

Water Conservation Programs & Natural Resource Stewardship

The District prioritizes the conservation of Bandera County's surface and groundwater, as well as the stewardship of natural resources as a whole. This priority is reflected in the execution of District programs and initiatives, as well as being an integral part of the District's overall Education and Community Outreach Program.

Annually, BCRAGD hosts a Water Conservation Christmas Event. During FY 2020, this public event was on December 18, 2019 and approximately 20 people from Bandera County and City of Bandera governmental offices were in attendance. The District Staff shared information regarding the District's ongoing projects and shared tips for Water Conservation. This event is part of the District's goal to improve intergovernmental relations and work collaboratively with other county and city agencies to better provide services to the community, as well as to provide Water Conservation information to the public.



BCRAGD's Annual Christmas Water Conservation Event, December 2019.

EDUCATION & OUTREACH PROGRAMS

Hill-Side Stewardship Event Sponsored by BCRAGD & Hill Country Alliance (HCA)

Bandera County River Authority and Groundwater District co-sponsored the Hill-Side Stewardship Event with Hill Country Alliance on February 25, 2020. The event included an interactive tour and engaging experience of a Bandera County landowner's property. Long term stewardship practices were the topic of discussion. The discussion focused on types of structures landowners could construct to slow the flow of water to increase water sinking (absorbing into the ground). Attendees got a first-hand look at how to implement the building of rock structures, use of woody debris, how to construct rainwater harvesting systems, and how to use swales and berms that coincide with the topography of the landscape. Riparian was also a topic for discussion. Levi Sparks and Clint Carter were instrumental in providing expertise during the event. This comprehensive event gave valuable insight and resources on how to identify land management issues and take corrective, stabilizing action to preserve and conserve natural resources.



EDUCATION & OUTREACH PROGRAMS

District staff serve on various local groups focused on Water Conservation and Watershed Protection:

- Attended and presented with Nueces River Authority Water Resource Stewardship as part of Education and Community Outreach on February 11, 2020.
- Multiple staff serve on the Medina River Protection Fund Board (MRPF), which meets numerous times at the District office during the Spring to organize the annual Medina River Clean Up which is generally held on the first Saturday in May annually. Unfortunately, the event was canceled for FY2020 due to the COVID-19 Pandemic, but will resume as scheduled in FY2021 if possible. The District contributes toward the clean up each year. Staff also attended the MRPF meeting on 01/29/20.
- Two BCRA GD staff are members of Lake Medina Conservation Society (LAMCOS).
- BCRA GD attends meetings with the Madrona Garden & Social Club. For FY 2020, many of these meetings were canceled due to the COVID-19 Pandemic, but will resume in FY2021 if possible.
- On 12/03/2019 & 06/05/2020, BCRA GD Staff attended the SCTWRIG Meeting.
- BCRA GD is part of the Natural Resources Conservation Services (NRCS) State Technical Committee.
- BCRA GD Outreach Team & Staff continues to fulfill the District's commitment to TX DOT's Adopt a Highway program.

The District continues to partner with local entities to educate the community on natural resource stewardship. Bandera's Texas A&M AgriLife Extension Service (AgriLife) and Texas Parks and Wildlife and Hill Country Alliance (HCA) have been essential partners in various community outreach efforts.



Annual Medina River Cleanup

The Medina River Cleanup is an annual event that is held the first Saturday in May, and supports a healthy ecosystem through the organization of volunteers to remove trash and debris from the Medina River. BCRA GD supports and participates annually through donation and advertising in local papers, radio ads, District social media, the District's website, and at the District's office.

For FY 2020, what would have been the 20th annual Medina River Clean Up, which would have been held on May 2nd, was unfortunately canceled due to the COVID-19 Pandemic. Typically, our District staff volunteers, along with BCRA GD Directors. Last fiscal year, there were about 250 participants from 35 cities and towns in Texas that attended, and two large dumpsters were filled with debris removed from the river—one of which was full of metal that was recycled. For FY2019, The cleanup removed approximately 7,000 pounds of recyclable metal including an entire automobile. A second dumpster was filled with trash that could not be recycled.

Prior to the COVID-19 Pandemic, The Medina River Cleanup recycling effort produced dividends for the Medina River Protection Fund, which hosts the clean up each year. For FY2019, Kerrville Recycling loaned the dumpsters. While FY2020's Medina River Cleanup Event was canceled due to the COVID-19 Pandemic, we are hopeful that it will resume in FY2021. For more information or if you would like to become a volunteer please visit <http://www.medinariver.net/>.



EDUCATION & OUTREACH PROGRAMS

District Office Highlights

Ever since the on-set of the COVID-19 Pandemic in March 2020, The District has worked diligently on being flexible and navigating and adjusting to a new normal. One way the District successfully achieved a pivot is by implementing weekly virtual meetings for staff to provide updates on projects and tasks completed, and for collaboration and planning. With virtual meetings, even if the District Office is operating on a staggered schedule or if staff members are out in the field, they can check in and communicate with each other via Zoom Meetings or Google Meet. During these virtual meetings, information can be applied to daily operations for additional cross-training while boosting office morale, as well as providing a set time in which announcements, planning, and scheduling can be done as a team. These meetings include an Administrative Office Team Meeting, a Management Team Meeting, an All Staff Meeting, a Groundwater District Operations Team Meeting, an Education & Outreach Team Meeting, and a River Authority Operations Team Meeting. This is an adjustment to the District's FY2019 implementation of monthly Lunch & Learn Staff Meeting Sessions in which Staff members would take turns in their area of expertise and give a presentation to the team.



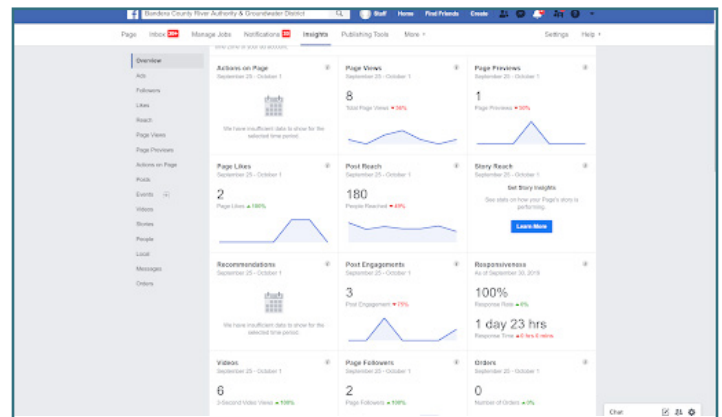
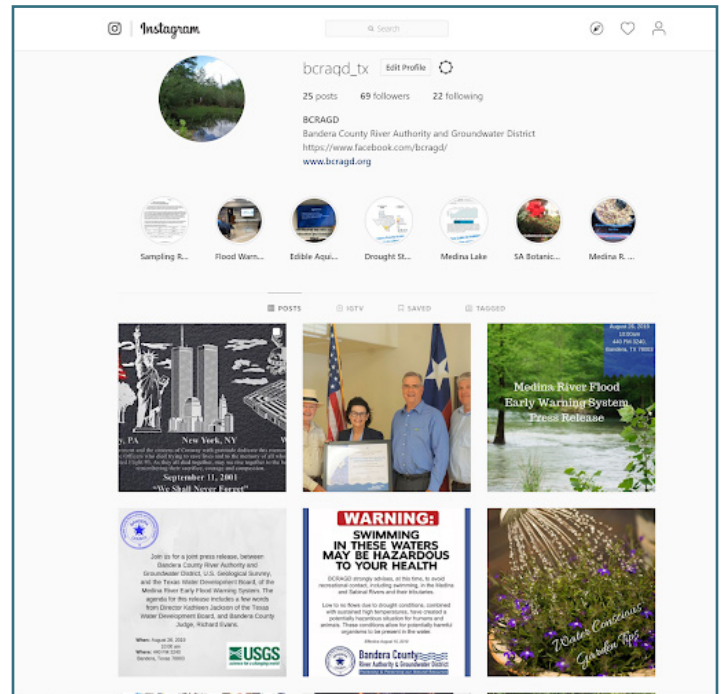
The ladies of the District were fortunate to attend the Bennett Trust Women's Land Stewardship Conference hosted by Texas A&M Agri-Life program held in Fredericksburg, TX, on September 30 - October 1, 2019.

EDUCATION & OUTREACH PROGRAMS

Social Media

For FY2020, the BCRAGD Education Team has been working diligently on public outreach. One of the most effective means of public outreach is through social media. Through Instagram, Twitter, and Facebook, the team has the ability to provide vital information to targeted audiences and provide public awareness to changing weather patterns and ongoing projects of the District that will directly benefit the community. As a political subdivision of the state, the District has an obligation of transparency to the public, which is met through the channel of social media, which also provides additional open lines of communication between the District and the general public. Social Media outlets allow for the District to share and promote resources from collaborating agencies such as National Weather Service, Texas Ag-Extension office, Texas Floodplain Managers Association, Texas Water Development Board, and many others.

During the first quarter, The Outreach Team focused on creating consistent content that educates the public on different topics concerning water. With education at the forefront of the District's Education and Outreach Team's mission, it has become more pressing to provide the public with the necessary tools and knowledge to become proper and appropriate stewards of the county and state's natural resources.



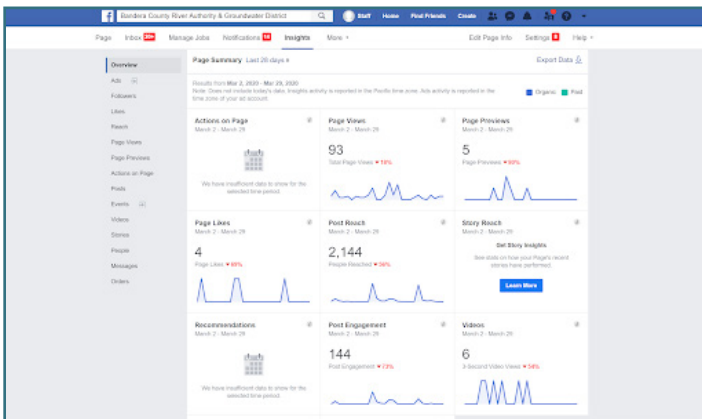
During the second quarter, the Outreach Team focused on providing helpful resources to the public and providing them access to great programs that assist with natural resource conservation and stewardship. Additionally, in the last month of the quarter, when day-to-day life was threatened with COVID-19, the Outreach Team provided up-to-date information of the steps the District has been taking to slow the spread of this virus.

EDUCATION & OUTREACH PROGRAMS

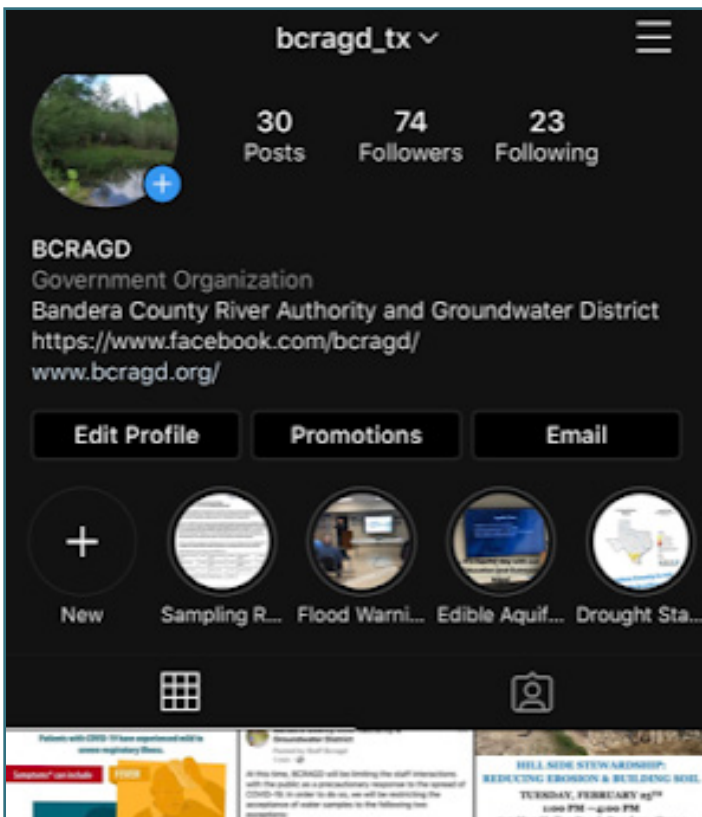


During the third quarter, when day-to-day life was threatened with the COVID-19 Pandemic, the Outreach Team provided up-to-date information on the steps the District has been taking to slow the spread of this virus while providing vital services to the community.

May 20, 2020, the **Texas Floodplain Managers Association (TFMA)** held a Go Blue-Flood Awareness campaign. BCRAGD staff proudly participated by wearing blue and posting to the District's Facebook page. Flood Awareness is a vital component of what the District does in an attempt to get the public informed about potentially hazardous conditions.

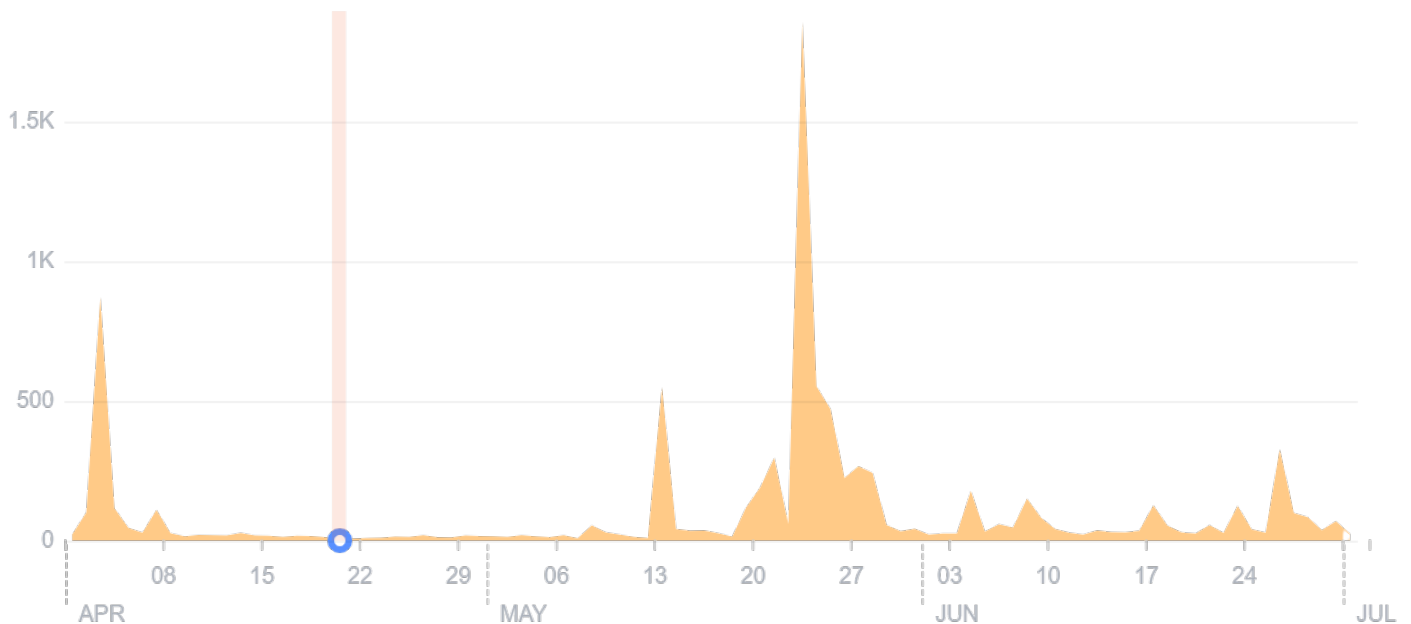


Staff members L. Thomas, C. Fox, C. Carter, and L. Sparks wearing blue to support the campaign.



EDUCATION & OUTREACH PROGRAMS

Overview of Facebook Reach for Third Quarter 2020



The largest peak was a share from the National Weather Service warning of potential flooding.

For the fourth quarter, the focus of information had been on county surface water quality and weather conditions due to heat advisories and rainfall. BCRAGD was still following and adjusting COVID-19 protocols as mandated by the state and federal governments while maintaining the ability to service community needs. Social media had been utilized in keeping the public up to date with BCRAGD policies, office hours, and available services. BCRAGD utilized Facebook as a way to keep the public informed of surface water quality in the county. Below is a post of the August 25, 2020 sampling results. Sampling posts reach over 2,500 people in the community and surrounding areas. These results are particularly valuable during the summer months when water is more likely to have higher temperatures and low-flow creating potential hazards for the public.



Get More Likes, Comments and Shares

When you boost this post, you'll show it to more people.

2,933

People Reached

619

Engagements

EDUCATION & OUTREACH PROGRAMS



BCRAGD Public Service Announcement: Medina River *E. coli* Counts August 25th, 2020

Surface Water Staff from the Bandera County River Authority and Groundwater District (BCRAGD) collected water samples from sites along the Medina River, Medina Lake, Sabinall River, and their tributaries to assess levels of *E. coli* bacteria on August 25th.

E. coli is a bacteria found in the gut of warm-blooded animals and is known to potentially cause illness in humans if ingested. **No primary contact recreation should take place if the number of *E. coli* exceeds 399 most probable number (MPN) per 100 mL of water.** This standard is set by the Texas Commission on Environmental Quality (TCEQ) in the Texas Administrative Code (30 TAC §307.7). Meaning, no one should participate in activities that could result in the total submersion of the head under water if counts exceed the 399 MPN standard.

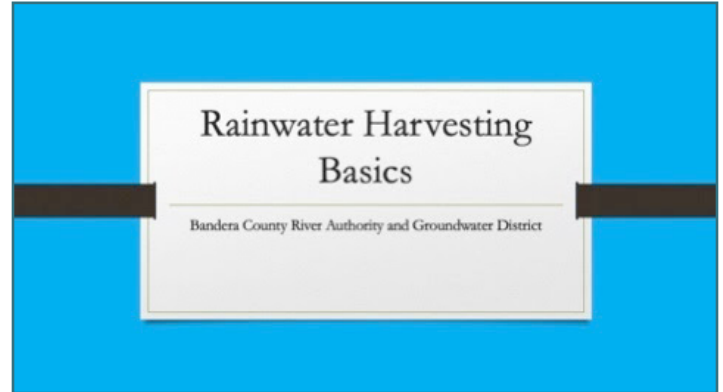
There is ALWAYS a possibility of infection from *E. coli* or other waterborne illness. **Never drink or ingest river water without proper disinfection, and always swim at your own risk.**

Results listed below were analyzed at the BCRAGD lab:

Medina Lake - Park @ PR 37	5 MPN	Bandera City Park @ SH173	69 MPN	Moffett Park in Medina	105 MPN
English Crossing	41 MPN	Bandera City Park @ 1st St	23 MPN	Sabinall R @ Lost Maples	12 MPN
Bandera River Ranch Park	Dry	Ranger Crossing	58 MPN	Sabinall R @ Utopia	263 MPN
Bridlegate Ranch Park	1 MPN	Tarpley Crossing	39 MPN	Lost Maples @ Can Creek	3 MPN
Brewington Crossing	43 MPN				

The above results can also be found on the BCRAGD website, www.bcragd.org, and the BCRAGD Facebook page. BCRAGD is not a certified lab. Results are for informational purposes only.

On September 30th, our BCRAGD's Education and Outreach Team produced and posted a public presentation video on the basics of Rainwater Harvesting. This video is currently available on our Facebook page.



RESOURCE PLANNING & COLLABORATION

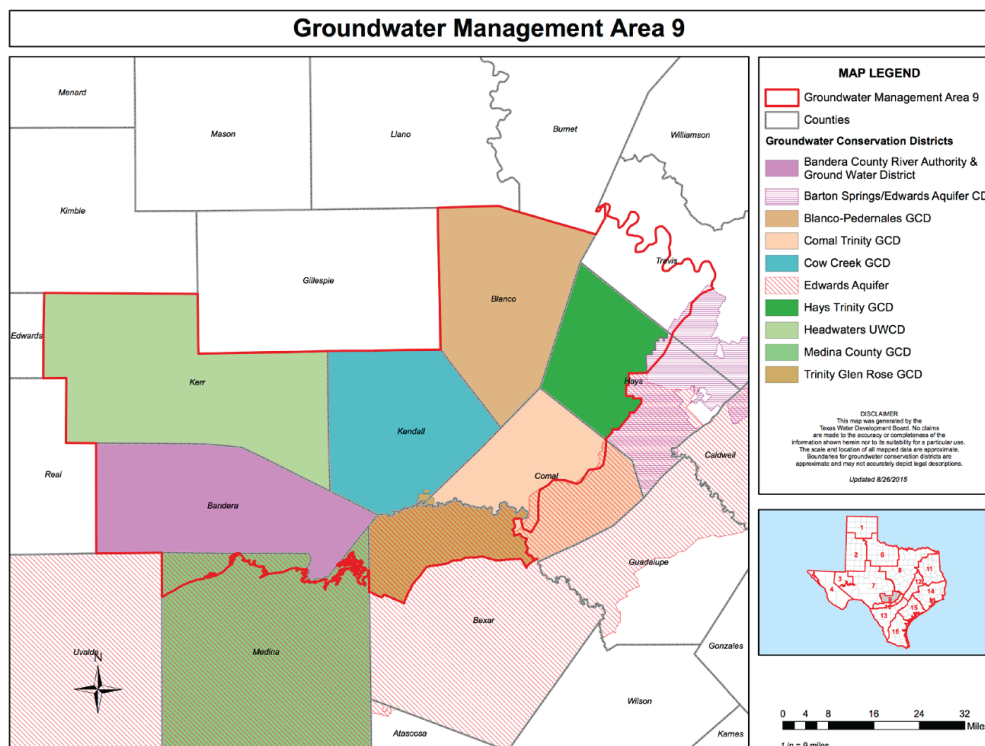
Groundwater Management Area 9 (GMA-9) **Representative**

Groundwater Management Areas were created “in order to provide for the conservation, preservation, protection, recharging, and prevention of waste of the groundwater, and of groundwater reservoirs or their subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions, consistent with the objectives of Section 59, Article XVI, Texas Constitution, “groundwater management areas may be created...” (Texas Water Code § 35.001).

BCRAGD has been a member of GMA-9, a regional water management group since 2005. More information on the group, including data and reports can be found at https://www.twdb.texas.gov/groundwater/management_areas/gma9.asp

Our District’s involvement is summarized below:

- BCRAGD’s General Manager collaborated with a GMA-9 District & Texas Water Foundation (TWF) on 21-OCT-2019.
- BCRAGD attended and represented the District at the only GMA-9 Public Meeting held in FY2020, (due to the COVID-19 Pandemic) on 18-NOV-2019.
- BCRAGD’s General Manager & Office Manager attended a meeting for Collaborating Districts for GMA-9 with Hays Trinity on 27-NOV-2019.
- BCRAGD’s Groundwater District Operations Manager & Office Manager held an internal meeting to Discuss & Coordinate a System for GMA-9 Invoicing & Deposits for GMA-9 DFC Joint Planning Project Phase 1 on 06-APR-2020.
- BCRAGD’s Intergovernmental Affairs Manager completed the GMA-9 Minutes on 16-APR-2020.
- BCRAGD’s Intergovernmental Affairs Manager & Office Manager completed GMA-9 Invoicing System & GMA-9 Deposits on 20-APR-2020.
- BCRAGD’s Office Manager completed GMA-9 Receiving of Invoicing System & GMA-9 Deposits for Phase 1 on 11-MAY-2020 & 23-JUN-2020.



RESOURCE PLANNING & COLLABORATION

- BCragD's Intergovernmental Affairs Manager & Office Manager held an internal meeting to Discuss Next Step Phase II Part 1 GMA-9 Invoicing & Deposits for GMA-9 DFC Joint Planning Project on 06-JUL-2020.
- BCragD's Intergovernmental Affairs Manager completed the creation & submission of GMA DFC Project Phase II Part 1 Invoices to Districts on 09-JUL-2020.
- BCragD's Office Manager completed GMA DFC Project Phase II Part 1 Invoicing / Billing in QB on 15-JUL-2020.
- BCragD's Intergovernmental Affairs Manager completed the creation & submission of GMA DFC Project Phase II Part 2 Invoices to Districts on 03-AUG-2020.
- BCragD's Office Manager completed GMA DFC Project Phase II Part 2 Invoicing / Billing in QB on 12-AUG-2020.
- BCragD's Office Manager completed the Finalization of all Accounts Receivable Deposits for GMA DFC Project Phase II Part 1 & 2 Payments Received on 08-SEP-2020.
- GMA-9 re-adopted the DFC on April 18th, 2016. GMA-9 is currently in the planning process of the 2022 DFC cycle that kicked off in 2019 and will be completed at the end of 2021. BCragD took on the administration of the financial contract between GMA-9 and their consultants for FY2020.

Our District's involvement is summarized below:

- BCragD's Groundwater District Operations Manager attended the Texas Water Development Board (TWDB) Edwards GAM Project Update: 04-AUG-2020.
- BCragD's Groundwater District Operations Manager attended the Virtual Texas Water Development Board's (TWDB) Board Meeting on 03-SEP-2020.
- BCragD supplied groundwater data to TWDB for determination of aquifer conditions.
- BCragD maintained a program to require measurement of permitted well usage as required by the State to determine water usage for the county.
- The District's Management Plan was approved by TWDB on 3/15/18.

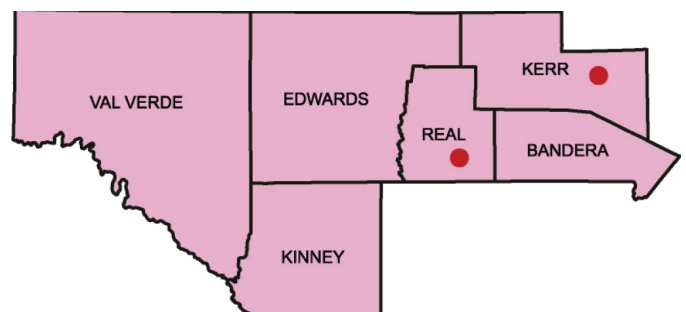
Region J- Plateau Regional Water Planning Group

BCragD is a representative Groundwater Conservation District on the Region J Plateau Regional Planning Group, and represents Bandera County in the design of viable water management strategies in the region. BCragD attends planning group meetings, and proactively participates with Region J's consultants in the creation of the Region J Water Plan. The Region J Meetings that were attended by BCragD staff were on: 21-NOV-2019 & 23-JAN-2020. A meeting with a City Council Member for Region J was held on 24-SEP-2020.



Texas Water Development Board (TWDB)

Created in 1957, the mission of the Texas Water Development Board (TWDB) is to lead the state's efforts in ensuring a secure water future for Texas and its citizens. Their mission is a vital part of Texas' overall vision and the state's mission and goals that relate to maintaining the viability of the state's natural resources, health, and economic development. <https://www.twdb.texas.gov/about/index.asp#twdb-history>



Map of Region J - Plateau Regional Water Planning Group.

RESOURCE PLANNING & COLLABORATION



- BCRAGD's Intergovernmental Affairs Manager & Groundwater District Operations Manager attended the Virtual Texas Alliance of Groundwater District's (TAGD) Business Meeting on 29-SEP-2020.

Texas Alliance of Groundwater Districts (TAGD) Member

Founded in 1988, the Texas Alliance of Groundwater Districts (TAGD) “works to promote and support sound management of groundwater based on local conditions and good science. TAGD provides educational and technical assistance to member districts and the public, serves as a resource on groundwater issues with state officials, assists members in keeping current with state law, and is a central point of contact for information on groundwater issues and practices.” (excerpt from TAGD’s website: <https://texasgroundwater.org/what-we-do/>).

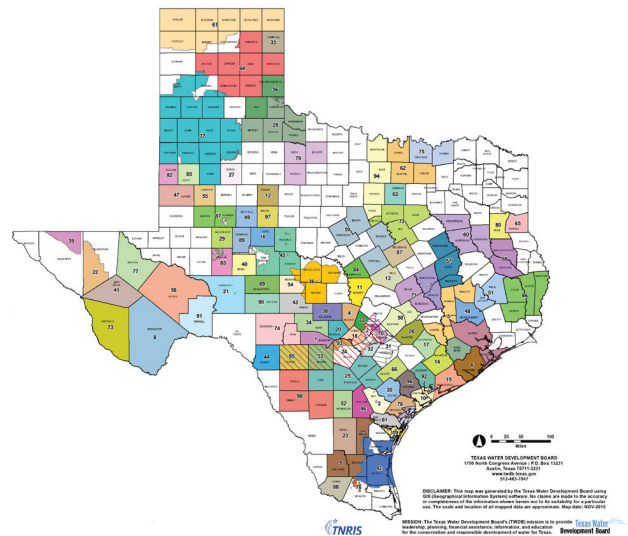
During FY 2020, BCRAGD remained an active member:

- BCRAGD’s General Manager served as a representative on the Legislative Committee.
- BCRAGD’s Groundwater District Operations Manager attended the Texas Alliance of Groundwater District’s (TAGD) Business Meeting on 30-JAN-2020 to 31-JAN-2020.
- BCRAGD’s Groundwater District Operations Manager & Intergovernmental Affairs Manager attended the Texas Alliance of Groundwater District’s (TAGD) Business Meeting on 27-MAY-2020.
- BCRAGD’s General Manager, Office Manager, and Groundwater District Operations Manager attended the Public Funds Investment Act Training (PFIA) provided by Texas Alliance of Groundwater Districts (TAGD) on 28-MAY-2020.
- BCRAGD Completed & Submitted Texas Alliance of Groundwater District’s (TAGD) CyberSecurity Training on 04-JUN-2020.
- BCRAGD’s Groundwater District Operations Manager attended the Virtual Texas Alliance of Groundwater District’s (TAGD) Summit on 01-SEP-2020 to 03-SEP-2020.

GSA BBASC Environmental Flows

BCRAGD is a member of the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Stakeholder Committee (GSA BBASC). It was “created by the 80th Texas Legislature in recognition of the importance that the ecological soundness of our riverine, bay, and estuary systems and riparian lands have on the economy, health, and well-being of our state.” The above excerpt and more information can be found at the following website: https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/eflows/guadalupe-sanantonio-bbasc-bbest

District General Manager, Dave Mauk, serves as a BBASC Member, representing the Regional Water Planning Groups Interest Group.



There are about 99 Groundwater Conservation Districts in the State of Texas, and a good majority belong to the Texas Alliance of Groundwater Districts.

RESOURCE PLANNING & COLLABORATION



Texas Water Conservation Association (TWCA)

Texas Water Conservation Association (TWCA) is a 501(c)(4) association of water professionals and organizations in the state of Texas. TWCA's membership is made up of diverse entities and individuals all connected to the surface water and groundwater industries in some way. <https://www.twca.org/about>

Our District's involvement is summarized below:

- Multiple District Staff attended the Texas Water Conservation Association (TWCA) Conference from 17-OCT-2019 to 18-OCT-2019.
- BCRAGD's General Manager attended a Conference Call concerning TWCA-TX Water Day on 15-JAN-2020.
- BCRAGD's General Manager attended the Texas Water Conservation Association (TWCA) Regional District & Authority General Managers Meeting: 30-JAN-2020 to 31-JAN-2020.
- BCRAGD's General Manager & Intergovernmental Affairs Manager attended a Conference Call concerning TWCA-TX Water Day on 05-FEB-2020.
- BCRAGD's General Manager attended a TWCA General Manager's Meeting on 23-APR-2020 to 24-APR-2020.
- BCRAGD's Groundwater District Operations Manager & Surface Water Operations Manager attended a Webinar on TWCA's One Water on 15-JUL-2020.
- BCRAGD's General Manager & Intergovernmental Affairs Manager attended the Texas Water Conservation Association (TWCA) Manager's Meeting on 28-AUG-2020.



**TEXAS WATER
FOUNDATION**

Texas Water Foundation (TWF)

Texas Water Foundation (TWF) is working to lead Texas into a sustainable water future by investing in the next generation of water leaders, equipping decision makers, and inviting every Texan to recognize that Texas Runs on Water. <https://www.texaswater.org/>

Texas Water Foundation has a Texas Water Leaders Program within their Carole Baker Water Leadership Institute. This is an annual leadership program that provides water professionals stepping into positions of leadership with the tools, training, and opportunities to expand their potential. The Texas Water Leadership Certification offers emerging leaders the opportunity to grow their leadership skills and become a part of an exclusive network of professionals stepping into leadership positions across a diverse water sector. The first Texas Water Leaders class launched early 2020 and included 20 emerging water leaders from diverse parts of the Texas water sector. Despite adjusting to a virtual platform, the Texas Water Leaders class of 2020 completed the full curriculum and graduated in October.

Bandera County River Authority and Groundwater District's former Groundwater District Operations Manager, Michael Redman, applied for, and was selected, to become a part of the Texas Water Leadership Certification Program and graduated from the full curriculum with the other 19 water leaders in October of 2020.

RESOURCE PLANNING & COLLABORATION

Our District's involvement is summarized below:

- BCRA GD's General Manager collaborated with a GMA-9 District & Texas Water Foundation (TWF) on 21-OCT-2019.
- BCRA GD's General Manager attended a meeting with Texas Water Foundation (TWF) for Future Collaborative Projects on 04-DEC-2019-05-DEC-2019.
- BCRA GD's former Groundwater District Operations Manager attended Texas Water Foundation's Texas Water Leaders Program after a BCRA GD Employee applied and was selected for the program on 03-MAR-2020.
- BCRA GD's former Groundwater District Operations Manager attended a coaching call for the Texas Water Leaders Program on 30-MAR-2020.
- BCRA GD's former Groundwater District Operations Manager attended Texas Water Foundation's Texas Water Leaders Program & Cohort Meeting on 27-MAY-2020.
- BCRA GD's former Groundwater District Operations Manager attended Texas Water Foundation's Texas Water Leaders Program from 27-MAY-2020 to 29-MAY-2020.
- Attended a Texas Water Specialist Seminar on Groundwater Management in Texas on 07-APR-2020.
- Completed Intro to Watershed Modeling Training on 15-APR-2020.
- E-completed TCEQ Groundwater Conservation District Registration Form on 05-MAY-2020.
- Provided Assistance to 2 Neighboring Districts w/ Records Management Compliance Elements: 03-JUN-2020.
- Completed a Geophysical Pilot Study of Groundwater & Surface Water Interactions Talk Preparations on 19-JUN-2020.
- Pulled Specs & Documentation Requested by the State Auditor's Office from 28-JUL-2020 to 04-AUG-2020.
- Attended the State Audit Initial Conference on 04-AUG-2020.
- Attended the Texas Groundwater Webinar on 12-AUG-2020 & 13-AUG-2020.
- Attended a Meeting on Groundwater Availability w/ Engineers & Developers on 18-AUG-2020.
- Pulled Specs & Documentation Requested by the State Auditor's Office from 20-AUG-2020 to 03-SEP-2020.
- Attended the Virtual Texas Commission on Environmental Quality's (TCEQ) Public Hearing on 03-SEP-2020.
- Phone Conference w/ State Auditors on 03-SEP-2020.
- Preliminary Results Response From State Auditors on 03-SEP-2020.
- Phone Conference w/ State Auditors on 08-SEP-2020.
- Phone Conference w/ State Auditors on 10-SEP-2020.
- Pulled Specs & Documentation Requested by the State Auditor's Office from 08-SEP-2020 to 21-SEP-2020.
- Phone Conference w/ State Auditors Meeting & Update on 22-SEP-2020.
- Attended the Hill Country Alliance's (HCA) 2020 Virtual Hill Country Leadership Summit from 23-SEP-2020 to 25-SEP-2020.
- Attended a USGS Meeting: 29-SEP-2020.

Other noteworthy Resource Planning & Collaboration events that the District attended in FY 2020 are as follows:

- The District Groundwater District Operations Manager / Code Enforcement Officer and the District's Natural Resource Specialist attended the South Central Regional Environmental Task Force (SCTRETF) on 07-NOV-2019.
- Attended the SCEMA Quarterly Meeting & Election on 29-JAN-2020.
- Attended a City Council Meeting on 04-FEB-2020.
- Attended a conference call with Hill Country Alliance (HCA) & City Council on 10-FEB-2020.
- Attended the South Central Texas Regional Environmental Task Force (SCTRETF) Quarterly Meeting on 05-MAR-2020.
- BCRA GD's Natural Resource Specialist Completed Community Collaborative Rain, Hail, & Snow Training on 03-APR-2020.

RESOURCE PLANNING & COLLABORATION



Photo captured and provided by Clinton Carter.

Other Noteworthy Administrative Events, Trainings, & BCRA GD Highlights for FY2020 include:

- Employee Pryor Training: From Manager to Great Leader: 08-OCT-2019
- Policies Annual Update Project & Master List: 21-OCT-2019
- SMART Goals Meeting & Review: 28-OCT-2019
- October Staff Meeting/ Lunch & Learn: SMART Goals & Social Media Policy: 29-OCT-2019
- Records Disposition Log Retention Schedule Research: 04-NOV-2019
- Intern Onboarding Paperwork & Procedures: 18-NOV-2019
- District Disposition Log Approval Sign Off for Met Retention Destruction: 25-NOV-2019
- Thanksgiving Staff Meeting/ Lunch & Learn: Groundwater: 26-NOV-2019
- Secretary of State Elections Training: 03-DEC-2019 to 06-DEC-2019
- Records Disposition Destruction of Met Retention Records: 03-DEC-2019; 04-DEC-2019; 30-DEC-2019; 31-DEC-2019
- TML Phone Audit: 04-DEC-2019
- Employee Pryor Training: Managing Multiple Priorities & Deadlines: 10-DEC-2019
- BCRA GD Annual Christmas Water Conservation Event: 18-DEC-2019
- EDE & Co. Annual Finance Audit for BCRA GD: 23-DEC-2019
- January Staff Meeting/ Lunch & Learn: CyberSecurity Training: 15-JAN-2020
- Employee Pryor Training: Women in Leadership: 16-JAN-2020
- February Staff Meeting/ Lunch & Learn: Productivity Tips & Legal Updates: 12-FEB-2020
- Rules Committee Meeting: 24-FEB-2020
- March Staff Meeting: Pandemic, Social Distancing, Contingencies, SOPs: 16-MAR-2020
- Annual Report Completion: 31-MAR-2020
- Submitted Final Annual Report to Directors & Staff: 02-APR-2020
- Employee Pryor Training: Excel Beyond the Basics: 07-APR-2020
- Gathered Training & Policies for Director Education Curriculum Book: 09-APR-2020
- Completed BCRA GD Server Organization & Overhaul: 09-APR-2020 to 16-APR-2020
- Employee Pryor Training: Supervising Employees: 15-APR-2020
- Employee Pryor Training: Managing Emotions Under Pressure: 15-APR-2020
- Employee Pryor Training: Quickbooks: 21-APR-2020
- Employee Pryor Training: Human Resources: 28-APR-2020
- Employee Pryor Training: Multiple Priorities, Projects, & Deadlines: 28-APR-2020
- HR Law Pre-Interview Dos & Don'ts & Interview Question Creation Research: 30-APR-2020
- Employee Pryor Training: Developing Emotional Intelligence: 06-MAY-2020
- Employee Pryor Training: Overcoming Negativity: 07-MAY-2020
- Created Policy for Mandatory Board Education: 08-APR-2020 & 09-APR-2020
- HR Exit Interview & ADA Compliant Job Description Research & Study: 13-MAY-2020
- Employee Pryor Training: Fundamentals of Project Management: 13-MAY-2020 to 14-MAY-2020

RESOURCE PLANNING & COLLABORATION

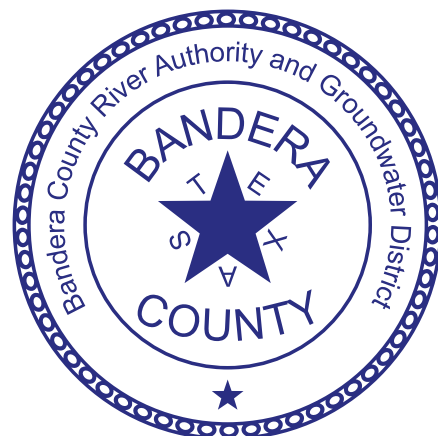
- Research Compliance Posters 2020 State/Federal/OSHA/DOL: 14-MAY-2020
- Research COBRA Options for Employee Departure HC Coverage: 18-MAY-2020
- Completed Quarterly Meeting Presentation Preparations: 20-APR-2020
- Employee Pryor Training: Goal Setting in the Workplace: 21-MAY-2020
- New Hire Onboarding Paperwork/Procedures: 26-MAY-2020
- May Staff Meeting: Employee Transitions: 26-MAY-2020
- Employee Pryor Training: Dealing with Difficult People: 27-MAY-2020
- Employee Departure Checklist, Exit Interview, & Research Cross Reference Safety Posters: 28-MAY-2020
- Employee Pryor Training: Women's Conference: 28-MAY-2020 & 29-MAY-2020
- Employee Pryor Training: Excel Basics & Beyond: 02-JUN-2020 to 03-JUN-2020
- Employee Pryor Training: Handling Emotionally Charged Situations: 10-JUN-2020
- Completed Project Update Compliance Posters 2020 Federal & State, Print, Size, & Display by Law: 16-JUN-2020
- Prepped & Posted Order of Election Notice for District: 18-JUN-2020
- Ensure I-9 Separation for Records Compliance: 24-JUN-2020
- Employee Pryor Training: Great Communicators: 30-JUN-2020
- Webinar: How to Mitigate Spread of COVID-19 in Office: 01-JUL-2020
- Records Management Disposition Log Approval: 09-JUL-2020
- Webinar: RMO Disposition 101 by Texas State Library & Archives Commission (TSLAC): 20-JUL-2020
- Virtual Seminar Training: Records Management for Local Governments by TSLAC: 27-JUL-2020
- Webinar: COVID-19 Workplace Safety: 13-AUG-2020
- Webinars: Maximizing Employee Performance Appraisals, Self Evaluations, Reasons for Poor Performance, & Conducting Performance Reviews: 20-AUG-2020
- Create Employee Self Appraisal / Evaluation

Projects List Form: 08-SEP-2020

- Create Employee Evaluation & Appraisal Appointment Sign Up Times: 10-SEP-2020
- Composed Order of Cancellation of General Election: 10-SEP-2020
- Employee Evaluations / Self Appraisals / Projects / Performance / Salary Reviews: 14-SEP-2020 to 16-SEP-2020
- District Policies Meeting Review: 28-SEP-2020



Photo captured and provided by Clinton Carter.



North Prong at Brewington Crossing in Fall and Spring.



Photos captured and provided by Clinton Carter.



Jerry Webster Sides

In Loving Memory

Dedicated & Loyal Board Member for
Bandera County River Authority
& Groundwater District for Almost 30 Years

January 12, 1946 ~ November 27, 2020

A scenic view of a river with large, ancient-looking trees and a rope swing hanging from a branch. The water is calm and reflects the surrounding greenery. The trees have thick, gnarled trunks and dense foliage. A rope swing hangs from a high branch on the right side of the frame. In the background, a sandy bank is visible with some people sitting on it. The overall atmosphere is peaceful and natural.

ARTICLES, PUBLICATIONS & PRESS RELEASES

Newspaper Articles

Date	Article Title - Bandera Prophet
22.JAN.2020	Groundwater District Moves County to Severe Drought Status
27.FEB.2020	Notice of Public Hearing on Proposed Rules
11.MAY.2020	Applicants for Bandera City Council Being Accepted Now
10.AUG.2020	One Week Left to File Candidacy for Local Offices

Date	Article Title - Bandera Bulletin
01.JAN.2020	Texas Commission on Environmental Quality Notice of Application
05.FEB.2020	Notice of Public Hearing on Proposed Rules
19.FEB.2020	BCRAGD, TWDB, & USGS Flood Early Warning Sys. for Upper Sabinal River
26.FEB.2020	Around the Hill Country: BCRAGD will Host Workshop in Utopia Feb 26
04.MAR.2020	Details of Flood Warning System Examined
18.MAR.2020	...Water Well Owners Invited in Free Training Network @ BCRAGD Office
18.MAR.2020	E. coli Reading Troublesome in Area
29.APR.2020	Medina River Cleanup Suspended
27.MAY.2020	E. Coli Count High at One Site
17.JUN.2020	Buoys Installed At County Park
01.JUL.2020	E. coli Spikes Found At Two Locations
15.JUL.2020	E. coli Spike Reported at English Crossing
26.AUG.2020	E. coli Spikes Detected in Recent Tests
02.SEP.2020	Water District Notice of Public Hearing on Tax Rate
09.SEP.2020	Low E. coli Counts in Area Waterways
09.SEP.2020	Utopia ISD Trustee Contest Under Way
16.SEP.2020	BCRAGD Tax Rate Hearing Thursday



Featured Newspaper Articles

October 1, 2019 - September 30, 2020

The Bandera PROPHEET

January 22, 2020

Groundwater District moves county to severe drought status

By Jessica Nohealapa'ahi Goode
The Bandera Prophet

Although beneficial rain has fallen over the last several days, Bandera County is still too dry. As of January 2, the Bandera County River Authority and Groundwater District (BCRAGD) moved the county into severe drought status, which includes water and irrigation restrictions.

"Looking at the river, I'd put it closer to extreme," General Manager Dave Mauk said during their regular quarterly meeting earlier this month, adding in December, .29 inches of rain was recorded.

Mauk said the district is closely monitoring eColi levels at English Crossing. He theorized the possibility that animals may be congregating in that area and the water flow is insufficient to wash their waste away, however staff will continue to take samples every 100 yards to see if there is a point source that can be addressed.

"We keep getting back results that are higher than they should be," Mauk said. "With it being this cold, it's a little concerning."

Despite the issues with the river, Mauk said the lake is holding steady.

As of Jan. 22, the water level at Medina Lake was 77.2 percent full.

"It's amazing what it's like when the gates are shut," Mauk said.

In other business, BCRAGD directors took care of some board housekeeping.

The district's general fund balance sits at \$150,848.59. Of that, \$71,282 is committed to approved expenditures. The remaining \$79,566 is available for spending at the board's discretion. Mauk said he does not anticipate any problems with the annual budget.

"We're tracking right where we want to be at this time," Mauk said.

Notice of Public Hearing on Proposed Rules

The Bandera County River Authority & Groundwater District (District) will hold a Public Hearing at 9:00 am on February 27, 2020 at the District office, 440 FM 3240 Bandera, Texas 78003.

The subject of the Public Hearing is a variety of proposed revisions, additions, and deletions of the Rules of the District. District Rules are applicable in Bandera County and will apply to water wells, well owners, and groundwater users in Bandera County. In summary, the proposed rules will: (a) incorporate legislative changes made to Chapter 36, Texas Water Code into the District Rules, (b) remove unused, unnecessary, or out of date definitions and rules, (c) add or revise other definitions, (d) simplify, consolidate, or reorganize rules for easier reading and clarity, (e) revise the application process, determination of administrative completeness, and Board consideration of Well Operating Permits, (f) update procedural rules for various public hearings and contested case hearings, and (g) provide an overall cleanup of punctuation, grammar, and other minor revisions in wording.

A copy of the proposed rules will be available for viewing at the District office, 440 FM 3240, Bandera, Texas, which is generally open weekdays during normal business hours, and a copy of the proposed rules will be available for either viewing or downloading at the District website: www.bcragd.org

Anyone wishing to submit written comments on the proposed rules may deliver their comments to the District Office, 440 FM 3240, Bandera, Texas no later than 5:00 pm, February 20, 2020. Written comments may also be mailed to: BCRAGD Rules, P.O. Box 177, Bandera, TX 78003, but must be postmarked no later than February 20, 2020. Anyone may attend the Public Hearing and make oral comments on the proposed rules at the time designated for comments.

The agenda of the February 27, 2020 Public Hearing on proposed rules is:

Open Public Hearing on Proposed Rules
District presentation on Proposed Rules
Receive oral public comments on Proposed Rules
Close Public Hearing

The Bandera PROPHEET

May 11, 2020

Applicants for Bandera City Council being accepted now

By Jessica Nohealapa'ahi Goode
The Bandera Prophet

Bandera City Council members are seeking applicants to fill a vacant seat. The term will expire in November.

Applications will be accepted until May 18, at 5 p.m.

In other business, the City of Bandera and the Bandera County River Authority and Groundwater District will combine efforts to apply for a flood infrastructure flood loan and/or grant through the Texas Water Development Board.

Daniel Oppenheimer, land manager for the non-profit organization Hill Country Alliance, submitted a list of general recommendations for Bandera City Park that includes mitigating floods, reducing erosion, providing high-quality public access and handicap accessibility. Also on the list was riparian management.

Riparian areas refer to the transition zone between water and the land, Oppenheimer said. The area usually makes up about 1 to 2 percent of the landscape, but provides a number of values such as riverbank stability and habitat for fish and other wildlife.

"I commend you for getting ahead of this," BCRA GD General Manager Dave Mauk said.

Council members approved funding for a Wastewater Treatment Plant Feasibility Report from LNV Engineering not to exceed \$40,000. The study will review flood impacts and possible mitigation alternatives, as well as identify options for conveying wastewater to a prepared site. Presented by LNV Executive Vice President and Chief Executive Officer Derek Naiser, the WWTP report addresses a citation issued by TCEQ (Texas Commission on Environmental Quality).

The Bandera PROPHEET

August 10, 2020

One week left to file candidacy for local offices

By Jessica Nohealapa'ahi Goode
The Bandera Prophet

Anyone interested in running for local public office has until Monday, Aug. 17, at 5 p.m. to file their candidacy. Seats are open with the Bandera ISD Board of Trustees, Medina ISD Board of Trustees, Bandera County River Authority and Groundwater District Board of Directors and the City of Bandera.

At the school district, Places 1 and 2 are open. As of today, incumbents Rhondo Jauer and Laurie Neff have filed for reelection. The board has seven members who serve three-year terms. Last year's election was uncontested.

The physical address to file an application is 815 Pecan Street, Bandera. The mailing address is PO Box 727, Bandera, Texas 78003.

Four seats are open with the BCRAGD board; those are Precinct 1 - currently held by Ernie DeWinne, Precinct 2 - currently held by Don Sloan, Precinct 3 - currently held by Jerry Sides and Precinct 4 - currently held by Bob Williams. All incumbents have filed and are thus far unopposed.

The physical address to file an application is 440 FM 3240, Bandera. The mailing address is PO Box 177, Bandera, Texas 78003.

Two city council seats and the mayor are up for election in the City of Bandera. Each position is a two-year term. The mayor's position is currently held by Suzanne Schauman. The two open council seats are held by Don Clark and Rosie Smith - both of whom were appointed to fill the unexpired terms. Darcy Hasty has filed for one of the council seats.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF APPLICATION AND PRELIMINARY DECISION
FOR TPDES PERMIT FOR MUNICIPAL WASTEWATER
RENEWAL

PERMIT NO. WQ0010121001

APPLICATION AND PRELIMINARY DECISION. City of Bandera, P.O. Box 896, Bandera, Texas 78003, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010121001, which authorizes the discharge of treated domestic wastewater at a daily average flow not to exceed 277,000 gallons per day. TCEQ received this application on August 22, 2019.

The facility is located 548 State Highway 16 South, Bandera, in Bandera County, Texas 78003. The treated effluent is discharged to Mud Creek, thence to Medina River Above Medina Lake in Segment No. 1905 of the San Antonio River Basin. The unclassified receiving water use is minimal aquatic life use for Mud Creek. The designated uses for Segment No. 1905 are primary contact recreation, public water supply, and exceptional aquatic life use. All determinations are preliminary and subject to additional review and/or revisions. This link to an electronic map of the site or facility's general locations is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=db5bac44afbc468bbdd360f8168250f&marker=-99.066111%2C29.728611&level=12>

TCEQ's Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Bandera City Hall, 511 Main Street, Bandera, Texas.

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing.** A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period. TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, TX 78711-3087 or electronically at <https://www14.tceq.texas.gov/epic/eComment/> within 30 days from the date of newspaper publication of this notice.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at <https://www14.tceq.texas.gov/epic/eComment/>, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from City of Bandera at the address stated above or by calling Mr. John Hegemier at 830-328-1681 or via email at wastewater@cityofbandera.org.

Issuance Date: **December 18, 2019**

05.FEB.2020

Notice of Public Hearing on Proposed Rules

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The agenda of the February 27, 2020 Public Hearing on proposed rules is:

Open Public Hearing on Proposed Rules

District presentation on Proposed Rules

Receive oral public comments on Proposed Rules

Close Public Hearing

19.FEB.2020

NOTICE TO THE PUBLIC

Bandera County River Authority and Groundwater District, Texas Water Development Board, and the United States Geological Survey (USGS)
Flood Early Warning System for the Upper Sabinal River

Bandera County River Authority and Groundwater District, Texas Water Development Board, and USGS will hold an open to the public meeting at 10:00am on February 26, 2020 at 22542 Ranch Rd 187, Utopia, TX 78884. This Public Meeting will regard the grant received by Bandera County River Authority and Groundwater District from the Texas Water Development Board for the purpose of developing a Flood Early Warning System (FEWS) on the Upper Sabinal River. The public is invited to attend, and written and oral comments are welcome. For more information, please contact Larry Thomas at (830) 522-2775 or lthomas@bcragd.org or Hayli Phillips at (830) 796-6201 or hphillips@bcragd.org.

AROUND THE HILL COUNTRY

Wednesday, Feb. 26

The Bandera County River Authority and Groundwater District will host a workshop in Utopia at 10 a.m. examining the ongoing work on an early flood warning system that the district, the U.S. Geological Survey and other partner agencies are implementing along the Sabinal River and a workshop at 2 p.m. in the Community Room at the Bandera Electric Cooperative headquarters showing the public how it can access and use the flood warning system that already has been implemented for the Medina River. The event in Utopia is at the senior center, 22542 FM 187. The BEC is located at 3172 Highway 16 North outside of Bandera.

Thursday, Feb. 27

The Madrona Garden Social Club will hear Carol Hagemier speak on Bluebird Basics beginning at noon in the meeting room at St. Christopher's Episcopal Church in Bandera. The meeting is free and open to the public. St. Christopher's is located a 395 Highway 173 North.

The Symphony of the Hills will perform a concert focusing on the

genius of Chopin and those who influenced him, including J.S. Bach and Franz Liszt, at the Cailloux Theater in Kerrville beginning at 7:30 p.m. Ryo Yanagitani, the gold medal winner at the 10th annual San Antonio International Piano Competition, will be a featured performer. Tickets can be reserved by calling the Cailloux box office at 830-896-9393 or online at www.symphonyofthehills.org. A wine reception for the performance will start at 6:30 p.m. The Cailloux is located at 910 Main St. in Kerrville.

Saturday, Feb. 29

The Bandera Masonic Lodge 1123 will host an Open House and Raffle from 10 a.m. to 2 p.m. to let the public know more about what it stands for and to raise money for the scholarships it awards and the essay contest winners it recognizes. The raffle, which offers a variety of products, gift cards, services and experiences as prizes, will begin at noon. The lodge is located at 794 Highway 173 in Bandera. The public is invited to attend.

G.R. Williamson, author of "George Devol: Notorius River-

boat Gambler," will make a presentation to book lovers at the Medina Community Library beginning at 10:30 a.m. The library is at 13948 Highway 16 North in Medina.

The Kerrville Art Club will hold a reception and awards ceremony for a judged art exhibition from 2-4 p.m. at the Kerr Arts and Cultural Center, 228 Earl Garrett in Kerrville. Ben Beckendorff, artist, musician and owner of Beckendorff Gallery in Fredericksburg, will be the judge of the exhibition, which will be held at the cultural center from Thursday, Feb. 27, through March 28. The exhibition is free and open to the public.

Tuesday, March 3

The Cowboy Capital Opry will return to the Silver Sage center for its monthly performance of Grand Old Opry-styled entertainment. Admission is \$5 and reserved seats are an extra \$5. Proceeds benefit the Meals on Wheels program that the Silver Sage puts on. The center is at 803 Buck Creek Dr. in Bandera. Doors will open at 6:30 p.m., and the music will start at 7 p.m.

Details of flood warning system examined

By Chuck McCollough
Bulletin Staff Writer

"We are the second most flash-flood-prone area in the world, and our community has a state-of-the-art flood early warning system that continues to improve," said Dave Mauk, general manager of the Bandera County River Authority and Groundwater District, at a public meeting on the system on Wednesday, Feb. 26.

The session showed residents

how to use online tools to look at models of actual and potential flooding scenarios on the Medina River that include timelines describing how fast floodwaters are moving down the river so residents can make timely evacuation plans.

Mauk made his comments at a meeting sponsored by BCRAGD and the U.S. Geological Survey office in San Antonio, a key partner in putting the system together.

Residents Rebecca Weh-

nt and Robert Rodriguez were among some 30 people who took part in the training program.

Wehunt talked to USGS staffer Namjeong Choi to find out some of the details about how the system works.

"I got a leaflet about this meeting and decided to come here as see what it is all about. I learned a lot and will try it out at home," Wehunt said.

Rodriguez, who lives two miles south of the intersection of High-

way 16 and FM 173, said he too got a lot of good flood preparedness information and hopes to learn more.

Bandera County Commissioner Jack Moseley also attended the meeting and said he liked what he saw.

"The earlier we get notice of where the water is rising, the earlier we can put resources where they are needed," he said.

SEE **FLOOD SYSTEM**, PAGE 10

FLOOD SYSTEM, CONTINUED *from 1*

The river authority's GM said the flood early warning system will give Bandera County Emergency Management officials a cutting-edge tool that helps them make informed decisions about flood responses based on actual conditions.

"The capability to foresee which areas will flood under present conditions and which areas will flood under theoretical future scenarios will allow them to be proactive in their

flood response," Mauk said.

"Having the ability to operate in a predictive manner during a flood event will inevitably save lives, and there is no higher calling for government than the protection of its citizens," he said.

Data from the warning system can be accessed through the river authority's website – www.bcragd.org – and the "flood management" tab on the homepage.

That will take a user to

data sets examining local weather conditions, river levels and rainfall totals and flood preparedness resources.

It can provide a dizzying array of information for those just being introduced to the system.

Mauk said those interested can call the river authority to get tips on how to access the information they need to monitor flooding.

BCRAGD can be reached at 830-796-7260.

AROUND THE HILL COUNTRY

Wednesday, March 18

The monthly meeting of the Kerrville Genealogical Society will be in the lecture hall of the Upper Guadalupe River Authority's Guadalupe Basin Natural Resource Center in Kerrville, beginning at 2 p.m. Kerr County Clerk Jackie Dowdy will talk about the records her office maintains and the digitization process involving those records. It like other meetings of the society is free. Anyone with an interest in genealogy is invited to attend. The resource center is at 125 Lehmann Dr.

Saturday, March 21

The Bandera County Public Library will play host to comments and a book-signing by local author

Joanne Kukanza Easley from 11 a.m. to 1 p.m. Easley has written a novel titled "Sweet Jane," a novel about a woman who has spent her life running away from an ugly past that she has to confront again when she returns home following the death of her alcoholic mother. The library is at 515 Main St. in Bandera.

The Celtic Angels, the Celtic Knight Dancers and The Trinity Band Ensemble of Dublin, Ireland will celebrate all things Irish with

songs, dances and stories at Kerrville's Cailloux Theater at 7:30 p.m. Tickets start at \$25 and run up to \$45, with students and children receiving a 40 percent discount. Tickets can be reserved in advance by calling 830-896-9393, going online to www.CaillouxTheater.com or by visiting the Cailloux box office at 910 Main St. in Kerrville. The show is part of the Cailloux Performances series.

Monday, March 23

Poet, essayist and teacher Janice Brazil will be the guest speaker at a meeting of the Joshua D. Brown Chapter of the Daughters of the Republic of Texas. It will take place at the First United Methodist Church in Kerrville, at 321 Thompson Dr., beginning at 10 a.m. A Dutch-treat lunch will follow at an area restaurant. Any woman older than 16 is eligible for membership in the DRT if she is a lineal descendant of a person who provided loyal service to Texas before Feb. 19, 1846.

Private water well owners are invited to take part in a free training session put on by the Texas Well Owner Network at the Bandera County River Authority & Groundwater District office in

Bandera, 440 FM 3240. It will provide information on ground-water resources in the state, septic system maintenance, well construction and maintenance and water quality and treatment. Participants also are allowed to bring well water to the session for screening of nitrates, total dissolved solids and bacteria in the water. The screening costs \$10 per sample. The session will run from 1-5 p.m. Preregistration can be completed at <http://twon.tamu.edu/training> or by calling 979-845-1461.

The Texas Master Naturalists Hill Country Chapter will hold its monthly meeting at the Upper Guadalupe River Authority lecture hall, 125 N. Lehmann Dr. in Kerrville, with a social period starting at 6:15 p.m., a business session at 6:45 p.m. and a speaker scheduled for 7 p.m. That speaker is Dr. James Gallagher, a former assistant professor at the Texas A&M AgriLife Extension service who has worked at the Mason Mountain Wildlife Management Area for more than seven years. His talk will focus on the reintroduction of native wildlife species at the management area in Mason. The public is invited to attend.

E. coli readings troublesome in area

Special to the Bulletin

Excessively high levels of E. coli bacterial counts were found at five locations of the Medina and Sabinal rivers and their watersheds in testing by the Bandera County River Authority and Groundwater District earlier this month.

The counts of the harmful bacteria fell back to more acceptable levels in retests five days after the initial tests at all the locations but one – the Sabinal River in Utopia City Park where readings continued to exceed the level the state has set as potentially hazardous for human interaction.

The high readings recorded first on March 5 and again on March 10 continue a trend of high E. coli readings that began in December, when counts above the acceptable level set by the Texas Commission on Environmental Quality were found at two sites.

The river authority plans more water quality testing at the points where E. coli count have been high to determine if animals are causing the spike or some other issue is behind the increase, said BCRAGD General Manager David Mauk.

The state commission has set 399 most probable number, identified by its acronym of MPN, per 100 milliliters of water as the maximum level of E. coli that should be allowed before “primary contact recreation” should be prohibited.

That means when E. coli levels exceed that concentration, no one should participate in activities that could result in the total submersion of his or her head under the water there.

In March 5 tests by the river authority, levels of 1,987 MPN, 770 MPN, 727 MPN, 579 MPN and 488 MPN were recorded at Bandera City Park and the Highway 173 bridge, in Bandera City Park and 1st Street, in the Medina River’s North Prong at Rocky Creek, upstream of the wastewater treatment plant in Bandera and in Utopia park respectively.

When those sites were retested five days later, E. coli readings fell to 291 MPN at Bandera City Park and the 173 bridge, 308 MPN at city park and 1st Street, 56 MPN at the Rocky Creek, 125 MPN upstream of the wastewater plant and 461, or 62 points above the hazard level, in Utopia City Park, a report

released by BCRAGD last week showed.

Twenty-four sites along the Medina and Sabinal rivers, their tributaries and on Medina Lake were tested by the authority earlier this month.

Aside from the sites already mentioned, three sites had readings in excess of 300 MPN, but the rest did not exceed 275 MPN. The reading at Medina Lake’s park was 1 MPN, and readings at three other sites did not exceed 84 MPN.

E. coli is bacteria found in the gut of warm-blooded animals that is known to cause illness in people when it is ingested.

Dec. 11 water quality tests got the river authority’s attention when E. coli concentration reached 1,120 MPN at the Medina River and English Crossing and 461 MPN at West Verde Creek and FM 1077.

The count fell to 78 MPH at West Verde Creek in a retest on Dec. 17 but continued to stay above the hazard level, at 579 MPN, in the retest at English Crossing.

A complete report of the findings can be found on the authority’s website, www.bcragd.org. The river authority said its lab is not certified, so the readings should be used for informational purposes only.



Medina River Cleanup suspended

Special to the Bulletin

The Medina River Cleanup which for 19 years has drawn hundreds of volunteers to Bandera to clean debris from the Medina River has been cancelled from Saturday, May 2, the day it was originally scheduled, and may have to be called off altogether.

"We don't have a time definite on whether we'll do it or if it can be continued this year," said Bob Brischetto, the cleanup coordinator.

The cleanup, which sends teams of volunteers to different segments of the river throughout Bandera County to clean trash from the water and along the banks, was cancelled because of the restrictions imposed on how many people can gather in one place and how close people can get together to fight the spread of the deadly coronavirus.

Brischetto said organizers will keep an eye out on the progress of the viral pandemic and will decide to reschedule the cleanup only if it can be done safely.

"We don't want to jeopardize anyone's health," he said.

E. coli count high at one site

Special to the Bulletin

The most recent water quality tests in Medina Lake and in area rivers produced low concentrations of *E. coli* bacteria in each of the 25 areas tested except one on Seco Creek in far southwest Bandera County that exceeded the hazardous level for *E. coli* in early May only to fall well under acceptable concentration a week later.

The testing was conducted by the Bandera County River Authority and Groundwater District at first on May 6 and 7 and then again on May 14 at Seco Creek and Farm Road 470 where the lone violation of *E. coli* concentration limits was discovered.

The concentrations are measured as an MPN, or most probable number,

per 100 milliliters of water, and anything exceeding a 399 MPN count is considered excessive by the Texas Commission on Environmental Quality.

At the Seco Creek location this month, the first test produced a 461 MPN reading, but a week later the count had fallen to 37 MPN.

In waters with *E. coli* at levels higher than 399 MPN, the environmental commission says no "primary contact recreation should take place." Primary contact recreation is any activity that would cause someone's head to be fully submerged under water.

David Mauk, the river authority's general manager, said he would need to examine circumstances in the area of Seco Creek and Farm Road 470 more closely to be certain about

what caused a spike in the *E. coli* concentration.

Typically, however, heavy rains in an area can cause *E. coli* to rise dramatically because the bacteria get washed into the waterway from the land.

E. coli is a bacteria found in the gut of warm-blooded animals. It is known to potentially cause humans to get sick if it is ingested, a news release from the river authority said.

The river authority regularly evaluates water quality in the Medina and Sabinal rivers and their watershed and in Medina Lake to see what the *E. coli* readings are.

They can at times reach excessive levels in different areas, and BCRAGD has issued warnings about the safety of the water when that occurs.

Of the other 24 sites

tested by the river authority this month, only four had readings above 100 MPN, and the highest one of those other than the Seco Creek site was at Moffett Park in Medina at 117 MPN.

Many sites had readings at 70 MPN or below, including the West Verde Creek in the Hill Country State Natural Area, which had a reading of 1 MPN, and Medina Lake at the county park on Park Road 37, whose count was under 1 MPN.

Still, officials said swimmers always face a risk of *E. coli* exposure no matter what the reading is.

Those using the river should never drink river water without proper disinfection and should always recognize that they are swimming at their own risk, officials said.

17.JUN.2020

BUOYS INSTALLED AT COUNTY PARK



Courtesy Photo

Levi Sparks, the aquatics ecologist and water quality scientist for the Bandera County River Authority and Groundwater District, prepares to set four "No Wake" buoys near the shoreline at the Bandera County Medina Lake Park last month. The buoys were authorized by Bandera County Commissioners' Court to make the area safer for swimmers.

E. coli spikes found at two locations

Special to the Bulletin

Potentially hazardous levels of *E. coli* contamination were found in the Medina River in Bandera City Park and in the Sabinal River at the Lost Maples State Natural Area last month before readings about a week later showed the levels had fallen to more acceptable levels.

Water quality testing at Medina Lake and in the Medina and Sabinal rivers at locations across Bandera County is performed regularly by the Bandera County River Authority and Groundwater District to assess *E. coli* contamination.

E. coli is a bacteria found in the gut of warm-blooded animals. If ingested, it can cause illness in humans, a news release about the testing last month said.

The Texas Commission on Environmental Quality has established any count exceeding 399 MPN – or most probable number – per 100 milliliters of water as the hazard level for *E. coli*. In water with that concentration of the bacteria, no “primary contact recreation” should take place, the commission said.

Primary contact recreation means any activity that results in the total submersion of a person’s head under water.

E. coli concentrations exceeded the hazardous level at two of the 13 sites tested by the BCRAGD on June 18 – 517 MPN at Bandera City Park and the Highway 173 bridge and 435 at the Sabinal and Lost

Maples.

As the river authority typically does after a high reading, it checked the concentration levels about a week later – Wednesday, June 24 in this case – and found the levels had fallen to 225 MPN in city park and 111 MPN at Lost Maples.

Continuous high counts of *E. coli* could lead the river authority to place warning signs along waterways to let swimmers and others gathering in the waterways to know the risks they face.

City park in Bandera has been jammed with visitors in recent weeks as travelling regulations related to the coronavirus pandemic have been eased and is expected to see big crowds this weekend over the July 4 holidays.

The BCRAGD advised those using any waterway that they always face the risk of infection from *E. coli* or some other waterborne illness. It said river water should never be ingested without proper disinfection and that swimmers should know that they are swimming at their own risk.

At the 11 other sites tested by the river authority on June 18, only one had a reading above 200 and that was 272 MPN at the Medina River and Bridlegate Ranch Park. None of the other concentrations were higher than 118 MPN.

That includes the Bandera County Park at Medina Lake, another park that is attracting large numbers of visitors. Its concentration of *E. coli* was measured at 3 MPN.

E. coli spike reported at English Crossing

Special to the Bulletin

E. coli bacterial contamination reached hazardously high levels in the Medina River and English Crossing in tests conducted by the Bandera County River Authority & Groundwater District on July 1 only to fall back to more reasonable levels in testing six days later.

Water sampling results reported by the river authority last week showed that *E. coli* concentrations at English Crossing hit 980 MPN – or most probable number – per 100 milliliters of water on July 1 and then fell to 178 MPN in a retest on July 7.

The 980 MPN reading is more than twice the level of 399 MPN set by the Texas Commission on Environmental Quality as the maximum concentration allowed before primary contact recreation in a river or lake should be prohibited.

“Primary contact recreation” is defined as any activity that “could result in the total submersion of the head under water,” a release by the river authority said.

E. coli testing by the river authority frequently identifies areas in the Medina or Sabinal rivers and in Medina Lake where *E. coli* counts exceed the 399 MPN hazard level. That typically results in a sec-

ond test about a week later to see if the contamination is something that deserves more attention.

In this month’s tests, as in most of the retests performed by BCRAGD, the concentration level in the retest dipped under the hazard level.

Thirteen sites, including the English Crossing location, were tested by the river authority on July 1, and all but four had readings below 100 MPN. Outside of the reading at English Crossing, the highest concentration level was 192 MPN at the Tarpley Crossing.

Bandera County Park at Medina Lake also was tested. Its reading was less than 1 MPN.

The river authority said *E. coli* is a bacteria found in the gut of warm-blooded animals that can cause illness in humans if ingested.

The authority’s report said there is always a possibility of infection from *E. coli* or some other waterborne illness whenever someone uses a body of water in the state, so swimmers should recognize they are always swimming at their own risk.

The river authority also encourages visitors never to ingest river water without proper disinfection.

A complete report on this month’s test can be found at the BCRAGD website, www.bcragd.org.

Water District

Notice of Public Hearing on Tax Rate

The BCRAGD will hold a public hearing on a proposed tax rate for the tax year 2020 on 09/17/2020 at 9:00 AM at Bandera County ~~Water~~ Authority and Groundwater District, 440 FM 3240, Bandera, Texas 78003. Your individual taxes may increase at a greater or lesser rate, or even decrease, depending on the tax rate that is adopted and on the change in the taxable value of your property in relation to the change in taxable value of all other property. The change in the taxable value of your property in relation to the change in the taxable value of all other property determines the distribution of the tax burden among all property owners.

FOR the proposal: D. Sloan, B. Williams, C. Striegl, S. Gibson, E. DeWinne, N. Boultinghouse, G. Whemeyer
AGAINST the proposal: None
PRESENT and not voting: None
ABSENT: R. Mulherin, J. Sides

The following table compares taxes on an average residence homestead in this taxing unit last year to taxes proposed on the average residence homestead this year.

	Last Year	This Year
Total tax rate (per \$100 of value)	\$0.042165/\$100 Adopted	\$0.044893/\$100 Proposed
Difference in rates per \$100 of value		+ \$0.002728/\$100
Percentage increase/decrease in rates (+/-)		+ 6.47%
Average appraised value	\$175,127	\$177,160
General exemptions available (excluding senior citizen's or disabled person's exemptions)	\$5,694	\$5,292
Average taxable value	\$169,433	\$171,868
Tax on average residence homestead	\$71.44	\$77.16
Annual increase/decrease in taxes if proposed tax rate is adopted (+/-)		+ \$5.72
and percentage of increase (+/-)		+ 8.01%

If the proposed combined debt service, operation and maintenance, and contract tax rate requires or authorizes an election to approve or reduce the tax rate the BCRAGD proposes to use the tax increase for the purpose of "The BCRAGD proposes to use the tax rate increase for the purpose of completing the USGS Flood Early Warning system project that will provide Bandera County first responders with a science based predictive tool to protect Bandera residents and property from flash flood events. To also be able to continue to fight court challenges and legislative issues that potentially impact Bandera County residents' property and water rights."

If the district is a district described in by Section 49.23601:

NOTICE OF VOTE ON TAX RATE

If the district adopts a combined debt service, operation and maintenance and contract tax rate that would result in the taxes on the average residence homestead increasing by more than eight percent, an election must be held to determine whether to approve the operation and maintenance tax rate under Section 49.23601, Water Code.

If the district is a district described in by Section 49.23602:

NOTICE OF VOTE ON TAX RATE

If the district adopts a combined debt service, operation and maintenance and contract tax rate that would result in the taxes on the average residence homestead increasing by more than 3.5 percent, an election must be held to determine whether to approve the operation and maintenance tax rate under Section 49.23602, Water Code.

If the district is a district described in by Section 49.23603:

NOTICE OF TAXPAYERS' RIGHT TO ELECTION TO REDUCE TAX RATE

If the district adopts a combined debt service, operation and maintenance, and contract tax rate that would result in the taxes on the average residence homestead increasing by more than eight percent, the qualified voters of the district by petition may require that an election be held to determine whether to reduce the operation and maintenance tax rate to the voter-approval tax rate under Section 49.23603, Water Code.

The 86th Texas Legislature modified the manner in which the voter-approval tax rate is calculated to limit the rate of growth of property taxes in the state.

Low E. coli counts in area waterways

Special to the Bulletin

The most recent testing for E. coli contamination in the Medina and Sabinal rivers and Medina Lake detected no areas where the bacterial concentration exceeded hazardous levels, according to a report from the Bandera County River Authority and Groundwater District.

The river authority's staff tested 12 locations on Aug. 25, and all were under the

399 MPN – or most probable number – per 100 milliliters of water that has been set by the Texas Commission on Environment Quality as the maximum reading allowable before primary contact recreation should be prohibited.

Primary contact recreation is defined as an activity that results in the total submersion of a person's head under water.

E. coli is a bacteria found

in the gut of warm-blooded animals and is known to cause illness in humans if it is ingested, a news release from the river authority said.

All of the tests conducted by the BCRAGD on Aug. 25 produced readings of 105 MPN or less except one. That was at the Sabinal River and Utopia, where the E. coli concentration was 261 MPN.

Bandera River Ranch

Park was a thirteenth site checked by the river authority, but it was too dry to be tested.

BCRAGD officials advised those using area rivers that there is always a possibility of an infection from E. coli or another waterborne illness no matter what bacterial levels are recorded.

They advised those visiting area rivers to never drink or ingest river water without proper disinfection.

Utopia ISD trustee contest under way

By BILL PACK

bill@banderabulletin.com

The Bandera Independent School District, the Medina Independent School District and the Bandera County River Authority and Groundwater District had no one file against the incumbent board members who are up for reelection in those governmental entity, but six people have filed to seek one of the three positions available on the Utopia Independent School District board.

Officials with Utopia ISD said incumbent board members Wayne Moore and Jena Smothers filed for another term in office and are opposed in the Nov. 3 election by Terry Snow, Kyle Peterson, Jeremy McCarty and Steve Horthcock.

A third incumbent board member in Utopia ISD, Chase Hathorn, chose not to seek reelection.

The three top vote getters in that election will be declared the winners of those at-large seats.

In Bandera ISD, Trustee Rhondo Jauer filed to run again for the Place 1 seat, and Laurie Neff filed to run again for the Place 2 seat in the November election.

Neither drew any opponent, officials said.

The same situation arose for three incumbent trustees who filed for reelection in the Medina ISD.

Incumbents David Derry in Place 2, Brad Zirkel in Place 3 and Andy Lautzenheiser in Place 6 are the only candidates running in that election.

The river authority has four board members up for reelection this November – Ernest DeWinne in Precinct 1, Don Sloan, the board president in Precinct 2, Jerry Sides, the board secretary in Precinct 3 and Bob Williams in Precinct 4.

All four filed to run again and drew no opposition, river authority officials said. Each of the river authority's precinct has another board member serving it that are not up for reelection this year. The authority also has a ninth board member elected at-large.

Another key election in Bandera County on Nov. 3 is the race for the mayor's position in Bandera and two Bandera City Council positions.

The incumbent mayor, Suzanne Schauman, has drawn opposition from investor Cindy Lou Coffey in that race, and Darcy Hasty, Andrea Jankoski and Toni Dawn Kunz are running for the two open positions on Bandera's council.

BCRAGD tax rate hearing Thursday

Special to the Bulletin

The Bandera County River Authority and Groundwater District will hold a public hearing on its proposed tax rate for the upcoming year, a rate this would grow by almost 6.5 percent if approved as is, on Thursday, Sept. 17, at the district's headquarters, 440 FM 3240 in Bandera.

The river authority board has proposed a tax rate of 4.4893 cents per \$100 valuation for the year that starts Oct. 1, which is a little more than a quarter-of-a-cent in-

crease from the current rate of 4.2165 cents per \$100 valuation.

When the proposed tax is applied to the homestead that is considered the average priced residential homestead in the county, the tax levy on that home would reach \$77.16 annually. That's \$5.72 more than the tax payout on the average priced home in the county this year, the district calculated.

The increase is partially due to the fact that the taxable value of the average priced home in the district

is expected to increase by more than \$2,000 in the new year, to \$177,160, officials said.

The proposed tax rate was unanimously approved by the district's board to help finance a budget that is expected to grow to \$1.1 million in the upcoming year.

That's about \$55,000 more than the district's current budget and includes about \$40,000 from partner agencies in an innovative flood warning system that is being installed along the Sabinal River and in its water-

shed, district officials said.

BCRAGD General Manager David Mauk said the budget provides funding for no new staff members or significant capital upgrades.

It does provide funds to finish out the warning system on the Sabinal that duplicates the cutting-edge system already installed along the Medina River and to proceed with the lawsuit it has filed against the Bexar-Medina-Atascosa Water Control & Improvement District No. 1, said officials.

Thursday's meeting will begin at 9 a.m.



Appendix A

Fiscal Year 2020 Performance & Management Goals

The Necessity for Setting and Achieving Goals

The 75th Texas Legislature in 1997 enacted Senate Bill 1 (“SB1”) to establish a comprehensive statewide water planning process. In particular, SB1 contained provisions that required groundwater conservation districts to prepare management plans to identify the water supply resources and water demands that will shape the decisions of each district. SB1 designed the management plans to include management goals for each district to manage and conserve the groundwater resources within their boundaries.

Each year the Bandera County River Authority and Groundwater District’s staff prepares an annual report for the Board of Directors. This report outlines District activities and documents progress with fulfilling these management goals. Copies of this report are available for the public at the District’s office.

Management Goal 1

1.0.0 Manage groundwater in order to provide the most efficient use of groundwater resources.

1.1.1 Management Objective

Implement a program to develop data on the aquifers for better modeling of the aquifers.

1.1.2 Performance Standard

- a. Collect pump test data from subdivision test wells after water availability studies are conducted.

➤ **0 pump tests were conducted for subdivision test wells in Fiscal Year 2020 because there were no pump tests conducted on subdivision test wells, therefore no data could be obtained.**

- b. Collect water level data from a minimum of 10 wells on a semi-annual basis.

Middle Trinity Aquifer				
Depth to Water Below Land Surface (BLS) (ft)				
<i>Well</i>	<i>Qtr 1 - Dec 2019</i>	<i>Qtr 2 - Mar 2020</i>	<i>Qtr 3 - May 2020</i>	<i>Qtr 4 - Aug 2020</i>
Bandera County Park	83.47	82.27	90.47	N/A
Bandera Sports Complex	98.15	92.45	N/A	117.35
Basinger	N/A	N/A	N/A	292.32
Bowie	N/A	N/A	N/A	220.02
Boultinghouse	N/A	N/A	N/A	372.1
Boyle	168.1	N/A	N/A	171.2
Bridlegate	220.8	216.7	222.3	232
Chancy	191.67	184.77	190.67	N/A
Cielo Rio	197.52	190.32	188.92	196.52

Erfurt	23.6	21.4	24	26.4
Evans	202.7	200.3	203.1	205.8
Jeffery (yellow house)	N/A	151.44	152.34	164.34
Jeffery (House)			159	173
Jeffery (Shallow)	N/A	32.72	33.42	34.02
Jilson	N/A	163.5	N/A	180.7
Lakehills Co Yard	N/A	98.65	109.85	119.15
Lakeshore VFD	30.4	33.8	36.8	44.7
Light	47.72	46.82	47.52	48.32
Lost Maples	424.17	396.57	387.17	N/A
Mason Creek Deep	219.9	212	227.4	249.4
Mason Creek Shallow	189.8	185	191.2	200.5
Medina Springs	141.92	141.92	145.72	151.67
Ol Larry B	260.6	230.4	247.8	255.9
Orchard Park	27.34	34.54	37.14	37.34
Sydney Shores	103.98	103.88	110.28	118.68
Tarpley VFD	46.55	45.35	56.15	67.25
Tecon	N/A	N/A	83.74	88.64
Vanderpool VFD	33.15	166.45	174.35	166.17

Lower Trinity Aquifer				
Depth to Water Below Land Surface (BLS) (ft)				
<i>Well</i>	<i>Qtr 1 - Dec 2019</i>	<i>Qtr 2 - Mar 2020</i>	<i>Qtr 3 - May 2020</i>	<i>Qtr 4 - Aug 2020</i>
Alkek	N/A	379.65	389.45	394.85
Bandera City	400.5	N/A	N/A	N/A
Bandera Sports	345.9	336.5	335.8	351
BCRAGD LGR	N/A	N/A	N/A	185.8
Bridlegate LT	356.52	350.52	357.82	377.02
Cielo Rio LT	197.52	271.37	283.97	347.75
Latigo	432.84	437.84	N/A	N/A

Edwards-Trinity Aquifer				
Depth to Water Below Land Surface (BLS) (ft)				
<i>Well</i>	<i>Qtr 1 - Dec 2019</i>	<i>Qtr 2 - Mar 2020</i>	<i>Qtr 3 - May 2020</i>	<i>Qtr 4 - Aug 2020</i>
Edwards	247.97	248.29	248.6	248.84

1.2.1 Management Objective

Maintain a program of issuance of well permits for non-exempt wells and registrations for exempt wells.

1.2.2 Performance Standard

Maintain an ongoing program of issuance of well permits each year. Provide the number of permits issued each year and the number of registrations issued each year in an annual report to the Board of Directors.

- **6 Permits Issued**
- **121 Registrations Issued**

Management Goal 2

2.0.0 Control and prevent the waste of groundwater.

2.1.1 Management Objective

Provide literature to the public on the efficient use of water and water saving devices in the home.

2.1.2 Performance Standard

- a. Provide handouts with well permits and registrations to educate the public on water saving devices. The District will report the number of handouts with well permits and registrations in an annual report to the Board of Directors.

- **For every well permit and registration, literature was provided. There were a total of 6 well permits and a total of 121 well registrations issued in the 2020 fiscal year.**
- b. Coordinate a minimum of one public presentation per year. Provide the number of shows, demonstrations, events, or educational talks at which literature or information is provided to the public, in an annual report to the Board of Directors.
 - **Water conservation literature is provided at all District public meetings. (9 meetings): 10/10/2019, 11/13/2019, 12/18/2019, 01/09/2020, 02/27/2020, 04/30/2020, 07/09/2020, 08/20/2020, 09/17/2020.**
 - **On October 21, 2019, The BCRA GD Education Team consisting of BCRA GD's Education & Outreach Manager, Office Coordinator & Education Coordinator, and Intergovernmental Affairs Manager presented during Story Time at the Bandera Library. There, the Education Team taught and presented over how "Rowdy the Raindrop" moves through the water cycle. The team used an interactive felt storyboard to teach a group of children all under the age of 5 years old.**

- On October 25, 2019, The local Soil and Water Conservation Board invited the District to participate in 6th Grade Ag Day at Mansfield Park in Bandera. BCRAGD collaborated with the Nueces River Authority Education Team at this event. BCRAGD's Education Team, consisting of the Education & Outreach Manager and the Office & Education / Outreach Coordinator, attended and presented at a workshop to teach 6th graders in Bandera County about various sources of pollution, including point and nonpoint source pollution and hazardous contaminants present in water, and the effects of these contaminants on humans. Students engaged in laboratory experimentation by collecting water samples from the Ag Barn and conducted pH, chlorine, iron, and total hardness tests to determine water quality.

- On November 5th & 6th, 2019, BCRAGD hosted and presented a Flood Early Warning System (FEWS) Training prepared by United States Geological Survey (USGS). The training was located at the Bandera County River Authority and Groundwater District Office Board Meeting Room.

- On November 16, 2019, the District's Education & Outreach Team presented at Schreiner University for the Expanding Your Horizons (EYH) Program. The Expanding your Horizons (EYH) Network is a global platform that seeks to increase female participation in STEM (Science, Technology, Engineering, and Mathematics). EYH facilitates local conferences that engage middle school aged girls with hands-on workshops. Schreiner University sponsors this educational event annually for students in the Hill Country area. Bandera County River Authority and Groundwater District is invited every year to participate. At this event, the District Education & Outreach Team facilitated a workshop on the conservation and preservation of water. Sixteen students were given materials and information on how to design and build a watershed model showing the importance of riparian plants and created a rain event to show how water flows through the watershed, and how pollution moves from each body of water, to ultimately end up in the ocean. Students also performed water quality testing on fresh water samples from a nearby creek and performed data analysis on those water test results. Discussions about limited fresh water availability and contamination of water resources were led by BCRAGD staff. These future scientists learned first-hand the importance of water quality testing and preservation of fresh water resources. Students gained a good understanding of what conservation scientists do and how important conservation is to the community and to the world.

- On December 13, 2019, BCRAGD's General Manager Presented at Texas Agri-Life in Uvalde over the District's Flood Early Warning System (FEWS) to provide information to the public about the benefits of the program.

- On December 18, 2019, BCRAGD hosted and presented at the annual BCRAGD Christmas Water Conservation Event. The District prioritizes the conservation of Bandera County's surface and groundwater, as well as the stewardship of natural resources as a whole. This priority is reflected in the execution of District programs and initiatives, as well as being an integral part of the District's overall Education and Community Outreach Program. For FY2020, this annual Water Conservation Event had approximately 20 people from Bandera County and City of Bandera governmental offices in attendance. The District Staff shared information regarding the District's ongoing projects and shared tips for Water Conservation. This event is part of the District's goal to improve intergovernmental relations and work collaboratively with other county and city agencies to better provide services to the community, as well as to provide Water Conservation information to the public.
- On January 16, 2020, BCRAGD's General Manager gave a presentation over the Flood Early Warning System (FEWS) at the City Council Meeting to provide information to the public and the citizens of Bandera County over the benefits of the program.
- On January 29, 2020, Bandera County River Authority and Groundwater District hosted and attended the Medina River Protection Fund (MRPF) Board Meeting. Two Bandera County River Authority and Groundwater District Staff Members serve as Board Members. Generally, the MRPF meets numerous times at the District office during the Spring to organize the annual Medina River Clean Up. Unfortunately for FY2020, the Medina River Clean Up was cancelled due to the Covid-19 Pandemic, but will hopefully resume in FY2021. The District contributes toward the Clean Up each year.
- On February 6, 2020, BCRAGD's General Manager gave a presentation over the Flood Early Warning System (FEWS) at the City Council Meeting to provide information to the public and the citizens of Bandera County over the benefits of the program.
- On February 11, 2020, the BCRAGD Education & Outreach Team and the Nueces River Authority (NRA) Education Team presented at Hill Country Elementary for Bandera ISD at a 5th Grade School Visit Event. At this event, the BCRAGD Education & Outreach Team & the NRA Education Team presented information to the 5th grade students who learned about watersheds, water conservation, and riparian ecosystems and engaged in a hands-on experiment with a river basin model to demonstrate how pollution travels into water streams and ends up in the ocean, and had a thorough discussion on ways to be good stewards of streams and waterways. Since 2012, BCRAGD has

sponsored and co-facilitated the Nueces River Authority Water Resource Stewardship Education Program for Bandera, Medina, and Utopia middle school students. The program features a water use and conservation presentation, and presents the demonstration of a surface water runoff model and an aquifer model, with an emphasis on nonpoint source pollution. The Nueces River Authority Water Resource Stewardship Program, in collaboration with BCRA GD, heavily emphasizes water conservation, water quality protection, and natural resource systems to the 5th and 7th grade students in Bandera County throughout each Spring season. Our District wasn't able to present as often as years prior due to the Covid-19 Pandemic, however, we will resume the program as safely as possible in FY2021. Our District sponsors and co-facilitates the program every year.

- On February 25, 2020, Bandera County River Authority and Groundwater District CoSponsored a Land Hill-Side Stewardship Event with the Hill Country Alliance (HCA). The event included an interactive tour, presentation, and engaging experience of a Bandera County landowner's property. Long term stewardship practices were the topic of discussion. The discussion focused on types of structures landowners could construct to slow the flow of water to increase water sinking (absorbing into the ground). Attendees got a first-hand look at how to implement the building of rock structures, use of woody debris, how to construct rainwater harvesting systems, and how to use swales and berms that coincide with the topography of the landscape. Riparian was also a topic for discussion. BCRA GD's River Authority Operations Manager and Natural Resource Specialist were instrumental in providing expertise during the event. This comprehensive event gave valuable insight and resources on how to identify land management issues and take corrective, stabilizing action to preserve and conserve natural resources.
- On February 26, 2020, A Sabinal River Flood Early Warning System (FEWS) Meeting took place in Utopia, TX at 10am. This Educational Presentation and Event was Hosted by BCRA GD & Prepared by USGS and Texas Water Development Board (TWDB). This meeting was instrumental in providing information over the benefits of the program.
- On February 26, 2020, a Public Training for the Medina River Flood Early Warning System (FEWS) Meeting took place in Bandera County at 2pm. This Educational Presentation and Event was Hosted by BCRA GD & Prepared by USGS and Texas Water Development Board (TWDB).
- On September 14, 2020, BCRA GD's General Manager Presented to the Medina Water Supply Company at the Medina Library Over Water Conservation.

- From September 15, 2020 to September 17, 2020, the BCragd Education & Outreach Team Prepared a Hill Country Alliance (HCA) Rainwater Revival Video Idea, Recording, Editing, and Submission Presentation.
- On September 30, 2020, the BCragd Education & Outreach Team Created and Provided a Virtual Public Presentation over Rainwater Harvesting via Social Media.
- Additional information is posted regularly on the District's website at www.bcragd.org and on BCragd's Social Media Pages including Facebook, Twitter, and Instagram as well as the BCragd Newsletter.

2.2.1 Management Objective

Promote public awareness about preventing the waste of water resources.

2.2.2 Performance Standard

Record the number of speaking appearances and/or shows, demonstrations, or events at which literature or information is provided to the public on preventing the waste of water resources. The District will report the number of aforementioned events in the annual report to the Board of Directors.

-See 2.1.2 B

Management Goal 3

3.0.0 Control and prevent subsidence.

The control and prevention of subsidence is not a concern of this District as the formations are carbonates and do not contain the water saturated clays which can cause subsidence if dewatered; therefore, this management goal is not applicable to the District.

Management Goal 4

4.1.0 Address conjunctive surface water management issues.

4.1.1 Management Objective

Make at least one annual evaluation of the groundwater resources and surface water quality in Bandera County and include the results of the evaluation in the annual report to the Board of Directors.

4.1.2 Performance Standard

- a. Record the number of reports and evaluations provided to the Board of Directors on the groundwater resources and the surface water quality in the annual report.
 - **The General Manager gives a District Report of Groundwater Resources and the Surface Water Quality to the Board at every Quarterly Meeting. (4 meetings total in FY 2020- 10/10/2019, 01/09/2020, 04/30/2020, 07/09/2020.)**
 - **The General Manager gives a complete Groundwater Resources and Surface Water Quality Report every fiscal year to the Board of Directors during the April Quarterly Meeting.**
 - **For a complete Groundwater Annual Evaluation Report, please refer to Management Goal 13.1.2.**

Annual Evaluation of the Surface Water Quality in Bandera County FY 2020

Summary of Surface Water Sampling Events: From October 2019 to September 2020, there were 344 samples taken between the Clean Rivers Program, District's In-House Surface Water Quality Testing Program, and EAA Sampling. There were 17 instances with E. coli counts over the TCEQ standard of 399 MPN (Most Probable Number) per 100 mL of sample water. Medina Lake began with the water level at 81.2% on November 30, 2019, and ended at 50.6% on September 30, 2020.

Medina Lake Evaluation:

Per Texas Water Development Board's Water Data for Texas website:

FY 2020 Quarter	Date	Capacity (% full)
1st	November 30, 2019 December 31, 2019	81.2% 78.1%
2nd	February, 24, 2020 March 30, 2020	75.2% 72.9%
3rd	May 30, 2020 June 30, 2020	68.1% 65.5%
4th	August 30, 2020 September 30, 2020	54.2% 50.6%

Clean Rivers Program:

BCRAGD partnered with San Antonio River Authority (SARA) to participate in the Clean Rivers Program in the San Antonio River Basin in 2012. BCRAGD staff are responsible for sampling 8 sites, which are in Bandera County on the Medina River, and summarized to the right. FY 2020 sample dates were: November 13, 2019; November 21, 2019; January 02, 2020; February 13, 2020; May 20, 2020; May 21, 2020; July 23, 2020; and August 11, 2020. The District was audited by SARA for the TCEQ Clean Rivers Program on August 26, 2020.

At the end of FY 2016, BCRAGD added 5 CRP sites on Medina Lake along with 1 CRP site on Diversion Lake, partnering with SARA. The sample dates for Medina Lake were: November 18, 2019; November 19, 2019; February 02, 2020; February 19, 2020; February 26, 2020; May 28, 2020; August 20, 2020; and August 26, 2020. The sample dates for Diversion Lake were October 10, 2019; February 02, 2020; May 26, 2020; & June 25, 2020.

BCRAGD partnered with Nueces River Authority (NRA) in 2016 to participate in the Clean Rivers Program in the Nueces River Basin. BCRAGD staff are responsible for 3 sites shown in the chart to the right. The FY 2020 sample dates for the Nueces River Basin were October 02, 2019; January 08, 2020; May 19, 2020; and August 13, 2020. In September of 2020, BCRAGD added 1 additional CRP site on Commissioner's Creek in the Nueces Basin, partnering with the NRA.

Station ID	Site Name
	<u>Medina River CRP</u>
12830	Medina R. @ English Crossing
18447	North Prong Medina R. @ Hwy 16- Wallace Creek
13638	Medina R. @ S Hwy 173 (Bandera City Park)
12832	Medina R. @ FM 470-Tarpley Crossing
21125	Medina R. @ Moffett Park
21126	N. Prong Medina R. @ FM 2107- Brewington
21631	Medina R. @ Mayan Ranch
15736	W. Prong Medina R. @ Coalkiln Rd.
	<u>Medina Lake CRP</u>
12829	Medina Lake Mid near Headwater
12828	Medina Lake between Cypress & Spettel Coves
12827	Medina Lake @ Mormon Bluff
12826	Medina Lake near Red Cove
12825	Medina Lake @ ML Dam West of San Antonio
	<u>Diversion Lake CRP</u>
14205	Medina R. Downstream Medina Reservoir in Mico, TX @ low water crossing
	<u>Nueces River CRP</u>
21948	Sabinal R. @ FM 187 S. of Utopia Onion Ck
13017	Seco Creek @ RR 470
14939	Sabinal River @ FM 187
22227	Commissioner's Creek Downstream of Camp Ozark (added September 2020)

CRP water quality data can be viewed at:

<https://www80.tceq.texas.gov/SwqmisWeb/public/crpweb.faces>

In-House Sampling: This surface water sampling program was initiated in order to monitor water quality throughout Bandera County. It has been modified to better serve the community by increasing the number of sites for a more representative data collection, and reporting E. coli counts via local newspapers to the citizens of Bandera County for safety. BCRAGD's In-House Surface Water Sampling Program allows District staff to detect bacteria spikes in the Medina and Sabinal Rivers, as well as Medina Lake, and follow up with an immediate investigation. From October 2019 to September 2020, there were 17 instances with E. coli counts over the TCEQ standard of 399 MPN (Most Probable Number) per 100 mL of sample water. The District recommends no swimming to take place in areas where the count is over the limit. That sample site area is then investigated, beginning with a re-sample effort, and further investigation if the count remains above the 399 MPN standard (see dates on 12.2.2).

ML-1.04	Medina Lake @ County Park NE of Boat Ramp	MP-3.01	Medina R @ Moffett Park
MR-1.01	Medina R @ English Crossing	MRN-3.01	N. Prong Medina R @ Rocky Creek Crossing FM 2107
MR-1.02	Medina R @ Bridlegate Park	MRN-3.03	N. Prong Medina R @ Brewington Crossing FM 2107
MR-1.03	Medina R @ Bandera River Ranch Park	WC-3.01	N. Prong Medina R @ Wallace Creek
BC-2.01	Bandera Creek @ SH 16	MRW-3.01	W. Prong Medina R @ Coal kiln Rd RR 337
LMC-2.01	Lower Mason Creek @ Chipman Ln.	MRW-3.03	W. Prong Medina R @ Carpenter Creek @ RR 337
MR-2.025	Above Sewage Treatment Plant Effluent	SC-4.01	Seco Creek @ RR 470 Crossing
MR-2.03	Medina R @ Bandera City Park HWY 173	CC-4.01	Sabinal R @ Cornelius Rd Crossing
MR-2.05	Medina R @ Bandera City Park 1st Street Bridge	SR-4.03	Sabinal R in Vanderpool @ SH 187
MR-3.01	Medina R @ RR 337	LM-4.03	Sabinal R @ Lost Maples 1st Bridge
MR-3.04	Medina R @ Tarpley Crossing	WVC-2.01	Hill Country State Natural Area @ FM 1077
MR-3.05	Medina R @ Ranger Crossing HWY 16	WC-4.01	Williams Creek Crossing
UTOP	Utopia City Park	CC-1.01	Can Creek @ Lost Maples SNA

EAA Sampling: The Bandera County River Authority & Groundwater District has partnered with the Edwards Aquifer Authority to collect water samples along a seven-mile reach of the Medina River. BCRAGD staff collects samples bi-weekly at the following three locations: Bridlegate, Coal Springs, and English Crossing. The EAA is interested in analyzing the stable isotopic structure of the water in this area of the river along with many other segments across the region.

Annual Evaluation of the Groundwater Resources in Bandera County FY 2020

INTRODUCTION

The desired future condition (DFC) of the Trinity Aquifer for Bandera County was adopted by the District's Board based on the Texas Water Development Board's (TWDB) 2008 model run and Groundwater Availability Model (GAM) Run 10-005. A maximum of 30 ft. of drawdown after 50 years (Year 2058) for the Trinity Aquifer was adopted, which was a total for both the Middle and Lower Aquifers. The Upper Trinity Aquifer does not supply sufficient water and is generally not used in Bandera County, therefore, it was not used in the TWDB 2008 model run or the GAM Run 10-005. The District's Board readopted the above DFC's in 2015 and was provided GAM Run 16-023.

Also included in this groundwater evaluation report are the reports of non-exempt and exempt use. The non-exempt use estimate is provided by groundwater permit holders on an annual basis, which is attached. The exempt use estimate is provided by TWDB and can be found in the District's Management Plan adopted March 18, 2018.

FY 2020 EVALUATION

For the Hill Country Trinity Aquifer DFC evaluation, the 2008 monitor well levels were used as the comparing factor in order to stay consistent with the first GAM run for the DFC process, GAM Run 10-005. An average level was calculated for each monitor well using data points taken throughout FY 2020. These averages were then compared to the 2008 water level measurements and these differences were recorded in the "Annual Report DFC Compliance FY 2020" excel sheet. New monitor wells that were added to the network before the beginning of FY 2020 use the first well measurement and then compared to the FY 2020 average.

There is only one monitor well for the Edwards-Trinity Plateau DFC evaluation because the aquifer is located in high elevations, so very few residential wells are utilizing it for water needs. Therefore, the estimates for domestic (exempt) use in the aquifer are small. In addition, District rules prohibit production permits for the use of Edwards-Trinity Plateau aquifer. The DFC evaluation for the Edwards-Trinity Plateau can be found in the "Annual Report DFC Compliance FY 2020" excel sheet.

The USGS 7.5 grid was used to obtain a better County-wide average. The majority of the monitoring well data is located in the eastern part of the County. To improve the evaluation of the County as a whole, water levels in each grid were averaged, and the average of all the grids was taken for the Hill Country Trinity Aquifer total average within Bandera County.

RESULTS OF THE DFC EVALUATION

The average loss or gain for monitor wells in their respective grids are shown in the “Annual Report DFC Compliance FY 2020” excel sheet. County maps with the grid averages are found in Figure 1 (Middle Trinity) and Figure 2 (Lower Trinity) for each Aquifer. The Middle Trinity Aquifer had a loss of 6.89 ft and the Lower Trinity Aquifer had a loss of 25.77 ft for FY 2020. The whole Trinity Aquifer had an average loss of 10.04 ft in FY 2020 for compliance of the DFC.

The average loss or gain for the monitor well that is located in the Edwards-Trinity can be located in the “Annual Report DFC Compliance FY 2020” excel sheet. Figure 3 depicts the gain or loss of the Edwards Monitor Well. From when it was drilled in 2010, the Edwards Well showed a drop of 8.64 ft.

FUTURE CONSIDERATIONS

- The abundance of groundwater data in East Bandera County could bias the results of this evaluation. However, the grid system attempts to minimize this bias.
- There is little data on the Lower Trinity Aquifer.

*****For a complete Groundwater Annual Evaluation Report, please refer to Management Goal 13.1.2.*****

b. Maintain at the District Office an annual report of District activities available to the public.

- **The annual report, annual financial audit, and the budget are readily available at the District and on the District’s website for the public to view or copy.**

4.2.1 Management Objective

Each year the District will participate in the regional planning process by attending Region J Regional Planning Group meetings.

4.2.2 Performance Standard

The attendance of a district representative at any Region J Regional Planning Group will be noted in the annual report to the Board of Directors.

- **BCRAGD is a representative Groundwater Conservation District on the Region J Plateau Regional Planning Group, and represents Bandera County in the design of viable water management strategies in the region. BCRAGD attends planning group meetings, and proactively participates with Region J’s consultants in the creation of the Region J Water Plan.**

- **On November 21, 2019, BCRA GD Groundwater District Operations Manager attended the Region J Meeting in Leakey, TX.**
- **On January 23, 2020, BCRA GD Groundwater District Operations Manager attended the Region J Meeting in Leakey, TX.**
- **On September 24, 2020, the District General Manager attended a Meeting with a City Council Member for Region J in Bandera, TX.**

Management Goal 5

5.0.0 Address natural resource issues.

5.1.1 Management Objective

The District is an active participant in the TCEQ Clean Rivers Program. This program is the gold standard in Texas for monitoring the water quality in the State. The District also tests groundwater from newly drilled wells and existing wells. The District will investigate, or refer to the proper agency, any citizen's or District initiated complaint related to surface water, groundwater, or any natural resource within the District. These investigations are a valuable tool to help the District protect the natural resources in the County.

5.1.2 Performance Standard

The General Manager will report the number of nuisance complaints, Notice of Violations issued, natural resources investigations, surface water tests, and groundwater tests to the Board of Directors in an annual report.

- **Nuisance Complaints: 20 total**
- **Notices of Violation: 5 total**
- **Illegal Dumping Mitigation Cases Resolved: 19 total**
- **Total Surface Water Test samples taken (including CRP): 344; see 4.1.2B**
- **Total number of Groundwater Tests: 268**
- **Both (Bacteria & Mineral)-99**
- **Bacteria Only-162**
- **Mineral Only-7**

Management Goal 6

6.0.0 Address drought conditions.

6.1.1 Management Objective

Record the Drought Severity Index each month and when drought conditions exist, post the drought stage and any appropriate drought restrictions at the District's office.

6.1.2 Performance Standard

In conjunction with the drought index, the General Manager may utilize flow rates from the Sabinal and Medina Rivers to determine appropriate drought stages. The General Manager shall post the drought stage and any appropriate drought restrictions at the District's office each month.

- **The appropriate drought stage is implemented when warranted by the Drought Management Plan. The Drought Stage is posted on the District's website, bulletin board, and on the sign at the road in front of the District's office. The appropriate drought stage is continuously posted at the Bandera County Courthouse. The drought stage is presented to the Board at every Quarterly Meeting.**

6.2.1 Management Objective

Evaluate groundwater availability each year by monitoring water levels of the aquifer from monitor wells within Bandera County.

6.2.2 Performance Standard

Record number of wells monitored each year in the annual report to the Board of Directors.

- **The District has a monitor well network that consists of 36 monitor wells that are monitored at least quarterly.**

Management Goal 7

7.0.0 Address conservation

7.1.1 Management Objective

Promote public awareness of the need for water conservation.

7.1.2 Performance Standard

A minimum of one public water quality/conservation show, demonstration, event, or educational talk will be held each year. The number of events, shows, or talks should be reported in the annual report to the Board of Directors.

- **Everytime the District provides a public show, demonstration, event or educational talk, water conservation is either discussed or water conservation literature and/or information is provided.**

- Water conservation literature is provided at all District public meetings. (9 meetings): 10/10/2019, 11/13/2019, 12/18/2019, 01/09/2020, 02/27/2020, 04/30/2020, 07/09/2020, 08/20/2020, 09/17/2020.
- On October 21, 2019, The BCRAGD Education Team consisting of BCRAGD's Education & Outreach Manager, Office Coordinator & Education Coordinator, and Intergovernmental Affairs Manager presented during Story Time at the Bandera Library. There, the Education Team taught and presented over how "Rowdy the Raindrop" moves through the water cycle. The team used an interactive felt storyboard to teach a group of children all under the age of 5 years old.
- On October 25, 2019, The local Soil and Water Conservation Board invited the District to participate in 6th Grade Ag Day at Mansfield Park in Bandera. BCRAGD collaborated with the Nueces River Authority Education Team at this event. BCRAGD's Education Team, consisting of the Education & Outreach Manager and the Office & Education / Outreach Coordinator, attended and presented at a workshop to teach 6th graders in Bandera County about various sources of pollution, including point and nonpoint source pollution and hazardous contaminants present in water, and the effects of these contaminants on humans. Students engaged in laboratory experimentation by collecting water samples from the Ag Barn and conducted pH, chlorine, iron, and total hardness tests to determine water quality.
- On November 5th & 6th, 2019, BCRAGD hosted and presented a Flood Early Warning System (FEWS) Training prepared by United States Geological Survey (USGS). The training was located at the Bandera County River Authority and Groundwater District Office Board Meeting Room.
- On November 16, 2019, the District's Education & Outreach Team presented at Schreiner University for the Expanding Your Horizons (EYH) Program. The Expanding your Horizons (EYH) Network is a global platform that seeks to increase female participation in STEM (Science, Technology, Engineering, and Mathematics). EYH facilitates local conferences that engage middle school aged girls with hands-on workshops. Schreiner University sponsors this educational event annually for students in the Hill Country area. Bandera County River Authority and Groundwater District is invited every year to participate. At this event, the District Education & Outreach Team facilitated a workshop on the conservation and preservation of water. Sixteen students were given materials and information on how to design and build a watershed model showing the importance of riparian plants and created a rain event to show how water flows through the watershed, and how pollution moves from each body of water, to ultimately end up in the ocean. Students also performed water quality testing on

fresh water samples from a nearby creek and performed data analysis on those water test results. Discussions about limited fresh water availability and contamination of water resources were led by BCRAGD staff. These future scientists learned first-hand the importance of water quality testing and preservation of fresh water resources. Students gained a good understanding of what conservation scientists do and how important conservation is to the community and to the world.

- On December 13, 2019, BCRAGD's General Manager Presented at Texas Agri-Life in Uvalde over the District's Flood Early Warning System (FEWS) to provide information to the public about the benefits of the program.
- On December 18, 2019, BCRAGD hosted and presented at the annual BCRAGD Christmas Water Conservation Event. The District prioritizes the conservation of Bandera County's surface and groundwater, as well as the stewardship of natural resources as a whole. This priority is reflected in the execution of District programs and initiatives, as well as being an integral part of the District's overall Education and Community Outreach Program. For FY2020, this annual Water Conservation Event had approximately 20 people from Bandera County and City of Bandera governmental offices in attendance. The District Staff shared information regarding the District's ongoing projects and shared tips for Water Conservation. This event is part of the District's goal to improve intergovernmental relations and work collaboratively with other county and city agencies to better provide services to the community, as well as to provide Water Conservation information to the public.
- On January 16, 2020, BCRAGD's General Manager gave a presentation over the Flood Early Warning System (FEWS) at the City Council Meeting to provide information to the public and the citizens of Bandera County over the benefits of the program.
- On February 6, 2020, BCRAGD's General Manager gave a presentation over the Flood Early Warning System (FEWS) at the City Council Meeting to provide information to the public and the citizens of Bandera County over the benefits of the program.
- On February 11, 2020, the BCRAGD Education & Outreach Team and the Nueces River Authority (NRA) Education Team presented at Hill Country Elementary for Bandera ISD at a 5th Grade School Visit Event. At this event, the BCRAGD Education & Outreach Team & the NRA Education Team presented information to the 5th grade students who learned about watersheds, water conservation, and riparian ecosystems and engaged in a hands-on experiment with a river basin model to demonstrate how pollution travels into

water streams and ends up in the ocean, and had a thorough discussion on ways to be good stewards of streams and waterways. Since 2012, BCRAGD has sponsored and co-facilitated the Nueces River Authority Water Resource Stewardship Education Program for Bandera, Medina, and Utopia middle school students. The program features a water use and conservation presentation, and presents the demonstration of a surface water runoff model and an aquifer model, with an emphasis on nonpoint source pollution. The Nueces River Authority Water Resource Stewardship Program, in collaboration with BCRAGD, heavily emphasizes water conservation, water quality protection, and natural resource systems to the 5th and 7th grade students in Bandera County throughout each Spring season. Our District wasn't able to present as often as years prior due to the Covid-19 Pandemic, however, we will resume the program as safely as possible in FY2021. Our District sponsors and co-facilitates the program every year.

- On February 25, 2020, Bandera County River Authority and Groundwater District CoSponsored a Land Hill-Side Stewardship Event with the Hill Country Alliance (HCA). The event included an interactive tour, presentation, and engaging experience of a Bandera County landowner's property. Long term stewardship practices were the topic of discussion. The discussion focused on types of structures landowners could construct to slow the flow of water to increase water sinking (absorbing into the ground). Attendees got a first-hand look at how to implement the building of rock structures, use of woody debris, how to construct rainwater harvesting systems, and how to use swales and berms that coincide with the topography of the landscape. Riparian was also a topic for discussion. BCRAGD's River Authority Operations Manager and Natural Resource Specialist were instrumental in providing expertise during the event. This comprehensive event gave valuable insight and resources on how to identify land management issues and take corrective, stabilizing action to preserve and conserve natural resources.
- On February 26, 2020, A Sabinal River Flood Early Warning System (FEWS) Meeting took place in Utopia, TX at 10am. This Educational Presentation and Event was Hosted by BCRAGD & Prepared by USGS and Texas Water Development Board (TWDB). This meeting was instrumental in providing information over the benefits of the program.
- On February 26, 2020, a Public Training for the Medina River Flood Early Warning System (FEWS) Meeting took place in Bandera County at 2pm. This Educational Presentation and Event was Hosted by BCRAGD & Prepared by USGS and Texas Water Development Board (TWDB).
- On September 14, 2020, BCRAGD's General Manager Presented to the Medina Water Supply Company at the Medina Library Over Water Conservation.

- From September 15, 2020 to September 17, 2020, the BCragd Education & Outreach Team Prepared a Hill Country Alliance (HCA) Rainwater Revival Video Idea, Recording, Editing, and Submission Presentation.
- On September 30, 2020, the BCragd Education & Outreach Team Created and Provided a Virtual Public Presentation over Rainwater Harvesting via Social Media.
- Additional information is posted regularly on the District's website at www.bcragd.org and on BCragd's Social Media Pages including Facebook, Twitter, and Instagram as well as the BCragd Newsletter.

-See 2.1.2 B

7.2.1 Management Objective

The District will contract with Nueces River Authority (NRA) or similar organizations to provide information on efficient use of groundwater to students in Bandera County.

7.2.2 Performance Standard

The General Manager will report the instances that educational conservation information was given to students in Bandera County in the annual report to the Board.

- On October 21, 2019, The BCragd Education Team consisting of BCragd's Education & Outreach Manager, Office Coordinator & Education Coordinator, and Intergovernmental Affairs Manager presented during Story Time at the Bandera Library. There, the Education Team taught and presented over how "Rowdy the Raindrop" moves through the water cycle. The team used an interactive felt storyboard to teach a group of children all under the age of 5 years old.
- On October 25, 2019, The local Soil and Water Conservation Board invited the District to participate in 6th Grade Ag Day at Mansfield Park in Bandera. BCragd collaborated with the Nueces River Authority Education Team at this event. BCragd's Education Team, consisting of the Education & Outreach Manager and the Office & Education / Outreach Coordinator, attended and presented at a workshop to teach 6th graders in Bandera County about various sources of pollution, including point and nonpoint source pollution and hazardous contaminants present in water, and the effects of these contaminants

on humans. Students engaged in laboratory experimentation by collecting water samples from the Ag Barn and conducted pH, chlorine, iron, and total hardness tests to determine water quality.

- On November 13, 2019, BCRAGD's Education & Outreach Team held a Meeting with the Nueces River Authority (NRA) Education Team to Prepare for Upcoming Presentations, Trainings, and Events to Students.
- On November 16, 2019, the District's Education & Outreach Team presented at Schreiner University for the Expanding Your Horizons (EYH) Program. The Expanding your Horizons (EYH) Network is a global platform that seeks to increase female participation in STEM (Science, Technology, Engineering, and Mathematics). EYH facilitates local conferences that engage middle school aged girls with hands-on workshops. Schreiner University sponsors this educational event annually for students in the Hill Country area. Bandera County River Authority and Groundwater District is invited every year to participate. At this event, the District Education & Outreach Team facilitated a workshop on the conservation and preservation of water. Sixteen students were given materials and information on how to design and build a watershed model showing the importance of riparian plants and created a rain event to show how water flows through the watershed, and how pollution moves from each body of water, to ultimately end up in the ocean. Students also performed water quality testing on fresh water samples from a nearby creek and performed data analysis on those water test results. Discussions about limited fresh water availability and contamination of water resources were led by BCRAGD staff. These future scientists learned first-hand the importance of water quality testing and preservation of fresh water resources. Students gained a good understanding of what conservation scientists do and how important conservation is to the community and to the world.
- On February 6, 2020, BCRAGD's General Manager gave a presentation over the Flood Early Warning System (FEWS) at the City Council Meeting to provide information to the public and the citizens of Bandera County over the benefits of the program.
- On February 11, 2020, the BCRAGD Education & Outreach Team and the Nueces River Authority (NRA) Education Team presented at Hill Country Elementary for Bandera ISD at a 5th Grade School Visit Event. At this event, the BCRAGD Education & Outreach Team & the NRA Education Team presented information to the 5th grade students who learned about watersheds, water conservation, and riparian ecosystems and engaged in a hands-on experiment with a river basin model to demonstrate how pollution travels into water streams and ends up in the ocean, and had a thorough discussion on ways

to be good stewards of streams and waterways. Since 2012, BCRAGD has sponsored and co-facilitated the Nueces River Authority Water Resource Stewardship Education Program for Bandera, Medina, and Utopia middle school students. The program features a water use and conservation presentation, and presents the demonstration of a surface water runoff model and an aquifer model, with an emphasis on nonpoint source pollution. The Nueces River Authority Water Resource Stewardship Program, in collaboration with BCRAGD, heavily emphasizes water conservation, water quality protection, and natural resource systems to the 5th and 7th grade students in Bandera County throughout each Spring season. Our District wasn't able to present as often as years prior due to the Covid-19 Pandemic, however, we will resume the program as safely as possible in FY2021. Our District sponsors and co-facilitates the program every year.

- On February 27, 2020, BCRAGD's Office & Education Coordinator as well as Education & Outreach Manager attended the Go WILD Combo Workshop to become facilitators for Presenting and Hosting Project WILD Workshops. Project WILD is a part of the National Association of Fish and Wildlife Agencies and hosted through Texas Parks and Wildlife. Project WILD's mission is to help students learn how to think, not what to think, about wildlife and the environment. This allows BCRAGD to offer low-cost workshops for community teachers and other environmental educators, which will enable more future educational events.
- On March 6th & 7th, 2020, BCRAGD's Office & Education Coordinator as well as Education & Outreach Manager attended the Go WILD Facilitators Workshop to become facilitators for Presenting and Hosting Project WILD Workshops. Project WILD is a part of the National Association of Fish and Wildlife Agencies and hosted through Texas Parks and Wildlife. Project WILD's mission is to help students learn how to think, not what to think, about wildlife and the environment. This allows BCRAGD to offer low-cost workshops for community teachers and other environmental educators, which will enable more future educational events.
- On September 26, 2020, BCRAGD's Education & Outreach Manager and Office and Education Coordinator attended the Texas Association for Environmental Education (TAEE) Training Conference (virtually due to the Covid-19 Pandemic) to assist in implementing education strategies for the District.
- On September 30, 2020, the BCRAGD Education & Outreach Team Created and Provided a Virtual Public Presentation over Rainwater Harvesting via Social Media.

- Additional information is posted regularly on the District's website at www.bcragd.org and on BCragd's Social Media Pages including Facebook, Twitter, and Instagram as well as the newly implemented BCragd Newsletter.
- The District gave educational water related talks to local groups when requested.

Management Goal 8

8.0.0 Address rainwater harvesting

8.1.1 Management Objective

The District will promote rainwater harvesting and provide advice, information, and literature regarding the benefits of rainwater harvesting.

8.1.2 Performance Standard

Provide Rainwater Harvesting material to the public in handouts. Each year provide rainwater harvesting information on at least one occasion by one of the following methods:

- Article to local newspapers
 - Distribution of conservation literature handouts
 - Public presentation by District Staff
 - Information on District website
 - District exhibit/display booth at a public booth
- Rainwater Harvesting Materials and literature is provided at all District public meetings. (9 meetings): 10/10/2019, 11/13/2019, 12/18/2019, 01/09/2020, 02/27/2020, 04/30/2020, 07/09/2020, 08/20/2020, 09/17/2020.
 - Rainwater Harvesting Materials are always available on the website by clicking on the "Tools for Sustainability" tab under the Education tab, including a Rainwater Harvesting Informational Video for the Public created for FY2020.
 - On October 1st 2019, the District's Education & Outreach Manager, Office Coordinator, Intergovernmental Affairs Manager, and Office Manager attended the Women's Bennett Trust Land Stewardship Conference by the AgriLife Extension Office at which Rainwater Harvesting and Riparian efforts and best practices were discussed.
 - On November 5th & 6th, 2019, BCragd hosted and presented a Flood Early Warning System (FEWS) Training prepared by United States Geological Survey (USGS). The training was located at the Bandera County River Authority and Groundwater District Office Board Meeting Room. Rainwater Harvesting Materials

were made available to the public at the District Office during this event.

- On December 18, 2019, BCRAGD hosted and presented at the annual BCRAGD Christmas Water Conservation Event. The District prioritizes the conservation of Bandera County's surface and groundwater, as well as the stewardship of natural resources as a whole. This priority is reflected in the execution of District programs and initiatives, as well as being an integral part of the District's overall Education and Community Outreach Program. For FY2020, this annual Water Conservation Event had approximately 20 people from Bandera County and City of Bandera governmental offices in attendance. The District Staff shared information regarding the District's ongoing projects and shared tips for Water Conservation. This event is part of the District's goal to improve intergovernmental relations and work collaboratively with other county and city agencies to better provide services to the community, as well as to provide Water Conservation information to the public. Rainwater Harvesting Materials were made available to the public at the District Office during this event.
- On February 25, 2020, Bandera County River Authority and Groundwater District CoSponsored a Land Hill-Side Stewardship Event with the Hill Country Alliance (HCA). The event included an interactive tour, presentation, and engaging experience of a Bandera County landowner's property. Long term stewardship practices were the topic of discussion. The discussion focused on types of structures landowners could construct to slow the flow of water to increase water sinking (absorbing into the ground). Attendees got a first-hand look at how to implement the building of rock structures, use of woody debris, how to construct rainwater harvesting systems, and how to use swales and berms that coincide with the topography of the landscape. Riparian was also a topic for discussion. BCRAGD's River Authority Operations Manager and Natural Resource Specialist were instrumental in providing expertise during the event. This comprehensive event gave valuable insight and resources on how to identify land management issues and take corrective, stabilizing action to preserve and conserve natural resources.
- On September 10, 2020, the BCRAGD Education & Outreach Team Completed Work on the Hill Country Rainwater Revival Festival Project.
- From September 15, 2020 to September 17, 2020, the BCRAGD Education & Outreach Team Prepared a Hill Country Alliance (HCA) Rainwater Revival Video Idea, Recording, Editing, and Submission Presentation.
- On September 23, 2020, the BCRAGD Education & Outreach Team Researched Rainwater Harvesting Materials in Preparation for BCRAGD's Rainwater Harvesting Presentation.

- **On September 30, 2020, the BCragd Education & Outreach Team Created and Provided a Virtual Public Presentation over Rainwater Harvesting via Social Media.**

Management Goal 9

9.0.0 Address recharge enhancement.

The District does not currently have the financial resources to buy property and construct recharge structures; therefore, this goal is not applicable to the District at this time.

Management Goal 10

10.0.0 Address precipitation enhancement.

Precipitation enhancement over Bandera County is financed by the Edwards Aquifer Authority and operates from Pleasanton, Texas; therefore, this goal is not applicable to the District at this time.

Management Goal 11

11.0.0 Address brush control.

11.1.1 Management Objective

Provide to the public available information on brush control including riparian health, along with native and invasive plant species management.

11.1.2 Performance Standard

Each year provide brush control, including riparian health, along with native and invasive plant species management information on at least one occasion by one of the following methods and include it in an annual report to the Board of Directors:

- article to local newspaper
- distribution of conservation literature handouts
- public presentation by District Staff
- information on District's website
- District exhibit/display booth at a public event

- **Brush Control information, including riparian health, along with native and invasive plant species management information is always available on the website by clicking on the "Tools for Sustainability" tab under the Education tab.**
- **On October 1st 2019, the District's Education & Outreach Manager, Office Coordinator, Intergovernmental Affairs Manager, and Office Manager attended the Women's Bennett Trust Land Stewardship Conference by the AgriLife Extension Office at which Rainwater Harvesting and Riparian efforts and best practices were discussed.**

- On October 17th & October 31, 2019, Arundo donax Awareness Informative Postcards created by the District were mailed to Bandera County Citizens.
- On October 25, 2019, The local Soil and Water Conservation Board invited the District to participate in 6th Grade Ag Day at Mansfield Park in Bandera. BCRA GD collaborated with the Nueces River Authority Education Team at this event. BCRA GD's Education Team, consisting of the Education & Outreach Manager and the Office & Education / Outreach Coordinator, attended and presented at a workshop to teach 6th graders in Bandera County about various sources of pollution, including point and nonpoint source pollution and hazardous contaminants present in water, and the effects of these contaminants on humans. Students engaged in laboratory experimentation by collecting water samples from the Ag Barn and conducted pH, chlorine, iron, and total hardness tests to determine water quality. Riparian health efforts were also discussed at this event.
- On October 30, 2019, BCRA GD's River Authority Operations Manager & Natural Resource Specialist attended the Healthy Creeks Initiative (HCI) Meeting at which Riparian health was discussed.
- On November 16, 2019, the District's Education & Outreach Team presented at Schreiner University for the Expanding Your Horizons (EYH) Program. The Expanding your Horizons (EYH) Network is a global platform that seeks to increase female participation in STEM (Science, Technology, Engineering, and Mathematics). EYH facilitates local conferences that engage middle school aged girls with hands-on workshops. Schreiner University sponsors this educational event annually for students in the Hill Country area. Bandera County River Authority and Groundwater District is invited every year to participate. At this event, the District Education & Outreach Team facilitated a workshop on the conservation and preservation of water. Sixteen students were given materials and information on how to design and build a watershed model showing the importance of riparian plants and created a rain event to show how water flows through the watershed, and how pollution moves from each body of water, to ultimately end up in the ocean. Students also performed water quality testing on fresh water samples from a nearby creek and performed data analysis on those water test results. Discussions about limited fresh water availability and contamination of water resources were led by BCRA GD staff. These future scientists learned first-hand the importance of water quality testing and preservation of fresh water resources. Students gained a good understanding of what conservation scientists do and how important conservation is to the community and to the world.
- On December 6, 2019, BCRA GD's River Authority Operations Manager and Natural Resource Specialist attended the Hill Country Watershed Stewardship &

Restoration Gathering at which Riparian health was discussed.

- On December 18, 2019, BCRAGD hosted and presented at the annual BCRAGD Christmas Water Conservation Event. The District prioritizes the conservation of Bandera County's surface and groundwater, as well as the stewardship of natural resources as a whole. This priority is reflected in the execution of District programs and initiatives, as well as being an integral part of the District's overall Education and Community Outreach Program. For FY2020, this annual Water Conservation Event had approximately 20 people from Bandera County and City of Bandera governmental offices in attendance. The District Staff shared information regarding the District's ongoing projects and shared tips for Water Conservation. This event is part of the District's goal to improve intergovernmental relations and work collaboratively with other county and city agencies to better provide services to the community, as well as to provide Water Conservation information to the public. Rainwater Harvesting Materials were made available to the public at the District Office during this event and Riparian health efforts were a topic of discussion.
- On January 29, 2020, Bandera County River Authority and Groundwater District hosted and attended the Medina River Protection Fund (MRPF) Board Meeting. Two Bandera County River Authority and Groundwater District Staff Members serve as Board Members. Generally, the MRPF meets numerous times at the District office during the Spring to organize the annual Medina River Clean Up. Unfortunately for FY2020, the Medina River Clean Up was cancelled due to the Covid-19 Pandemic, but will hopefully resume in FY2021. The District contributes toward the Clean Up each year. These meetings are effective in the MRPF and the District's efforts toward Riparian health for Bandera County.
- On February 11, 2020, the BCRAGD Education & Outreach Team and the Nueces River Authority (NRA) Education Team presented at Hill Country Elementary for Bandera ISD at a 5th Grade School Visit Event. At this event, the BCRAGD Education & Outreach Team & the NRA Education Team presented information to the 5th grade students who learned about watersheds, water conservation, and riparian ecosystems and engaged in a hands-on experiment with a river basin model to demonstrate how pollution travels into water streams and ends up in the ocean, and had a thorough discussion on ways to be good stewards of streams and waterways. Since 2012, BCRAGD has sponsored and co-facilitated the Nueces River Authority Water Resource Stewardship Education Program for Bandera, Medina, and Utopia middle school students. The program features a water use and conservation presentation, and presents the demonstration of a surface water runoff model and an aquifer model, with an emphasis on nonpoint source pollution. The Nueces River Authority Water Resource Stewardship Program, in collaboration with BCRAGD, heavily emphasizes water conservation, water quality protection, and natural resource systems to the 5th and 7th grade students in Bandera County

throughout each Spring season. Our District wasn't able to present as often as years prior due to the Covid-19 Pandemic, however, we will resume the program as safely as possible in FY2021. Our District sponsors and co-facilitates the program every year.

- On February 25, 2020, Bandera County River Authority and Groundwater District CoSponsored a Land Hill-Side Stewardship Event with the Hill Country Alliance (HCA). The event included an interactive tour, presentation, and engaging experience of a Bandera County landowner's property. Long term stewardship practices were the topic of discussion. The discussion focused on types of structures landowners could construct to slow the flow of water to increase water sinking (absorbing into the ground). Attendees got a first-hand look at how to implement the building of rock structures, use of woody debris, how to construct rainwater harvesting systems, and how to use swales and berms that coincide with the topography of the landscape. Riparian was also a topic for discussion. BCRAGD's River Authority Operations Manager and Natural Resource Specialist were instrumental in providing expertise during the event. This comprehensive event gave valuable insight and resources on how to identify land management issues and take corrective, stabilizing action to preserve and conserve natural resources.
- On February 27, 2020, BCRAGD's River Authority Operations Manager & Natural Resource Specialist collaborated with the City of Bandera, Hill Country Alliance (HCA) and Texas Parks and Wildlife Department (TPWD) for an Upcoming Arundo Survey Project on a Kayaking Tour.
- On March 11, 2020, BCRAGD's River Authority Operations Manager & Natural Resource Specialist attended a meeting with Hill Country Alliance (HCA), Texas Parks & Wildlife Department (TPWD), and the City of Bandera to Discuss & Plan Future Erosion Control Projects for the City Park's Riparian Health.
- On April 2, 2020, BCRAGD's Natural Resource Specialist worked on the creation and data of a Riparian Field Guide.
- On April 9, 2020, BCRAGD's Natural Resource Specialist created a Riparian Plant Database.
- On April 15, 2020, BCRAGD's River Authority Operations Manager and Natural Resource Specialist completed an Intro to Watershed Modeling Training for Riparian health.
- On June 15, 2020, BCRAGD's River Authority Operations Manager and Natural Resource Specialist completed Aquatic Life Monitoring with San Antonio River Authority (SARA) at the Mayan Ranch.

- On June 16, 2020 BCRAGD's River Authority Operations Manager Attended a Webinar on What Freshwater Mussels Are Worth for Invasive Species Research.
- On June 18, 2020, BCRAGD completed a District CleanUp Initiative for Trash Removal @ Brewington River Crossing to promote Riparian health.
- On July 1, 2020, BCRAGD's River Authority Operations Manager attended a Webinar over Isotopes 101: Nutrient Source Tracking.
- On July 14, 2020 BCRAGD's River Authority Operations Manager attended a Webinar on the New Freshwater Mussel Silo: Design, Construction, & Conservation Application for Invasive Species Research.
- On July 28, 2020 BCRAGD's River Authority Operations Manager attended a Webinar on Genomics as an Essential Tool for Freshwater Mussel Conservation for Invasive Species Research.
- On August 6, 2020, BCRAGD's River Authority Operations Manager and Natural Resource Specialist completed Aquatic Life Monitoring with San Antonio River Authority (SARA) at Mayan Ranch.
- On August 25, 2020 BCRAGD's River Authority Operations Manager attended a Webinar on the Functional Ecology of Freshwater Mussels for Invasive Species Research.
- On September 8, 2020, BCRAGD's River Authority Operations Manager attended a Webinar on Tagging & Monitoring Freshwater Mussels for Invasive Species Research.
- On September 10, 2020 BCRAGD's River Authority Operations Manager completed taking Zebra Mussel Sampling to San Marcos for Invasive Species Management.
- On September 22, 2020 BCRAGD's River Authority Operations Manager attended a Webinar on Freshwater Mussels, Conservation & Systematics Conference for Invasive Species Research.
- On September 23rd through 25th, 2020, BCRAGD's River Authority Operations Manager, Natural Resource Specialist, Groundwater District Operations Manager, Intergovernmental Affairs Manager, and Office Coordinator attended the Hill Country Alliance's (HCA) 2020 Virtual Hill Country Leadership Summit that discussed Riparian health.

- Arundo site visits occurred over the course of several days. These days were: 09-OCT-2019; 11-OCT-2019; 17-JUN-2020; 24-JUN-2020; 07-JUL-2020; 08-JUL-2020; 16-JUL-2020; 21-JUL-2020; 22-JUL-2020; & 16-SEP-2020.
- Zebra Mussel sampling / monitoring occurred over the course of several days. These days were: 24-OCT-2019; 05-NOV-2019; 02-JUN-2020; 11-JUN-2020; 09-JUL-2020; 20-AUG-2020; & 15-SEP-2020.

Management Goal 12

12.0.0 Addressing water quality.

12.1.1 Management Objective

Continue the existing program to monitor groundwater quality in the District.

12.1.2 Performance Standard

Continue to monitor water quality from wells in the monitoring system on a semi-annual basis, and from newly drilled wells when samples can be obtained. Report the number of samples obtained to the Board of Directors in an annual report.

- Monitor Well Water Samples taken: 10 total
- Water Analysis Performed on New Wells: 74 total

12.2.1 Management Objective

Continue the existing program to monitor surface water quality in the District.

12.2.2 Performance Standard

Continue to monitor water quality from a minimum of 6 locations in the county from the Sabinal and Medina River basins on a quarterly basis. Report the number of samples obtained to the Board of Directors in an annual report.

BCRAGD continued partnership with SARA to participate in the Clean Rivers Program in the Bandera County portion of San Antonio River Basin. BCRAGD is responsible for sampling 8 sites along the Medina River, 5 sites on Medina Lake, and 1 site on Diversion Lake. BCRAGD continues its partnership with Nueces River Authority to participate in the CRP in the Nueces River Basin; BCRAGD is responsible for 3 sites along the Sabinal River in Bandera County, with a new addition of 1 CRP site as of September 2020 on Commissioner's Creek in the Nueces Basin, partnering with NRA . The District continued its In-House Surface Water Quality Testing Program along the Medina and Sabinal rivers for the protection of the citizens of Bandera County. In addition, BCRAGD continued the

EAA Sampling program (See 4.1.2) for FY 2020. 344 total samples were taken between these programs during FY 2020 and are summarized below:

1st Quarter Oct. 2019-Dec. 2019

Oct 1st- EAA Sampling (3 Medina R. sites)
Oct 2nd- Sabinal/Nueces River CRP (3 sites)
Oct 10th- Diversion Lake CRP (1 site)
Oct 17th- EAA Sampling (3 Medina R. sites)
Oct 31st- EAA Sampling (3 Medina R. sites)
Nov 12th & Nov 13th- EAA Sampling (3 Medina R. sites)
Nov 13th- Medina River CRP (4 sites)
Nov 18th & 19th- Medina Lake CRP (5 sites)
Nov 20th- EAA Sampling (3 Medina R. sites)
Nov 21st- Medina River CRP (4 sites)
Nov 27th- EAA Sampling (3 Medina R. sites)
Dec 11th & 17th-Qtrly In-House Sample(28 Lake & R. sites)
Dec 13th- EAA Sampling (3 Medina R. sites)
Dec 27th- EAA Sampling (3 Medina R. sites)

2nd Quarter Jan. 2020-Mar. 2020

Jan 2nd- Medina River CRP (4 sites)
Jan 8th- Sabinal/Nueces River CRP (3 sites)
Jan 21st- EAA Sampling (3 Medina R. sites)
Feb 2nd- Diversion Lake CRP (1 site)
Feb 6th- EAA Sampling (3 Medina R. sites)
Feb 13th- Medina River CRP (4 sites)
Feb 19th & Feb 26th- Medina Lake CRP (5 sites)
Feb 21st- EAA Sampling (3 Medina R. sites)
Mar 5th- EAA Sampling (3 Medina R. sites)
Mar 5th & 10th-Qtrly In-House Sample (31 Lake & R. sites)
Mar 19th- EAA Sampling (3 Medina R. sites)
Mar 31st- EAA Sampling (3 Medina R. sites)

3rd Quarter Apr. 2020-June 2020

Apr 16th- EAA Sampling (3 Medina R. sites)
Apr 30th- EAA Sampling (3 Medina R. sites)
May 6th & 7th-Qtrly/Summer In-House Sa(27 Lake & R. sites)
May 15th- EAA Sampling (3 Medina R. sites)
May 19th- Sabinal/Nueces River CRP (3 sites)
May 20th & 21st- Medina River CRP (8 sites)
May 26th- Diversion Lake CRP (1 site)
May 28th- Medina Lake CRP (5 sites)
Jun 2nd- EAA Sampling (3 Medina R. sites)
Jun 10th- EAA Sampling (3 Medina R. sites)
Jun 15th- Aquatic Life Monitoring (1 Medina R. site)
Jun 18th & 24th-Qtrly/Summer In-House S(16 L. & R. sites)
Jun 25th- EAA Sampling (3 Medina R. sites)
Jun 25th- Diversion Lake CRP (1 site)

4th Quarter Jul. 2020-Sep.2020

Jul 1st & 7th- Quarterly/Summer In-House (15 L. & R. sites)
Jul 9th- EAA Sampling (3 Medina R. sites)
Jul 15th & 21st- Quarterly/Summer In-House S (14 R. sites)
Jul 23rd- EAA Sampling (3 Medina R. sites)
Jul 23rd- Medina River CRP (4 sites)
Jul 30th & Aug 4th- Quarterly/Summer In-House (13 R. sites)
Aug 5th- EAA Sampling (3 Medina R. sites)
Aug 6th- Aquatic Life Mon./Medina R. CRP (1 Medina R. site)
Aug 11th- Medina River CRP (3 sites)
Aug 12th- Qtrly/Summer In-House Sampling (11 sites)
Aug 13th- Sabinal/Nueces River CRP (3 sites)
Aug 19th- EAA Sampling (3 R. sites)
Aug 20th- Medina Lake CRP (3 sites)
Aug 25th- Qtrly/Summer In-House Sample (13 L. & R. sites)
Aug 26th- Medina Lake CRP/CRP Audit (2 sites)
Sep 2nd, 9th, & 10th- Qtrly/Summer In-House (29 L.& R. sites)
Sep 3rd- EAA Sampling (3 Medina R. sites)
Sep 17th- EAA Sampling (3 Medina R. sites)

Management Goal 13

13.0.0 Addressing in a Quantitative Manner the Desired Future Conditions.

13.1.1 Management Objective

To achieve the Desired Future Condition adopted by GMA 9 For the Edwards Group of the Edwards Trinity (Plateau) and the Hill Country Trinity Aquifer.

13.1.2 Performance Standard

Groundwater Management Area 9 has adopted a Desired Future Condition (DFC) for the Edwards Trinity Plateau and the Hill Country Trinity aquifer.

District rules do not allow permitted wells in the Edwards Trinity Plateau Aquifer. The District has established a monitor well in the Edwards Aquifer and is monitoring the water level and rainfall on a real-time basis. A comparison of the annual water level measurements and the cumulative water level trend to the adopted Desired Future Condition will be made annually. The water levels will be included in the District database and a discussion of the water level trend-Desired Future Condition comparison will be reported to the Board of Directors on an annual basis and documented in the annual report.

The District will notate the Hill Country Trinity Aquifer water level trends from the District's Monitor Wells in order to track the District's progress in complying with the average drawdown as stated in the GAM Run 16-023 MAG for Bandera County. The General Manager will report annually to the District Board of Directors the progress of achieving the Desired Future Condition. The General Manager will complete an annual groundwater report that details groundwater production from non-exempt wells combined with exempt well pumping estimates supplied by the Texas Water Development Board. This report will be included in the annual report provided to the District's Board of Directors.

Annual Evaluation of the Groundwater Resources in Bandera County FY 2020

INTRODUCTION

The desired future condition (DFC) of the Trinity Aquifer for Bandera County was adopted by the District's Board based on the Texas Water Development Board's (TWDB) 2008 model run and Groundwater Availability Model (GAM) Run 10-005. A maximum of 30 ft. of drawdown after 50 years (Year 2058) for the Trinity Aquifer was adopted, which was a total for both the Middle and Lower Aquifers. The Upper Trinity Aquifer does not supply sufficient water and is generally not used in Bandera County, therefore, it was not used in the TWDB 2008 model run or the GAM Run 10-005. The District's Board readopted the above DFC's in 2015 and was provided GAM Run 16-023.

Also included in this groundwater evaluation report are the reports of non-exempt and exempt use. The non-exempt use estimate is provided by groundwater permit holders on an annual basis, which is attached. The exempt use estimate is provided by TWDB and can be found in the District's Management Plan adopted March 18, 2018.

FY 2020 EVALUATION

For the Hill Country Trinity Aquifer DFC evaluation, the 2008 monitor well levels were used as the comparing factor in order to stay consistent with the first GAM run for the DFC process, GAM Run 10-005. An average level was calculated for each monitor well using data points taken throughout FY 2020. These averages were then compared to the 2008 water level measurements and these differences were recorded in the "Annual Report DFC Compliance FY 2020" excel sheet. New monitor wells that were added to the network before the beginning of FY 2020 use the first well measurement and then compared to the FY 2020 average.

There is only one monitor well for the Edwards-Trinity Plateau DFC evaluation because the aquifer is located in high elevations, so very few residential wells are utilizing it for water needs. Therefore, the estimates for domestic (exempt) use in the aquifer are small. In addition, District rules prohibit production permits for the use of Edwards-Trinity Plateau aquifer. The DFC evaluation for the Edwards-Trinity Plateau can be found in the "Annual Report DFC Compliance FY 2020" excel sheet.

The USGS 7.5 grid was used to obtain a better County-wide average. The majority of the monitoring well data is located in the eastern part of the County. To improve the evaluation of the County as a whole, water levels in each grid were averaged, and the average of all the grids was taken for the Hill Country Trinity Aquifer total average within Bandera County.

RESULTS OF THE DFC EVALUATION

The average loss or gain for monitor wells in their respective grids are shown in the "Annual Report DFC Compliance FY 2020" excel sheet. County maps with the grid averages are found in Figure 1 (Middle Trinity) and Figure 2 (Lower Trinity) for each Aquifer. The Middle Trinity Aquifer had a loss of 6.89 ft and the Lower Trinity Aquifer had a loss of 25.77 ft for FY 2020. The whole Trinity Aquifer had an average loss of 10.04 ft in FY 2020 for compliance of the DFC.

The average loss or gain for the monitor well that is located in the Edwards-Trinity can be located in the "Annual Report DFC Compliance FY 2020" excel sheet. Figure 3 depicts the gain or loss of the Edwards Monitor Well. From when it was drilled in 2010, the Edwards Well showed a drop of 8.64 ft.

FUTURE CONSIDERATIONS

- The abundance of groundwater data in East Bandera County could bias the results of this evaluation. However, the grid system attempts to minimize this bias.
- There is little data on the Lower Trinity Aquifer.

Figure 1. Middle Trinity Map

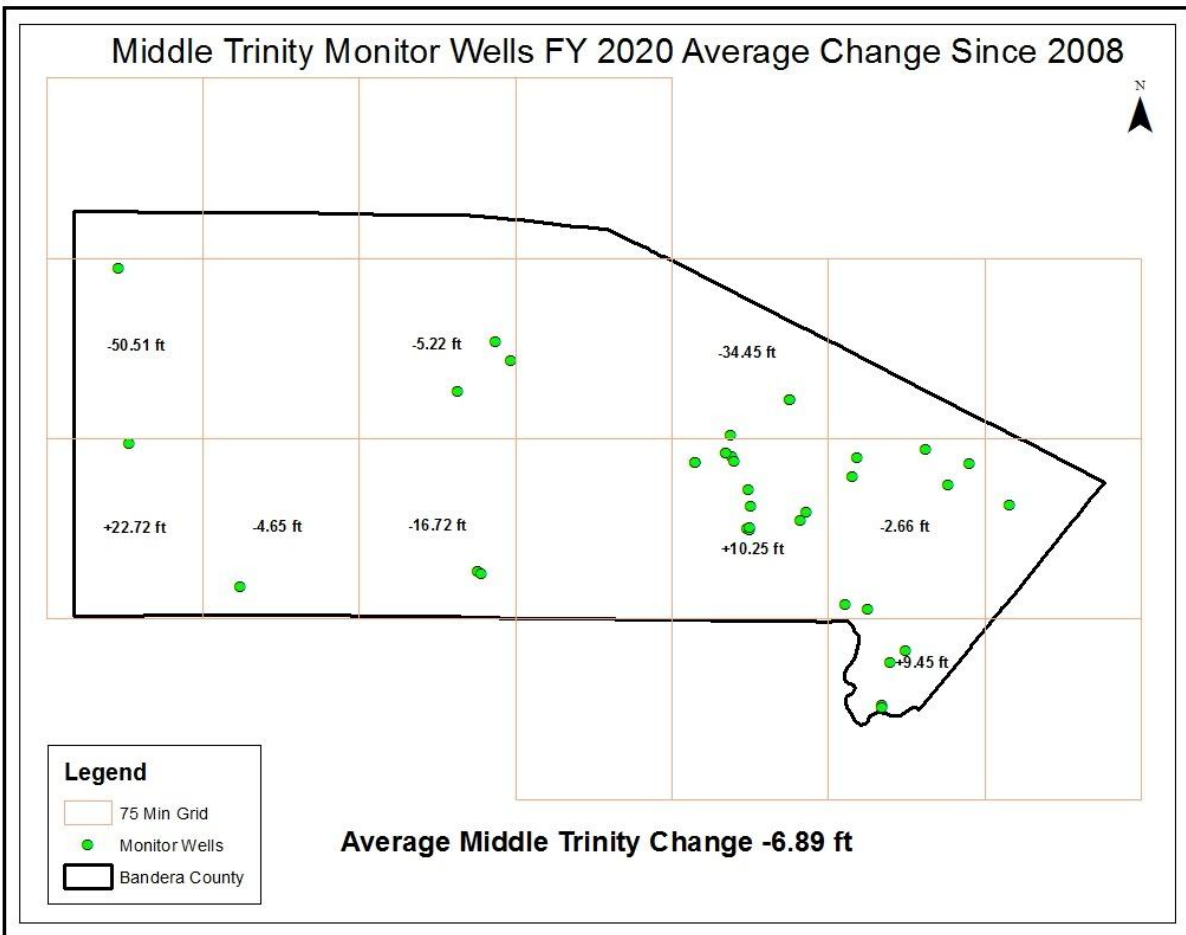


Figure 2. Lower Trinity Map

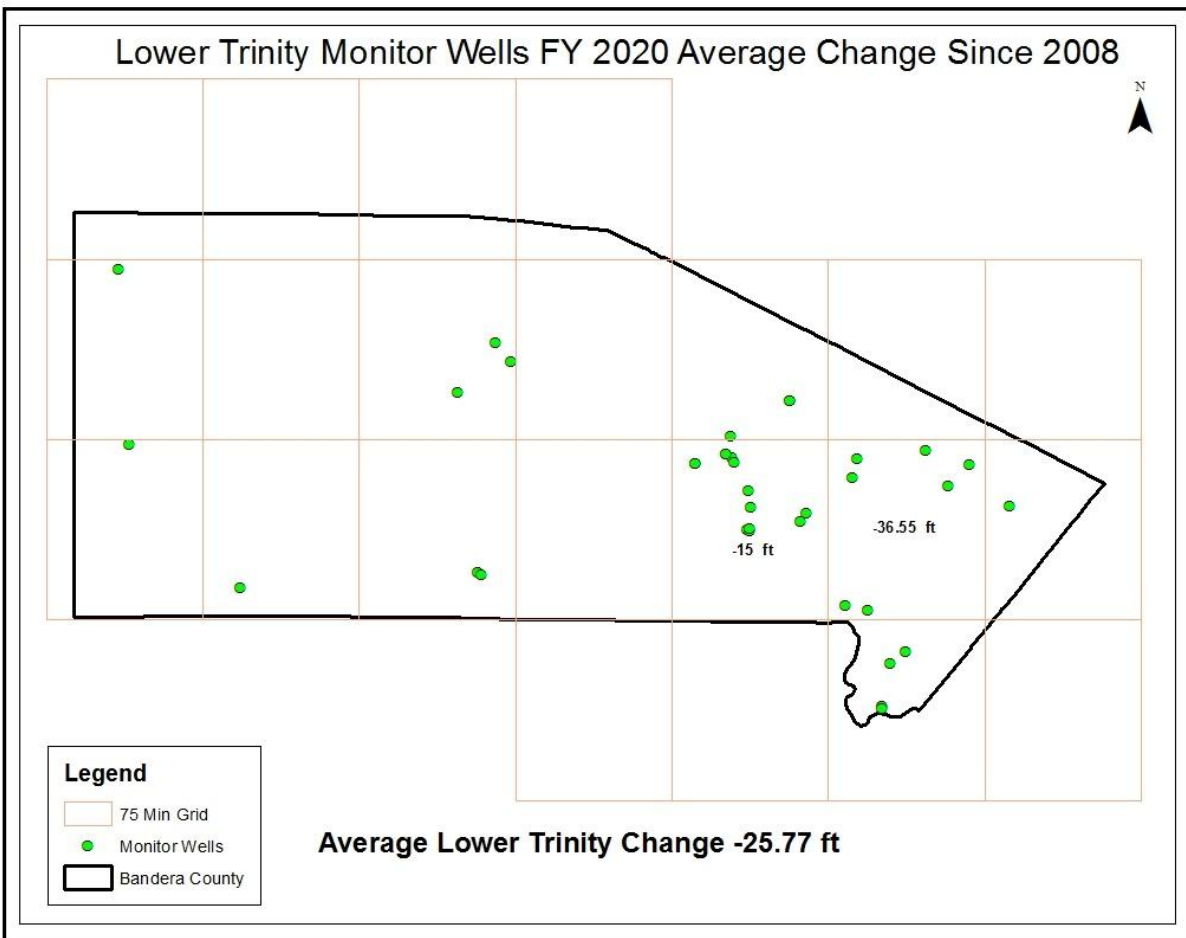
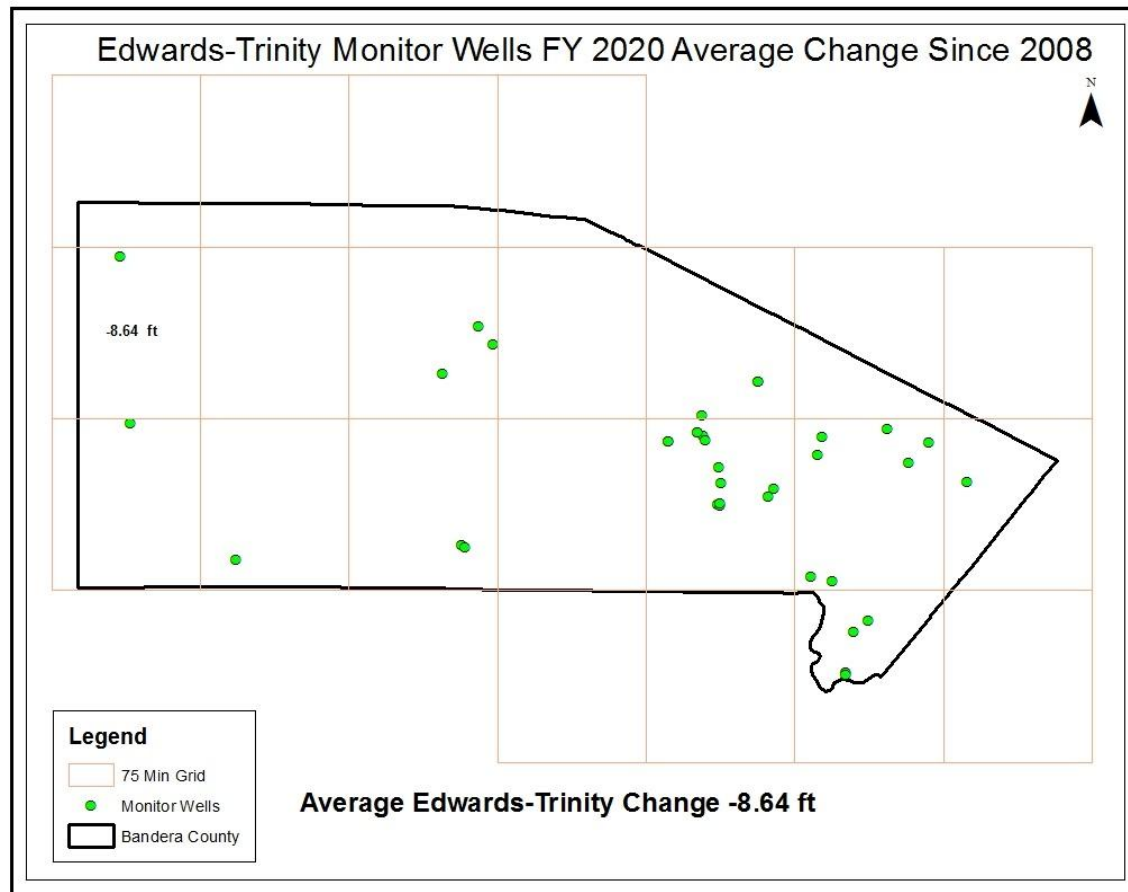


Figure 3. Edwards-Trinity Map



2020 Annual Pumping Amounts for Permitted (Non-Exempt) Wells

Permit	Acre-Feet	Permit	Acre-Feet	Permit	Acre-Feet	Permit	Acre-Feet	Permit	Acre-Feet
P-1001	0.2	P-1031	17.7	P-1061	0.0	P-1091	0.8	P-1116	11.7
P-1002	54.6	P-1032	11.0	P-1062	0.1	P-1092	0.0	P-1117	0.5
P-1003	0.0	P-1034	0.0	P-1063	0.0	P-1093	0.0	P-1118	16.4
P-1008	0.0	P-1035	0.0	P-1064	0.3	P-1095	0.7	P-1119	3.6
P-1011	0.1	P-1038	2.4	P-1065	0.0	P-1096	1.8	P-1120	1.5
P-1012	0.1	P-1040	0.0	P-1069	0.0	P-1098	0.2	P-1121	0.0
P-1014	0.0	P-1041	0.0	P-1071	5.0	P-1101	0.0	P-1122	0.2
P-1015	24.3	P-1042	20.5	P-1073	12.0	P-1102	0.0	P-1123	0.0
P-1016	0.0	P-1045	16.4	P-1074	8.6	P-1103	0.0	P-1124	1.5

P-1017	0.0	P-1046	2.2	P-1075	17.3	P-1104	2.3	P-1125	0.0
P-1018	8.9	P-1047	0.0	P-1078	7.7	P-1105	0.0	P-1127	0.0
P-1020	17.4	P-1048	15.0	P-1079	2.7	P-1106	14.0	P-1128	12.3
P-1023	0.0	P-1049	9.1	P-1080	0.0	P-1107	1.6	P-1129	27.8
P-1025	7.1	P-1050	12.5	P-1081	0.0	P-1108	0.0	P-1131	17.4
P-1026	0.1	P-1052	52.7	P-1082	0.0	P-1110	0.1	P-1133	97.5
P-1027	0.0	P-1054	0.0	P-1083	0.0	P-1112	6.6	P-1134	52.8
P-1028	71.7	P-1055	37.0	P-1086	0.0	P-1113	5.8	P-1135	72.8
P-1029	2.9	P-1056	41.7	P-1088	3.1	P-1114	56.4	P-1137	4.2
P-1030	0.0	P-1058	9.4	P-1089	2.2	P-1115	3.7	P-1138	31.9

Permit	Acre-Feet	Permit	Acre-Feet	Permit	Acre-Feet
P-1140	0.9	P-1152	0.0	P-1161	5.7
P-1141	19.0	P-1153	5.0	P-1162	1.6
P-1143	1.2	P-1154	0.2	P-1164	0.0
P-1144	10.6	P-1155	120.4	P-1165	0.3
P-1145	11.1	P-1156	0.0	P-1166	0.0
P-1146	2.5	P-1157	8.4	P-1167	0.3
P-1147	17.1	P-1158	4.2	P-1168	0.0
P-1150	17.1	P-1159	0.0		
P-1151	0.0	P-1160	0.0		



Appendix B

Annual Financial Report by Ede & Company, LLC.

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT
Annual Financial Report
For the Year Ended September 30, 2020**

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT
Annual Financial Report
For the Year Ended September 30, 2020**

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ANNUAL FILING AFFIDAVIT

THE STATE OF TEXAS X
 X
COUNTY OF BANDERA X

I, Don Sloan of the BANDERA COUNTY RIVER AUTHORITY AND GROUND WATER DISTRICT hereby swear, or affirm, that the district named above has reviewed and approved at a meeting of the Board of Directors of the District on the 14th day of January, 2021, its annual audit report for the year ended September 30, 2020 and that copies of the annual report have been filed in the district office located, at BANDERA, TX.

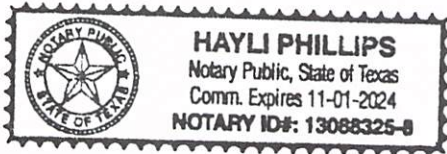
This annual filing affidavit and the attached copy of the annual audit report are being submitted to the Texas Commission on Environmental Quality in satisfaction of all annual filing requirements within Section 49.194 of the Texas Water Code.

Dated JAN 18, 2021

By: Don Sloan
(Signature of District Representative)

DON SLOAN, PRESIDENT
(Type Name & Title of above District Representative)

Sworn to and Subscribed to before me this 18th day of January, 2021



Hayli Phillips
(Signature of Notary)

Commission Expires on 11/2024

Hayli Phillips
(Print Name of Notary)

Notary Public in and for the State of Texas.

EDE & COMPANY, LLC

Certified Public Accountants

Eric Ede
Donna Ede Jones

P. O. Box 219
Knippa, Texas 78870
Telephone (830) 934-2148
Fax (830) 934-2799
Email: edecpa@hotmail.com

INDEPENDENT AUDITOR'S REPORT

Board of Directors
Bandera County River Authority
and Groundwater District
P. O. Box 177
Bandera, Texas 78003

We have audited the accompanying financial statements of the governmental activities, each major fund, and the aggregate remaining fund information of the Bandera County River Authority and Groundwater District, as of and for the year ended September 30, 2020 and the related notes to the financial statements, which collectively comprise the District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, each major fund, and the aggregate remaining fund information of the Bandera County River Authority and Groundwater District, as of September 30, 2020, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

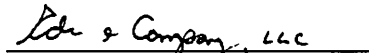
Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and budgetary comparison information as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Bandera County River Authority and Groundwater District's basic financial statements. The analysis of taxes receivable is presented for purposes of additional analysis and are not a required part of the basic financial statements. The Schedule of Delinquent Taxes Receivable has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.


Ede & Company, LLC
Certified Public Accountants
Knippa, Texas

January 7, 2021

MANAGEMENT'S DISCUSSION AND ANALYSIS

In accordance with Governmental Accounting Standards Board ("GASB") Statement No. 34, the management of the Bandera County River Authority and Ground Water District (the "District") offers the following narrative on the financial performance of the District for the year ended September 30, 2020. Please read it in connection with the District's financial statements that follow.

For purposes of GASB Statement No. 34, the District is considered a special purpose government. This allows the District to present the required fund and government-wide statements in a single schedule. The requirement for fund financial statements that are prepared on the modified accrual basis of accounting is met with the "Total Governmental Funds" column. An adjustment column includes those entries needed to convert to the full accrual basis government-wide statements. Government-wide statements are comprised of the Statement of Net Position and the Statement of Activities.

FINANCIAL HIGHLIGHTS

- The District's total combined net position was \$442,215.97 at September 30, 2020.
- During the year, the District's expenses were \$50,443.96 more than the \$1,209,076.45 generated in taxes, service fees and other revenues for governmental activities.
- The total cost of the District's programs increased during the current year.
- The general fund reported a fund balance this year of \$109,750.98.
- The District's net position decreased \$50,443.96 which represents a 14.55 percent decrease from 2019

OVERVIEW OF THE FINANCIAL STATEMENTS

This annual report consists of three parts—management's discussion and analysis (this section), the basic financial statements, and required supplementary information. The basic financial statements include two kinds of statements that present different views of the District: The *Statement of Net Position and Governmental Funds Balance Sheet* includes a column (titled "Total Governmental Funds") that represents a balance sheet prepared using the modified accrual basis of accounting. The adjustments column converts those balances to a balance sheet that more closely reflects a private-sector business. Over time, increases or decreases in the District's net position will indicate financial health. The *Statement of Activities and Governmental Funds Revenues, Expenditures, and Changes in Fund Balances* includes a column (titled "Total Governmental Funds") that derives the change in fund balances resulting from current year revenues, expenditures, and other financing sources or uses. These amounts are prepared using the modified accrual basis of accounting. The adjustments column converts those activities to full accrual, a basis that more closely represents the income statement of a private-sector business.

The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The statements are followed by a section of *required supplementary information* that further explains and supports the information in the financial statements.

FINANCIAL ANALYSIS OF THE DISTRICT AS A WHOLE

The District's combined net position was \$442.2 thousand at September 30, 2020. (See Table A-1).

Table A-1
BANDERA COUNTY RIVER AUTHORITY AND
GROUND WATER DISTRICT

	Governmental Activities		Total Percentage Change 2020 - 2019
	2020	2019	
Current assets:			
Cash and cash equivalents	\$ 173.4	\$ 169.8	2.12%
Accounts receivable	1.4	-	#DIV/0!
Property taxes receivable (net)	79.8	54.2	47.23%
Due from other governments	1.3	0.8	62.50%
Prepayments	7.8	6.6	18.18%
Total current assets	<u>263.7</u>	<u>231.4</u>	<u>13.96%</u>
Noncurrent assets:			
Capital Assets	590.9	590.9	0.00%
Less accumulated depreciation	(296.1)	(278.6)	6.28%
Total noncurrent assets	<u>294.8</u>	<u>312.3</u>	<u>-5.60%</u>
Total Assets	<u>558.5</u>	<u>543.7</u>	<u>2.72%</u>
Current liabilities:			
Accounts payable and accrued liabilities	92.7	26.3	252.47%
Total Liabilities	<u>92.7</u>	<u>26.3</u>	<u>252.47%</u>
Net Position:			
Invested in capital assets	271.4	312.4	-13.12%
Unrestricted	<u>170.8</u>	<u>205.1</u>	<u>-16.72%</u>
Total Net Position	<u>\$ 442.2</u>	<u>\$ 517.5</u>	<u>-14.55%</u>

Changes in net position. The District's total revenues were 1,209.1 thousand. A significant portion, 81 percent, of the District's revenue comes from property taxes. (See Figure A-3.) and 2% from permits on new wells.

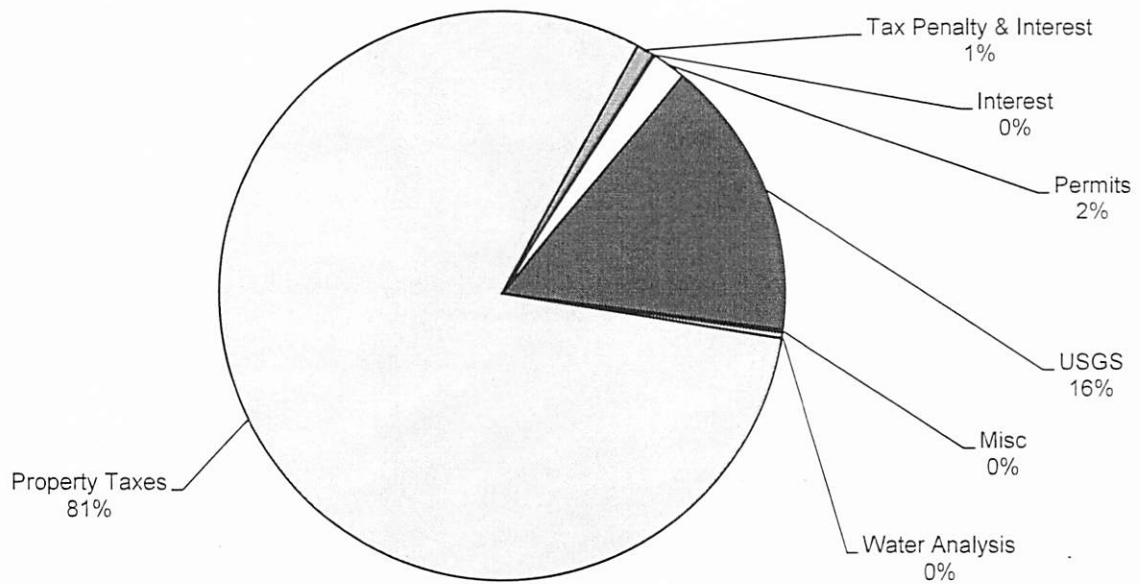
The total cost of all programs and services was \$1,259.5 thousand; 100 percent of these costs are for General Government.

Table A-2

Changes in Bandera County River Authority and Groundwater District's Net Position
(In thousands dollars)

	Governmental Activities		Total Percentage Change 2020-2019
	2020	2019	
General Revenue			
Property Taxes	971.9	905.4	7.34%
Penalty & Interest	12.3	11.3	8.85%
USGS	194.3	197.1	-1.42%
New Well Applications & Permits	23.7	20.8	13.94%
Other	6.9	8.1	-14.81%
Total Revenue	1,209.1	1,142.7	5.81%
Program Expenses			
General Government	1,259.5	1,229.9	2.41%
Total Expense	1,259.5	1,229.9	2.41%
Increase (Decrease) in Net Position	\$ (50.4)	\$ (87.2)	-42.20%

2020 Revenue Sources



2020 Expenses

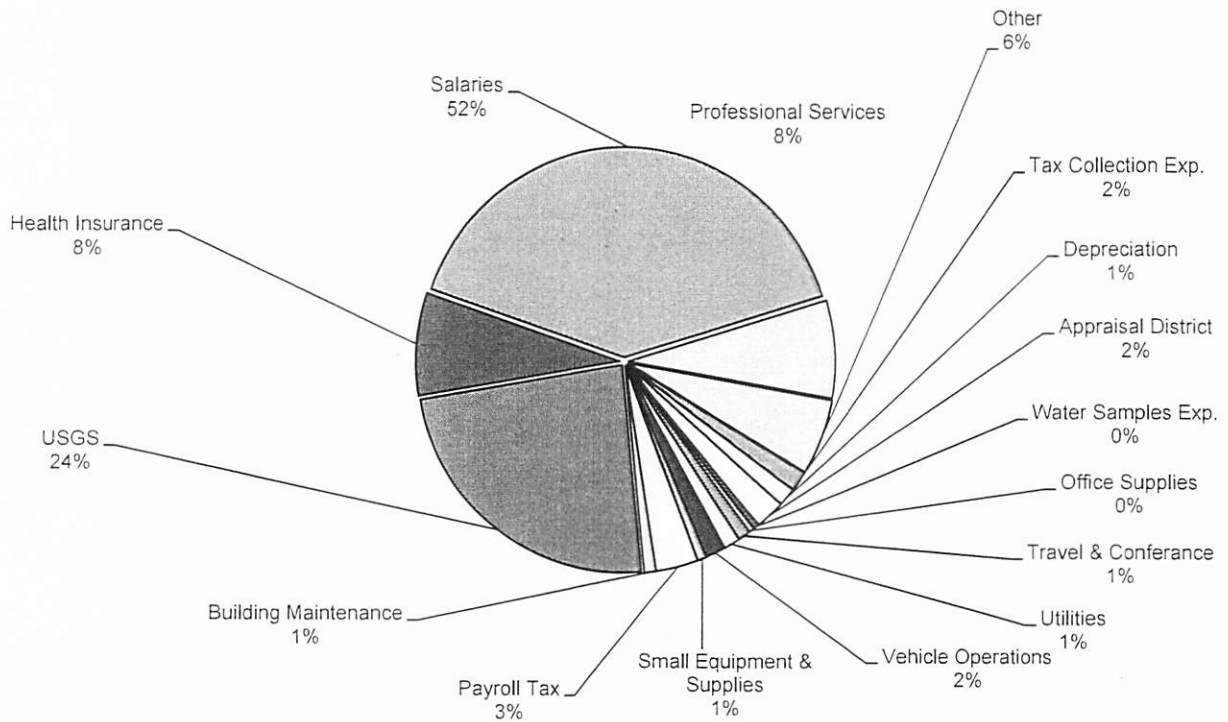


Table A-3 presents the cost of each of the District's largest functions as well as the major administrative categories.

- The cost of all *governmental* activities this year was 1,259.5 thousand.

Table A-3
Net Cost of Selected District Functions & Major Administrative Categories
(in thousands of dollars)

	Total Costs of Services		
	2020	2019	Percent Change
Salaries	504.0	479.8	5.04%
Professional Services	94.6	164.4	-42.46%
Health Insurance	99.6	91.0	9.45%
Small Equipment & Supplies	8.6	8.2	4.88%
Vehicle Operations	19.6	23.7	-17.30%
Utilities	16.1	15.4	4.55%
Travel & Conference	12.3	13.7	-10.22%
Office Supplies	5.4	6.7	-19.40%
Water Samples Exp.	5.5	5.6	-1.79%
Appraisal District	29.5	25.4	16.14%
Depreciation	17.5	22.5	-22.22%
Tax Collection Exp.	19.5	18.2	7.14%

FINANCIAL ANALYSIS OF THE DISTRICT'S FUNDS

General Fund Budgetary Highlights

Over the course of the year, the District revised its budget many times. Even with these adjustments, actual expenditures were \$4,325.73 below final budget amounts. Resources available were \$4,576.66 above the final budgeted amount.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

At the end of 2020, the District had invested \$591.0 thousand in a broad range of capital assets, including land, equipment, buildings, and vehicles. (See Table A-4.) This amount represents a net increase (including additions and deductions) of 0.0 percent over last year.

Table A-4
District's Capital Assets
(in thousands of dollars)

	Governmental Activities		Percentage Change 2020-2019
	2020	2019	
Land	\$ 150.0	\$ 150.0	0.0%
Building and Improvements	172.1	172.1	0.0%
Vehicles	114.3	114.3	0.0%
Monitoring Wells & Equipment	154.6	154.6	0.0%
Totals at historical cost	591.0	591.0	0.0%
Total Accumulated Depreciation	(296.1)	(256.1)	15.6%
Net Capital Assets	\$ 294.9	\$ 334.9	-11.9%

Debt Administration

At the end of the year the district had no Debt..

ECONOMIC FACTORS AND NEXT YEAR'S BUDGETS AND RATES

- Appraised value used for the 2021 budget preparation increase approximately 1.6% from 2020.
- Tax rates for 2021 will increase to \$0.04489.

These indicators were taken into account when adopting the general fund budget for 2020. Amounts available for appropriation are approximately \$1.14 million.

Expenditures are budgeted at approximately \$1.14 million. The District continues to coordinate local funds with federal funds to optimize instructional programs.

If these estimates are realized, the District's budgetary general fund balance is expected to remain the same by the close of 2021

CONTACTING THE DISTRICT'S FINANCIAL MANAGEMENT

This financial report is designed to provide our citizens, taxpayers, customers, and investors and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the money it receives. If you have questions about this report or need additional financial information, contact the District's Business Office.

Basic Financial Statements

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT**
Statement of Net Position and Governmental Funds Balance Sheet
September 30, 2020

	General Fund	Special Revenue Fund	Total Governmental Funds	Adjustments	Statement of Net Position
ASSETS					
Cash and investments	\$ 154,074.36	\$ 19,274.99	\$ 173,349.35	\$ -	\$ 173,349.35
Accounts receivable	1,394.49	-	1,394.49	-	1,394.49
Taxes receivable (net)	61,092.03	18,725.01	79,817.04	-	79,817.04
Due from other governments	1,256.21	-	1,256.21	-	1,256.21
Prepayments	7,766.76	-	7,766.76	-	7,766.76
Capital assets (net of accumulated depreciation)					
Land	-	-	-	150,000.00	150,000.00
Building	-	-	-	124,760.31	124,760.31
Monitoring wells & equipment	-	-	-	4,227.65	4,227.65
Vehicles	-	-	-	15,866.40	15,866.40
Total assets	<u>\$ 225,583.85</u>	<u>\$ 38,000.00</u>	<u>\$ 263,583.85</u>	<u>294,854.36</u>	<u>558,438.21</u>
LIABILITIES					
Accounts payable	\$ 54,688.06	\$ 38,000.00	\$ 92,688.06	-	92,688.06
Payroll liabilities	52.78	-	52.78	-	52.78
Total liabilities	<u>54,740.84</u>	<u>38,000.00</u>	<u>92,740.84</u>	<u>-</u>	<u>92,740.84</u>
DEFERRED INFLOW OF RESOURCES					
Unavailable Revenue- Property Taxes	61,092.03	-	61,092.03	(54,260.70)	6,831.33
Total Deferred Inflows of Resources	<u>61,092.03</u>	<u>-</u>	<u>61,092.03</u>	<u>(54,260.70)</u>	<u>6,831.33</u>
FUND BALANCES/NET POSITION					
Fund balances:					
Committed	71,282.00	-	71,282.00	(71,282.00)	-
Unassigned	38,468.98	-	38,468.98	(38,468.98)	-
Total Fund Balance	<u>109,750.98</u>	<u>-</u>	<u>109,750.98</u>	<u>(109,750.98)</u>	<u>-</u>
Total liabilities deferred inflows and fund balances	<u>\$ 225,583.85</u>	<u>\$ 38,000.00</u>	<u>\$ 263,583.85</u>		
Net Position:					
Invested in capital assets, net of related debt				271,372.96	271,372.96
Unrestricted				170,843.01	170,843.01
Total net position				<u>\$ 442,215.97</u>	<u>\$ 442,215.97</u>

The accompanying notes are an integral part of this statement.

BANDERA COUNTY RIVER AUTHORITY AND GROUND WATER DISTRICT

Statement of Activities and Governmental Funds Revenues, Expenditures and Changes in Fund Balances For the Year Ended September 30, 2020

	General Fund	Special Revenue Fund	Total Governmental Funds	Adjustments	Statement of Activities
Revenues:					
Property taxes	\$ 964,348.71	\$ -	\$ 964,348.71	\$ 7,530.72	\$ 971,879.43
Property taxes penalty & interest	12,319.05	-	12,319.05	-	12,319.05
Interest income	991.87	-	991.87	-	991.87
Permits and deposits	23,660.00	-	23,660.00	-	23,660.00
USGS Flood Project Funding	-	187,500.00	187,500.00	-	187,500.00
USGS Gauge Station	6,800.00	-	6,800.00	-	6,800.00
Miscellaneous	1,796.10	-	1,796.10	-	1,796.10
Non Compliance Penalty	-	-	-	-	-
Water analysis	4,130.00	-	4,130.00	-	4,130.00
Total revenues	<u>1,014,045.73</u>	<u>187,500.00</u>	<u>1,201,545.73</u>	<u>7,530.72</u>	<u>1,209,076.45</u>
Expenditures/expenses:					
Service operations:					
Appraisal District	29,516.22	-	29,516.22	-	29,516.22
Bonds & Insurance	9,027.36	-	9,027.36	-	9,027.36
Building Maintenance	11,615.08	-	11,615.08	-	11,615.08
Dues & Subscriptions	9,798.38	-	9,798.38	-	9,798.38
Education	7,541.03	-	7,541.03	-	7,541.03
Computer Software and Support	6,786.36	-	6,786.36	-	6,786.36
Small Equipment & Supplies	8,616.63	-	8,616.63	-	8,616.63
Health Insurance	99,585.14	-	99,585.14	-	99,585.14
Retirement	13,794.52	-	13,794.52	-	13,794.52
Monitoring Units	2,471.25	-	2,471.25	-	2,471.25
Office Supplies	5,358.91	-	5,358.91	-	5,358.91
Office Rent	3,600.00	-	3,600.00	-	3,600.00
Payroll Tax	40,608.32	-	40,608.32	-	40,608.32
Postage	614.72	-	614.72	-	614.72
Professional Services	94,638.10	-	94,638.10	-	94,638.10
Salaries	504,621.54	-	504,621.54	(637.73)	503,983.81

Tax Collection Exp.	19,533.94	-	19,533.94	-	19,533.94
GMA Expense	1,469.50	-	1,469.50	-	1,469.50
Travel & Conferences	12,254.98	-	12,254.98	-	12,254.98
Employee Training	7,993.82	-	7,993.82	-	7,993.82
Utilities	16,133.81	-	16,133.81	-	16,133.81
USGS - Gauges	36,980.00	-	36,980.00	-	36,980.00
USGS - Flood Control Project	76,170.00	187,500.00	263,670.00	-	263,670.00
Vehicle Operations	19,613.61	-	19,613.61	-	19,613.61
Water Quality Project	2,042.78	-	2,042.78	-	2,042.78
Water Samples Exp.	5,491.56	-	5,491.56	-	5,491.56
Well Plugging & Logging	120.53	-	120.53	-	120.53
Clean Rivers Program	4,975.48	-	4,975.48	-	4,975.48
Illegal Dumping -Litter Abatement	420.03	-	420.03	-	420.03
Invasives - Zebra Mussels	149.74	-	-	-	-
Riparian Project	50.00	-	50.00	-	50.00
Brush Control	3,550.00	-	3,550.00	-	3,550.00
Depreciation	-	-	-	-	-
Total expenditures/expenses	<u>1,055,143.34</u>	<u>187,500.00</u>	<u>1,242,493.60</u>	<u>17,514.80</u>	<u>1,259,370.67</u>
Excess (deficiency) of revenues over expenditures	<u>(41,097.61)</u>	<u>-</u>	<u>(41,097.61)</u>	<u>(9,346.35)</u>	<u>(50,443.96)</u>
Other financing sources (uses)					
Transfers in	-	-	-	-	-
Transfers out	-	-	-	-	-
Total other financing sources (uses)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Change in fund balance/net position	<u>(41,097.61)</u>	<u>-</u>	<u>(41,097.61)</u>	<u>(9,346.35)</u>	<u>(50,443.96)</u>
Fund balance/net position:					
Beginning of the year	150,848.59	-	150,848.59	341,811.34	492,659.93
End of the year	<u>\$ 109,750.98</u>	<u>\$ -</u>	<u>\$ 109,750.98</u>	<u>\$ 332,464.99</u>	<u>\$ 442,215.97</u>

The accompanying notes are an integral part of this statement.

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting policies of Bandera County River Authority (the “District”) conform with accounting principles generally accepted in the United States of America as promulgated by the Governmental Accounting Standards Board. The following is a summary of the most significant policies:

A. Reporting Entity

The Bandera County River Authority was created by Acts of the 71st Legislature of the State of Texas. The District was established as a conservation and reclamation district. The authority of the Bandera County River Authority was incorporated into the Springhills Water Management District through enabling legislation appearing as Act of June 17, 1989, Ch. 654, 1989, Tex. Gen. Laws 2155 (Vernon) The Springhills Water Management District. continued all of the programs and activities initiated by the River Authority, and implemented the programs required of a ground water conservation district. On April 10, 2003 the TCEQ authorized changing the District’s name to the Bandera County River Authority and Ground Water District.

The District’s Board of Directors, a nine member group, has governance responsibilities over all activities related to the District’s operations within the jurisdiction of Bandera County River Authority and Ground Water District. Because members of the Board of Directors are elected by the public, they have the primary accountability for fiscal matters. The Governmental Accounting Standards Board has established the criteria for determining whether or not an entity is a primary government, a component unit of a primary government or a related organization. A primary government has a separately elected governing body; is legally separate; and is fiscally independent of other state and local governments. Fiscal independence implies that the government has the authority to adopt a budget, levy taxes, set rates, and/or issue bonds without approval from other governments. Under these criteria, the District is considered a primary government and is not a component unit of any other government. Additionally, no other entities meet the criteria for inclusion in the District’s financial statements as component units.

B. Government –wide and Fund Financial Statements

For purposes of GASB Statement No. 34, the District is considered a special purpose government. This allows the District to present the required fund and government-wide statements in a single schedule. The requirement for fund financial statements that are prepared on the modified accrual basis of accounting is met with the “Total Governmental Funds” column. An adjustment column includes those entries needed to convert to the full accrual basis government-wide statements. Government-wide statements are comprised of the statement of net position and the statement of activities.

The government-wide financial statements report information on all of the activities of the District. The effect of interfund activity has been removed from these statements.

The statement of activities demonstrates what the District did with the revenue it raised.. The government-wide financial statements (i.e., the statement of net position and the statement of changes in net position) report information on all of the nonfiduciary activities of the primary government.

C. Measurement Focus, Basis of Accounting, and Financial Statement Presentation

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Property taxes are recognized as revenues in the year for which they are levied.

The total governmental fund column of the government-wide financial statements is reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible

**Bandera County River Authority and
Ground Water District**
Notes to the Financial Statements
For the Year Ended September 30, 2020

within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the government considers revenues to be available if they are collected within thirty-one days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

No accrual for property taxes collected within sixty days of year end has been made as such amounts are deemed immaterial; delinquent property taxes at year end are reported as deferred inflows of resources.

Fund Accounting

The District uses funds to maintain its financial records during the year. A fund is defined as a fiscal and accounting entity with a self-balancing set of accounts. The District only uses governmental funds.

Governmental Funds

Governmental funds are those through which most governmental functions typically are financed. Governmental funds reporting focuses on the sources, uses and balances of current financial resources.

Expendable assets are assigned to the various governmental funds according to the purpose for which they will be paid. The difference between governmental fund assets and liabilities is reported as fund balance.

The District reports the following major governmental funds:

General Fund – The General Fund is used to account for all financial resources of the District except those required to be accounted for in another fund.

Special Revenue Fund – The Special Revenue Fund is used to account for grant funds.

D. Budgets

The budget is adopted on a basis consistent with accounting principles generally accepted in the United States of America. The annual budget appropriations lapse at the fiscal year end. The adopted budget is not a spending limitation under law but rather an operating plan. The District does not use the encumbrance system; therefore purchase orders, contracts and other commitments for the expenditure of resources are not recorded as a reserve of fund balance.

E. Capital Assets

General capital assets generally result from expenditures in the governmental funds. These assets are reported in the statement of net position column of the government-wide statement of net position but are not reported in the general fund column.

All capital assets are capitalized at cost (or estimated historical cost) and updated for additions and retirements during the year. The District maintains a capitalization threshold of \$5,000 for equipment, and all additions to infrastructure are capitalized. Improvements are capitalized; the cost of normal maintenance and repairs that do not add to the value of the asset or materially extend the asset's life are not.

The District depreciates capital assets using the straight-line method over the following estimated useful lives:

<u>Assets</u>	<u>Years</u>
Buildings	40
Monitoring Wells	20
Vehicles and Road Equipment	7
Office Equipment	7
Computer Equipment	7

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

F. Deferred Inflows and Outflows of Financial Resources

A deferred inflow of financial resources is the acquisition of resources in one period that is applicable to a future period, while a deferred outflow of financial resources is the consumption of financial resources in one period that is applicable to a future period. A deferred inflow results from the acquisition of an asset without a corresponding revenue or assumption of a liability. A deferred outflow results from the use of an asset without a corresponding expenditure or reduction of a liability. At the fund level, property taxes receivable do not meet the availability criteria required for revenue recognition and are recorded as deferred inflows of financial resources.

G. Net Position

Governmental Activities Governmental accounting standards establish the following three components of net position:

Net investment in capital assets – represents the District's investments in capital assets, less any outstanding debt or other borrowings used to acquire those assets.

Restricted – consists of financial resources that are restricted for a specific purpose by enabling legislation or external parties.

Unrestricted – resources not included in the other components.

H. Fund Balances

Governmental Funds Governmental accounting standards establish the following fund balance classifications:

Nonspendable - amounts that cannot be spent either because they are in nonspendable form or because they are legally or contractually required to be maintained intact.

Restricted - amounts that can be spent only for specific purposes because of constitutional provisions or enabling legislation or because of constraints that are externally imposed by creditors, grantors, contributors, or the laws or regulations of other governments.

Committed - amounts that can be used only for specific purposes determined by a formal action of the Board of Directors. The Board is the highest level of decision-making authority for the District. Commitments may be established, modified, or rescinded only through ordinances or resolutions approved by the Board. Committed fund balance also incorporates contractual obligations to the extent that existing resources in the fund have been specifically committed for use in satisfying those contractual requirements.

Assigned - amounts that do not meet the criteria to be classified as restricted or committed but that are intended to be used for specific purposes.

Unassigned - all other spendable amounts in the General Fund. When an expenditure is incurred for which committed, assigned, or unassigned fund balances are available, the District considers amounts to have been spent first out of committed funds, then assigned funds, and finally unassigned funds.

I. Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

J. Reconciliation of Government-wide and General Fund Financial Statements

**Reconciliation of General Fund Balance to
Net Position of Governmental Activities
September 30, 2020**

Total General Fund Balance	\$ 109,750.98
Amounts reported in governmental activities in the statement of net position are different because:	
Capital assets used in the governmental activities are not financial resources and therefore are not reported in the funds.	288,887.76
Accumulated depreciation has not been included in the general fund financial statements.	(17,514.80)
Revenue reported as deferred revenue in the general fund was recorded as revenue in the government-wide financial statements.	61,092.03
Net Position of Governmental Activities	\$ <u>442,215.97</u>

**Reconciliation of the Statement of Revenues, Expenditures and
Changes in Fund Balances of Governmental Funds to the
Statement of Activities**

Net Change in Governmental Fund Balances	\$ (41,097.61)
Amounts reported for the governmental activities in the statement of activities are different because:	
Various other reclassifications and eliminations are necessary to convert from the modified accrual basis of accounting to accrual basis	7,530.72
Governmental funds report capital outlays as expenditures. However, they are reported as increases in capital assets in the government-wide financial statements.	637.73 -
Depreciation is not recognized as an expense in governmental funds since it does not require the use of current financial resources. The effect of the current year's depreciation is to decrease net position.	(17,514.80)
Change in Net Position of Governmental Activities	\$ <u>(50,443.96)</u>

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

NOTE 2 – DEPOSITS, SECURITIES AND INVESTMENTS

District Policies and Legal and Contractual Provisions Governing Deposits

Custodial Credit Risk for Deposits State law requires governmental entities to contract with financial institutions in which funds will be deposited to secure those deposits with insurance or pledged securities with a fair value equaling or exceeding the amount on deposit at the end of each business day. The pledged securities must be in the name of the governmental entity and held by the entity or its agent. Since the District complies with this law, it has no custodial credit risk for deposits.

Foreign Currency Risk The District limits the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit by not participating in foreign currency transactions.

District Policies and Legal and Contractual Provisions Governing Investments

Compliance with the Public Funds Investment Act

The **Public Funds Investment Act** (Government Code Chapter 2256) contains specific provisions in the areas of investment practices, management reports, and establishment of appropriate policies. Among other things, it requires a governmental entity to adopt, implement, and publicize an investment policy. That policy must address the following areas: (1) safety of principal and liquidity, (2) portfolio diversification, (3) allowable investments, (4) acceptable risk levels, (5) expected rates of return, (6) maximum allowable stated maturity of portfolio investments, (7) maximum average dollar-weighted maturity allowed based on the stated maturity date for the portfolio, (8) investment staff quality and capabilities, (9) and bid solicitation preferences for certificates of deposit.

Statutes authorize the entity to invest in (1) obligations of U.S. Treasury, certain U.S. agencies, and the State of Texas, (2) certificates of deposit, (3) certain municipal securities, (4) money market savings accounts, (5) repurchase agreements, (6) bankers acceptances, (7) mutual funds, (8) investment pools, (9) guaranteed investment contracts, (10) and common trust funds. The Act also requires the entity to have independent auditors perform test procedures related to investment practices as provided by the Act. The District is in substantial compliance with the requirements of the Act and with local policies.

Additional policies and contractual provisions governing deposits and investments are specified below:

Credit Risk To limit the risk that an issuer or other counterparty to an investment will not fulfill its obligations the District limits investments to depository bank certificates of deposits and state sponsored investment pools.

Custodial Credit Risk for Investments To limit the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in possession of an outside party the District requires counterparties to register the securities in the name of the District and hand them over to the District or its designated agent. All of the securities are in the District's name and held by the District or its agent.

Concentration of Credit Risk To limit the risk of loss attributed to the magnitude of a government's investment in a single issuer, the District investments in both depository bank certificates of deposits and state sponsored investment pools.

Interest Rate Risk To limit the risk that changes in interest rates will adversely affect the fair value of investments, the District requires the investment portfolio to have maturities of less than one year on a weighted average maturity basis.

Foreign Currency Risk for investments The District limits the risk that changes in exchange rates will adversely affect the fair value of an investment by not investing in foreign currencies.

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

NOTE 3 – DUE FROM OTHER GOVERNMENTS

This balance represents taxes and penalty and interest that were collected by the Tax Assessor-Collector, before September 30, 2020, but not remitted to the District.

NOTE 4 – PROPERTY TAXES

Ad valorem taxes and penalties and interest are reported as revenue in the fiscal year in which they become available to finance expenditures of that year. Property taxes attach as an enforceable lien on property as of January 31. Taxes are levied on October 1 and are due and payable at that time. All unpaid taxes levied on October 1 become delinquent on February 1 at which time the applicable property is assessed penalty and interest until paid. On July 1, the property is subject to lien plus penalties and interest until paid. The annual tax levy is recorded as a charge to taxes receivable and a credit to deferred revenues, after subtracting that portion estimated to be uncollectible. As taxes are collected monthly, the deferred revenue account is reduced and revenue from tax collections is recognized. Uncollectible taxes are recorded in such a manner so as to reflect the amount of taxes reasonably estimated to be uncollectible based on prior experience.

NOTE 5 – PENSION PLAN OBLIGATIONS

The District's employees do not participate in a public retirement system, but are covered by Social Security.

NOTE 6 – CAPITAL ASSET ACTIVITY

Capital asset activity for the twelve months ended September 30, 2020, was as follows:

	Beginning Balances	Increases	Decreases	Ending Balances
Governmental activities:				
<i>Capital assets not being depreciated:</i>				
Land	150,000	-	-	150,000
Total capital assets not being depreciated	150,000	-	-	150,000
<i>Capital assets being depreciated:</i>				
Buildings and Improvements	172,083	-	-	172,083
Vehicles	114,301	-	-	114,301
Monitoring Wells & Equipment	154,602	-	-	154,602
Total capital assets being depreciated	440,986	-	-	440,986
Less accumulated depreciation for:				
Buildings and Improvements	43,021	4,302	-	47,323
Vehicles	104,875	5,198	-	110,073
Monitoring Wells & Equipment	130,721	8,015	-	138,735
Total accumulated depreciation	278,617	17,515	-	296,131
Total capital assets being depreciated, net	162,369	(17,515)	-	144,854
Governmental activities capital assets, net	\$ 312,369	\$ (17,515)	\$ -	\$ 294,854

**Bandera County River Authority and
Ground Water District
Notes to the Financial Statements
For the Year Ended September 30, 2020**

NOTE 7 - RISK MANAGEMENT

The District is exposed to various risks of loss related to intentional and unintentional torts; theft of; damage to and destruction of assets; errors and omissions; natural disasters; health and dental benefits to employees; and employee accidents and injuries for which the District carries commercial insurance. There have been no significant reductions in insurance coverage from the previous year; no settlements have exceeded insurance coverage in any of the past three years. The District participates in the Texas Municipal League Intergovernmental Risk Pool. The District is not aware of any pending claims for which expected liability would exceed the limits of the commercial insurance coverage.

NOTE 8 - CONTINGENCIES

The District is periodically involved in legal actions and claims that arise as a result of events that occur in the normal course of operations. The ultimate resolution of these actions is not expected to have a material adverse effect on the District's financial position.

Required Supplementary Information

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT
Budgetary Comparison Statement - General Fund
For Year Ended September 30, 2020**

	<u>Actual</u>	<u>Original Budget</u>	<u>Final Amended Budget</u>	<u>Variance Positive (Negative)</u>
Revenues:				
Property taxes	\$ 964,348.71	\$ 975,900.00	\$ 975,900.00	\$ (11,551.29)
Property taxes penalty & interest	12,319.05	-	-	12,319.05
Interest income	991.87	520.00	520.00	471.87
Permits and deposits	23,660.00	18,000.00	18,000.00	5,660.00
USGS Gauge Station	6,800.00	6,800.00	6,800.00	-
Miscellaneous	1,796.10	2,500.00	2,500.00	(703.90)
Water analysis	4,130.00	6,000.00	6,000.00	(1,870.00)
Total revenues	<u>1,014,045.73</u>	<u>1,009,720.00</u>	<u>1,009,720.00</u>	<u>4,325.73</u>
Expenditures:				
Service operations:				
Appraisal District	29,516.22	27,000.00	27,000.00	(2,516.22)
Bonds & Insurance	9,027.36	11,000.00	11,000.00	1,972.64
Building Maintenance	11,615.08	20,000.00	20,000.00	8,384.92
Dues & Subscriptions	9,798.38	10,000.00	10,000.00	201.62
Education	7,541.03	19,500.00	13,000.00	5,458.97
Computer Software and Support	6,786.36	8,000.00	9,300.00	2,513.64
Small Equipment & Supplies	8,616.63	17,500.00	9,500.00	883.37
Health Insurance	99,585.14	90,000.00	92,000.00	(7,585.14)
Retirement	13,794.52	14,000.00	14,000.00	205.48
Monitoring Units	2,471.25	1,500.00	1,500.00	(971.25)
Office Supplies	5,358.91	8,000.00	6,000.00	641.09
Office Rent	3,600.00	3,600.00	3,600.00	-
Payroll Tax	40,608.32	35,000.00	44,000.00	3,391.68
Postage	614.72	850.00	850.00	235.28
Professional Services	94,638.10	107,000.00	90,640.00	(3,998.10)
Salaries	504,621.54	495,790.00	505,000.00	378.46
Tax Collection Exp.	19,533.94	-	-	(19,533.94)
GMA Expense	1,469.50	3,500.00	3,500.00	2,030.50
Travel & Conferences	12,254.98	18,000.00	12,000.00	(254.98)
Employee Training	7,993.82	8,000.00	8,000.00	6.18
Utilities	16,133.81	18,000.00	18,000.00	1,866.19
USGS - Gauges	36,980.00	36,980.00	36,980.00	-
Election	-	-	-	-

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT**
Budgetary Comparison Statement - General Fund
For Year Ended September 30, 2020

	<u>Actual</u>	<u>Original Budget</u>	<u>Final Amended Budget</u>	<u>Variance Positive (Negative)</u>
Expenditures: (Continued)				
USGS - Flood Control Project	76,170.00	50,000.00	76,200.00	30.00
Vehicle Operations	19,613.61	20,000.00	20,000.00	386.39
Water Quality Project	2,042.78	8,000.00	3,000.00	957.22
Water Samples Exp.	5,491.56	9,000.00	5,500.00	8.44
Well Plugging & Logging	120.53	6,000.00	5,100.00	4,979.47
Clean Rivers Program	4,975.48	8,000.00	8,000.00	3,024.52
Riparian Project	50.00	1,000.00	1,000.00	950.00
Brush Control	3,550.00	1,500.00	3,550.00	-
Illegal Dumping -Litter Abatement	420.03	1,000.00	500.00	79.97
Invasive - Zebra Mussels	149.74	1,000.00	1,000.00	850.26
Contingences	-	1,000.00	-	-
	<u>1,055,143.34</u>	<u>1,059,720.00</u>	<u>1,059,720.00</u>	<u>4,576.66</u>
Excess (deficiency) of revenues over expenditures	<u>(41,097.61)</u>	<u>(50,000.00)</u>	<u>(50,000.00)</u>	<u>8,902.39</u>
Other financing sources (uses)				
Transfers out	-	-	-	-
Total other financing sources (uses)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Change in fund balance/net position	(41,097.61)	(50,000.00)	(50,000.00)	8,902.39
Fund balance:				
Beginning of the year	150,848.59	150,848.59	150,848.59	-
End of the year	\$ <u>109,750.98</u>	\$ <u>100,848.59</u>	\$ <u>100,848.59</u>	\$ <u>8,902.39</u>

**BANDERA COUNTY RIVER AUTHORITY
AND GROUND WATER DISTRICT
Schedule of Delinquent Taxes Receivable
For the Year Ended September 30, 2020**

LAST TEN YEARS ENDED SEPTEMBER 30,	TAX RATE	ASSESSED VALUE FOR TAX PURPOSES (in thousands)	BEGINNING BALANCE 10/1/19	CURRENT YEAR TOTAL LEVY	ENTIRE YEAR'S ADJUSTMENTS	TOTAL COLLECTIONS	BALANCE 9/30/20
2010 & Prior	Var	Var	\$ 7,261.20		\$ (828.70)	\$ 368.60	\$ 6,063.90
2011	.023414	1,796.477	1,446.78		(16.38)	52.96	1,377.44
2012	.024474	1,842.781	1,798.83		(15.59)	66.25	1,716.99
2013	.026001	1,878.945	2,296.03		(4.84)	98.62	2,192.57
2014	.028058	1,903.192	2,674.36		61.48	262.00	2,473.84
2015	.034739	2,015.732	4,231.79		64.76	594.35	3,702.20
2016	.037300	2,088.705	6,767.59		130.90	1,646.87	5,251.62
2017	.039280	2,151.203	10,265.46		116.88	3,083.19	7,299.15
2018	.040339	2,245.731	21,493.77		(224.83)	9,928.20	11,340.74
Current	.042165	2,245.731	23,040.00	971,494.26	385.17	948,247.67	23,631.76
			<u>\$ 81,275.81</u>	<u>\$ 971,494.26</u>	<u>\$ (331.15)</u>	<u>\$ 964,348.71</u>	<u>\$ 65,050.21</u>