Bandera County River Authority & Groundwater District

Protecting & Preserving our Natural Resources

General Manager's Report

Dave Mauk, General Manager

January 14, 2021

Our Mission

“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 State 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.”

Groundwater Reports

Quarterly Well Report

Registered Wells 1st Quarter FY 2021

- October - 12 wells
- November - 17 wells
- December - 12 wells

Total 1st Quarter 2021 = 41 wells

Registered Wells 1st Quarter FY 2020

- October - 12 wells
- November - 5 wells
- December - 1 well

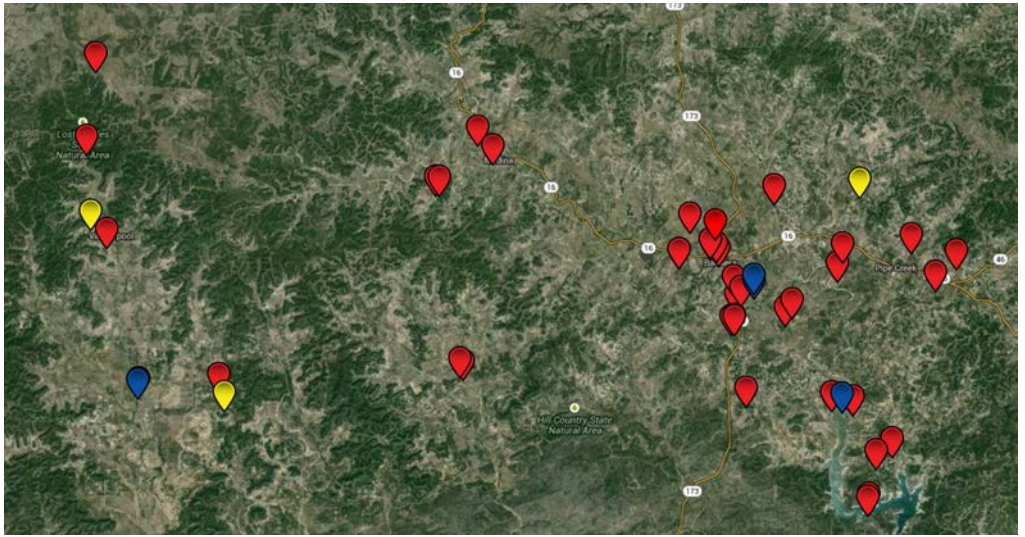
Total 1st Quarter 2020 = 18 wells

Permitted Wells - 0 APPR; 3 PNDG

Variance Requests - 6 approved,
0 pending

Monitor Well Program

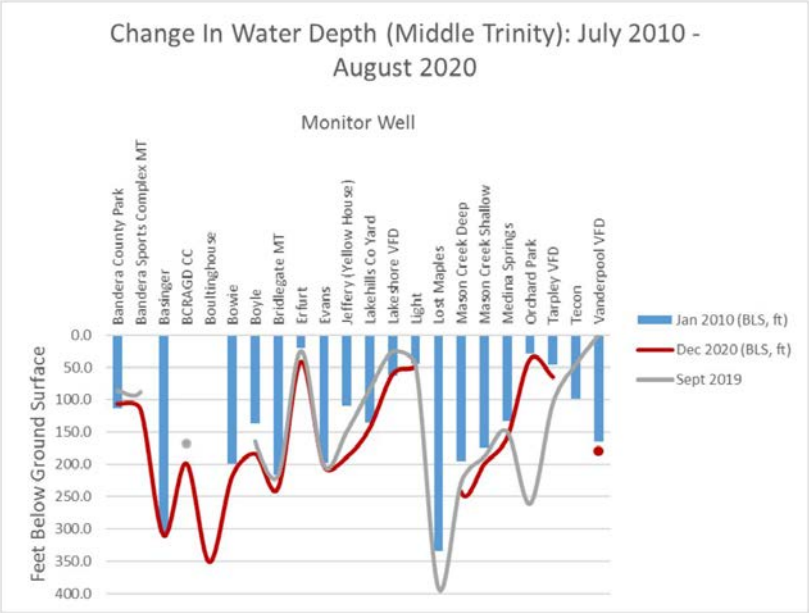
- 42 monitor wells
- Static levels collected monthly
- Water Quality samples collected quarterly



Groundwater Evaluation

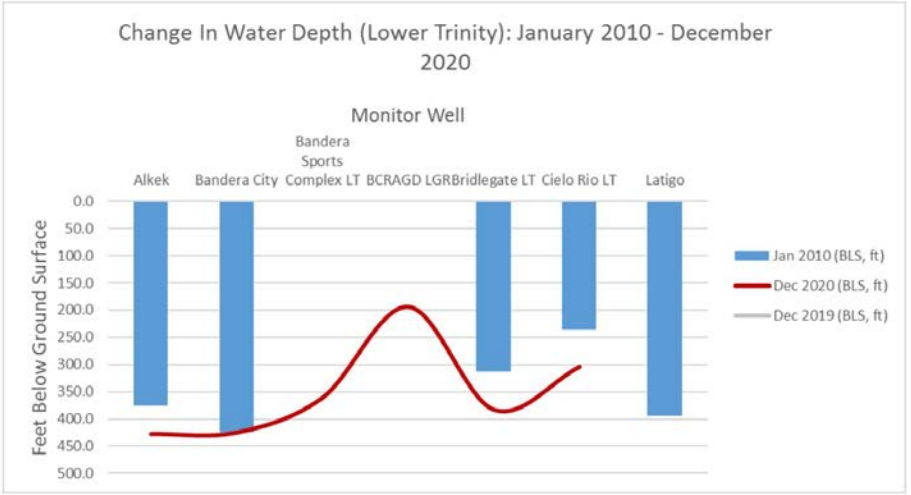
Middle Trinity Aquifer

1-Year Change (Sept 2019 - Dec 2020)	10-Year Change (Jan 2010 - Dec 2020)
-27.2%	-16.8%



Lower Trinity Aquifer

1-Year Change (Dec 2019 - Dec 2020)	10-Year Change (Jan 2010 - Dec 2020)
-6.12%	-14.65%

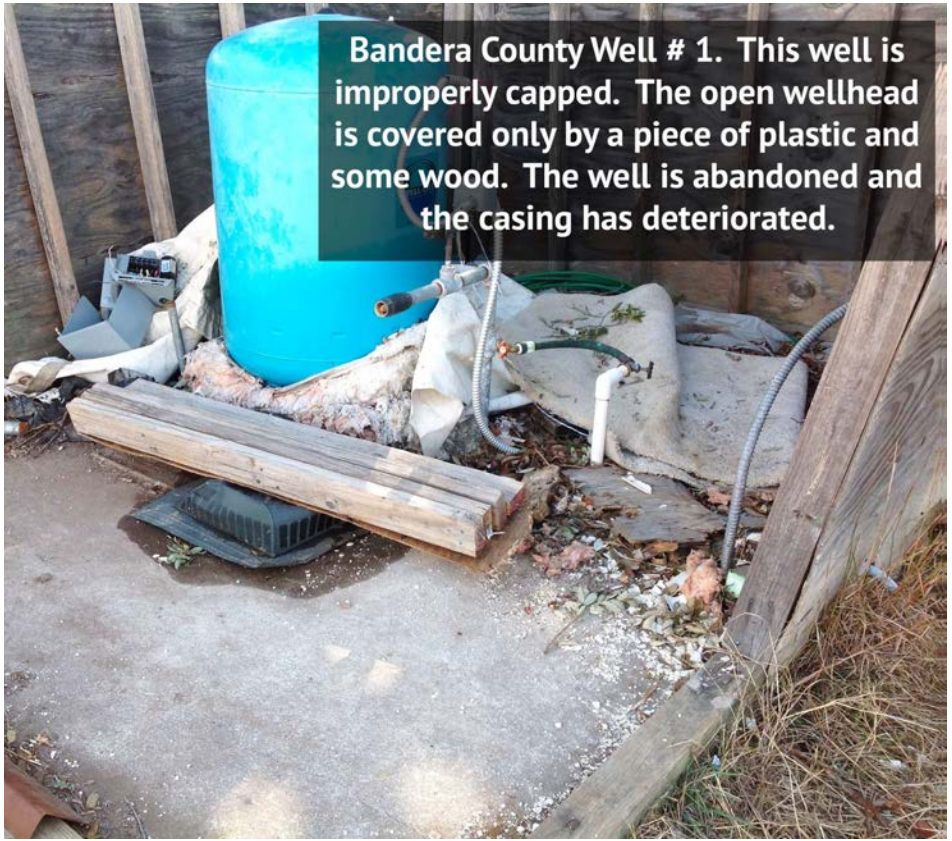


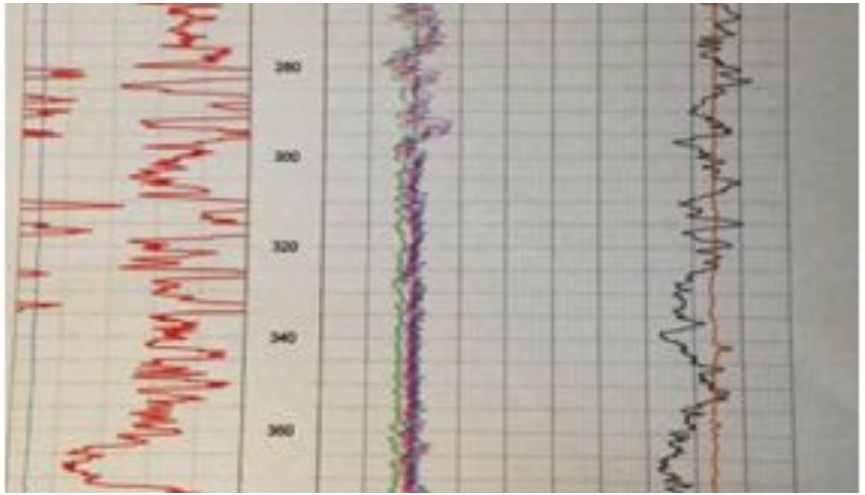
Edwards Group of the Edwards - Trinity (Plateau) Aquifers (Edwards Monitor Well)

1-Year Change (Dec 2019 - Dec 2020)	9-Year Change (June 2011 - Dec 2020)
-0.10%	0.23%

Abandoned Well-Plugging Program

0 Wells Plugged this Quarter





Geophysical Logging Program

4 Geophysical Logs this Quarter

Groundwater Analyses

1st Quarter 2021

- Mineral Only - 0
- Bacteria Only - 32
- Both - 48

VS

1st Quarter 2020

- Mineral Only - 19
- Bacteria Only - 34
- Both - 43

Investigations

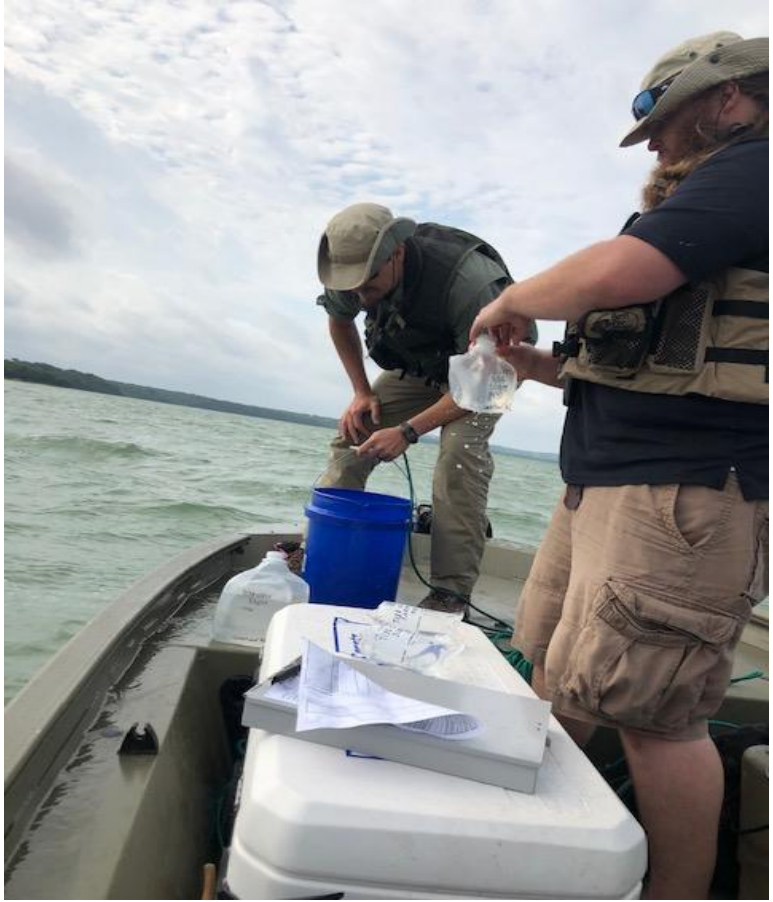
4 Nuisance Complaints

1 Notice of Violations

Illegal Dumping Litter Abatement Program

Illegal dumping includes the following possible violations:

- ➔ Sewage or septic tank failures
- ➔ Illegal trash dumps
- ➔ Violations of TCEQ or EPA rules on dumping waste including, but not limited to, harmful chemicals, VOCs, heavy metals, etc.
- ➔ Any waste of water as defined in the Texas Water Code and BCRAGD rules



Surface Water Reports

Clean Rivers Program

- ➔ Quarterly water quality assessments and samples taken from sites on the Medina River Basin and the Nueces River Basin
  - ◆ 8 Medina River sites
  - ◆ 5 Medina Lake sites
  - ◆ 3 Sabinal River / Seco Creek sites
- ➔ BCRAGD partners with San Antonio River Authority and Nueces River Authority for Quality Assurance/Quality Control, Data Entry, and Laboratory Services
- ➔ Aquatic Life Monitoring with SARA during the summers

CRP Sampling Dates

Sabinal River

- November 18, 2020

Medina River

- October 22, 2020
- November 12 & 17, 2020

Medina Lake

- November 17, 2020
- December 17, 2020

In-House Surface Water Quality Sampling

- ➔ Initiated to monitor surface water quality for the purpose of protecting the resource and public health in frequented recreational areas
- ➔ 22 sites in the Medina and Sabinal Rivers, and Seco Creek, are sampled quarterly during the year
- ➔ Recreational hotspots are sampled bi-weekly during the summer
- ➔ Results are posted on the BCRAGD website and submitted to the local newspaper

Quarterly In-House Results from December 10 and 17, 2020

Results listed below were analyzed at the BCRAGD lab:

Medina Lake - Park @ PR 37	1 MPN	Bandera City Park @ 1st St	56 MPN	W. Prong @ Coalkiln Rd	2420 MPN* 57 MPN**
English Crossing	1553 MPN* 167 MPN**	Tarpley Crossing	71 MPN	W. Prong @ Carpenter Ck	N/A
Bridlegate Park	51 MPN	Ranger Crossing	58 MPN	Williams Ck in Tarpley	Dry
Bandera River Ranch Park	Dry	Moffett Park in Medina	56 MPN	Seco Ck @ RR470	6 MPN
Bandera Creek @ SH 16 S	22 MPN	1st Crossing @ RR337	133 MPN	Sabinal R @ Cornelius Rd	411 MPN* 125 MPN**
Lower Mason Creek	14 MPN	N. Prong, Brewington	7 MPN	Sabinal R @ SH187	Dry
Upstream of WWTP, Bandera	161 MPN	N. Prong, Rocky Ck	5 MPN	Sabinal R @ Lost Maples	4 MPN
Bandera City Park @ SH173	248 MPN	N. Prong, Wallace Ck	43 MPN	Can Creek @ Lost Maples	<1 MPN
Utopia City Park	10 MPN	West Verde Ck @ FM1077	5 MPN		

*indicates that the sample was over the TCEQ threshold

**indicates a resample done on December 17th

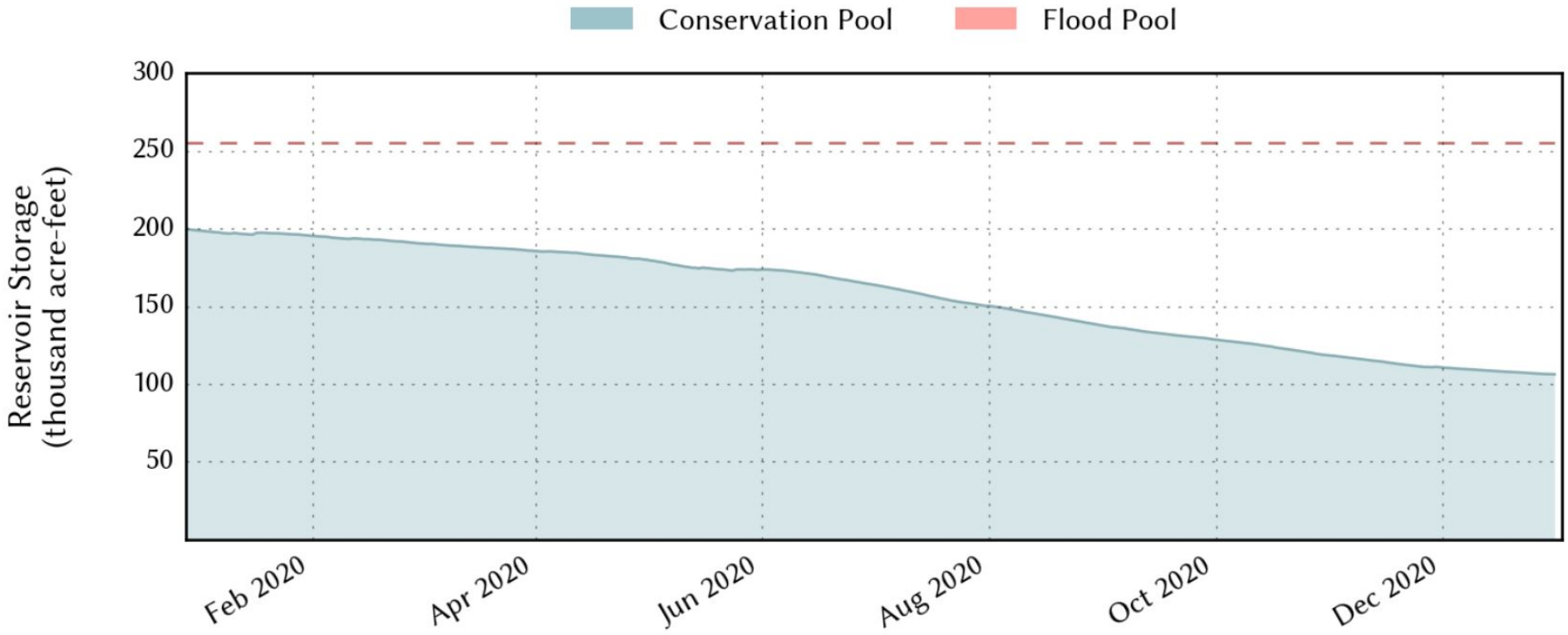
The above results can also be found on the BCRAGD website, www.bcragd.org, and the BCRAGD Facebook page. BCRAGD is not a certified lab. Results are for informational purposes only.

Medina Lake Update

Measurements provided by the Texas Water Development Board's Water Data for Texas website (https://waterdatafortexas.org/reservoirs/individual/medina) accessed for report on December 30, 2020:

- On December 30, 2020 Medina Lake measured 41.7% full.
- On November 30, 2020, Medina Lake measured 43.5% full.
- On September 30, 2020, Medina Lake measured 50.5% full.

Medina Lake Update



Invasive Species Management Update

Arundo Donax Surveys

BCRAGD is continuing our partnership with Texas Parks and Wildlife to control the spread of Arundo Donax, an invasive species in the state of Texas. The Arundo Donax pictured to the left and below are untreated, while the Arundo Donax pictured to the right is treated.

Education & Outreach Programs

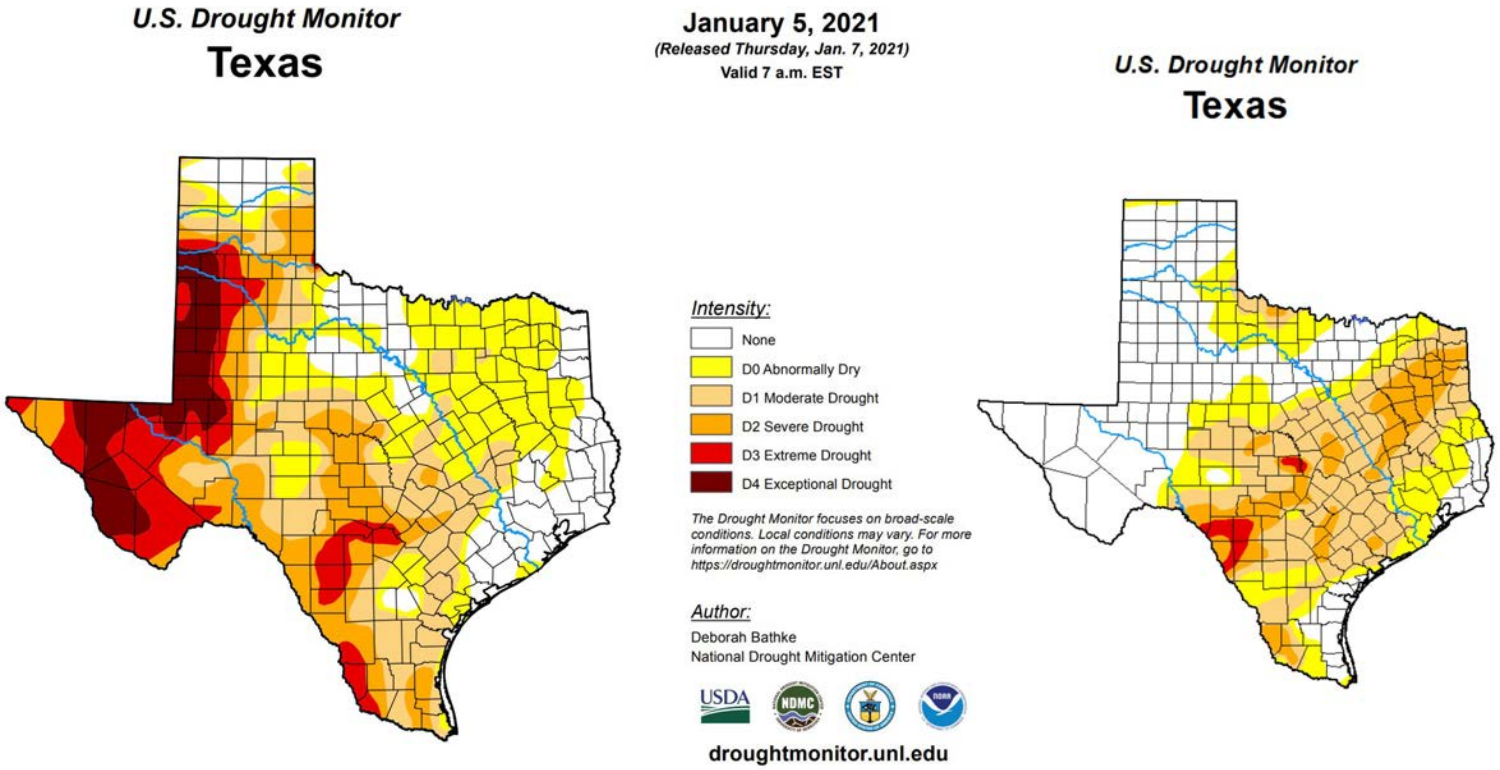
1st Quarter Education

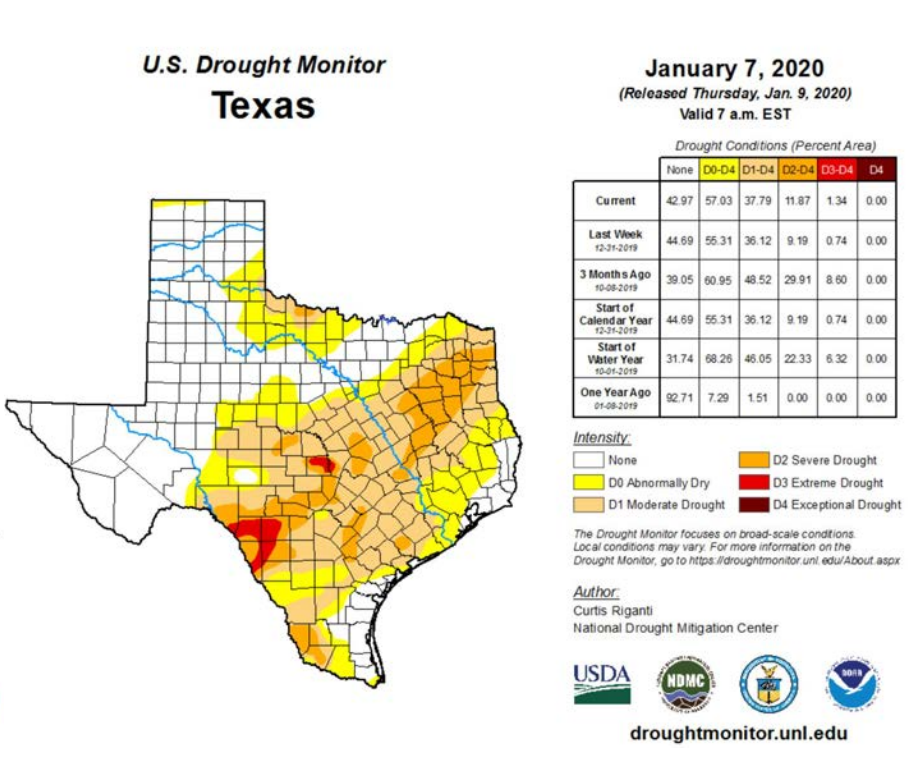
- October 20, 2020 - BCRAGD revived the use of a digital newsletter. The digital newsletter is a quarterly publication that contains information regarding district policies, projects, and other service information that is pertinent for the Bandera County community. This platform provides a direct connection of the District to the public. This newsletter publication highlight was the project headed by Levi Sparks and Clint Carter utilizing ESRI's ArcGIS software to create an interactive web application to allow the public to view water quality results on a mapping platform. Public users have access to the following information: site location, bacteria results, water temperature, and a snapshot of current stream conditions. The link to the map is located on the district website. www.bcragd.org
- October 24, 2020 - BCRAGD participated in the Hill Country Living Festival and Rainwater Revival event. This event was entirely virtual. The Education team developed a short video containing information about watersheds and the importance of conserving and preserving watershed resources. The video also contained detailed instructions on an activity for kids to construct their own watershed to give them an opportunity to gain a better understanding of the ecology of watersheds and how pollution moves through them.

BCRAGD in the Media

BCRAGD is continuing to improve our community outreach through social media. We prioritize posting the latest water quality results, flood awareness and gauge resources, water successes, and news stories. We also keep the public informed on educational visits, informational / educational meetings, and public events.

Drought Monitoring





Rainfall Monitoring

- Gages and Weather Stations
  - USGS gages track precipitation
  - BCRAGD was granted access to a weather station provided by the Edwards Aquifer Authority through a HOBOlink.

- BCRAGD has a network of volunteers called Rainspotters that submit rainfall in inches that they record each month.

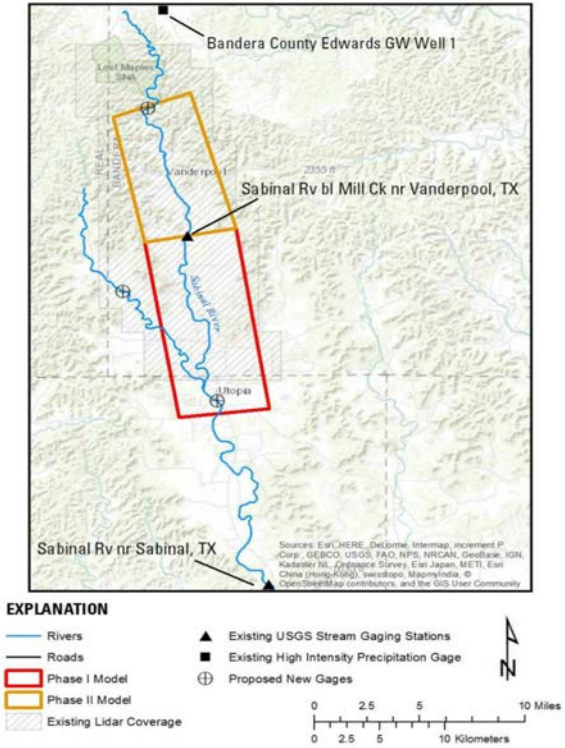
Rainfall Update

Rainfall data for the period OCT-NOV-DEC 2020 from EAA gauge at BCRAGD office reports:

- October = 0.29 inches
- November = 1.12 inches
- December = 0.0 inches

Rainspotter and Electronic data may be subject to revision due to quality assurance standards and non-calibration of equipment recorded or verified. Although compares very well with similar rainfall gauges of stations reviewed that are maintained by USGS within approximate County vicinity.

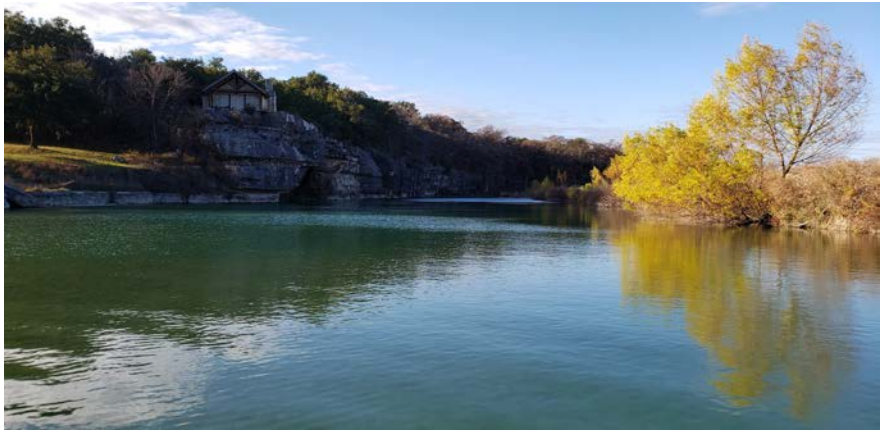
Sabinal River Flood Early Warning System



- Gage sights have been identified and installation of the gages are in the process of being scheduled.
- The project is scheduled for completion in August 2022.

2021 1st Quarter Highlights

BCRAGD staff continued to monitor for Zebra Mussel activity on Medina Lake. Most monitoring events were done by checking the five settlement samplers deployed in strategic locations throughout the lake.



On December 31, 2020, BCRAGD staff accomplished the final sampling event for a joint project with the Edwards Aquifer Authority. In March of 2019, District staff began collecting water samples in and around Coal Springs on a bi-weekly basis for isotopic analysis. The goal of this project is designed to provide more information on surface water/groundwater interactions within the Coal Springs complex.

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