

Annual Report

Fiscal Year 2021

Lynn Smith, P.G. - General Manager

12/1/2021



This report describes the status of various goals that are stated in the District's Management Plan. It also serves to provide information to the Board of Directors and interested members of the public regarding activities performed by the District during the 2021 fiscal year.

Executive Summary

In the 2021 fiscal year, the Mesquite Groundwater Conservation District continued to face a number of challenges related to the COVID-19 pandemic. State-wide meetings were moved to a virtual environment and interaction with local agencies and schools continued to be limited. Despite these challenges, the District was able to stay open to the public. Lynn Smith continues in his full-time role as General Manager. Harmony Siemens is relatively new in her role as Secretary. Troy Thomason and Kimber Bawcom continue to serve the District as part-time Field Technicians. One new part-time staff member, Shaylee Rose also contributed to the District's successes.

The District continued to administer a meter grant program. The grant monies are used for water meters involved in agricultural production and must be matched dollar-for-dollar by the landowner. The water meters are used to quantify water conservation strategies implemented within the District. Additionally, for previous grants, the sixth annual report was completed by the District this year and was accepted by the Texas Water Development Board (TWDB).

Annual Production Report submittal and receipt, along with related enforcement activities have taken up the bulk of Staff time early this fiscal year. Staff also spent considerable time issuing drilling permits and checking proposed well locations for compliance with the District's rules for well spacing and well density.

The District was selected for auditing by the State Auditor's Office this year. Significant time was spent on this activity during the middle and later portion of the fiscal year. Results from the audit were positive with only two areas that needed additional work.

The District continues to measure water levels and rainfall. Several water quality tests were performed for wells within the District. Other District activities included providing educational seminars and funding an internship program.

Significant time was spent working through potential Rule changes that will address the decline in groundwater levels within the District. These Rule changes will be implemented during the next fiscal year.

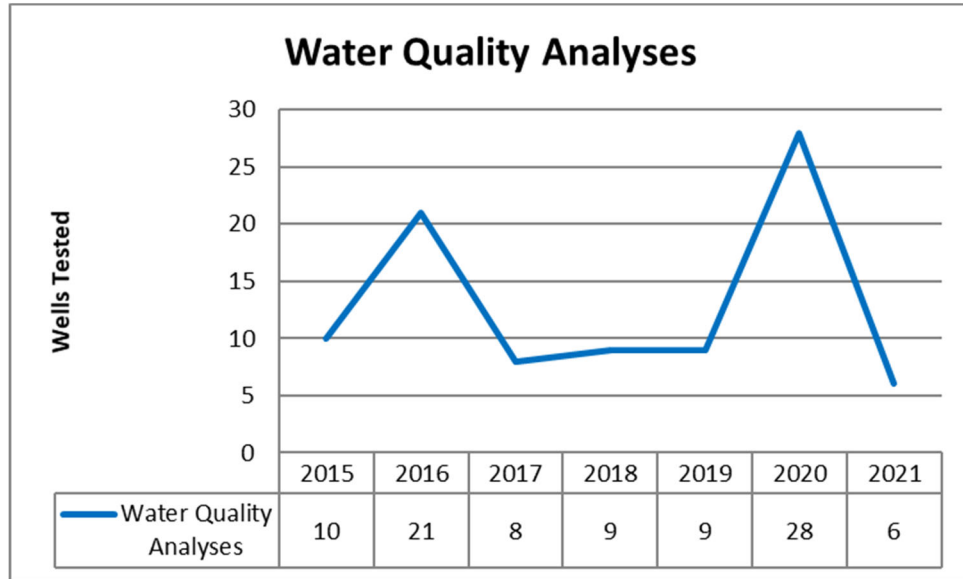
The remainder of this report provides details on activities of the District during this fiscal year. They are categorized into goals that appear in the District's Management Plan. Comparisons with previous year's data are made, where appropriate.

Management Goal 1: Addressing Conservation

Objective 1.1: Conduct water quality analyses of requested wells

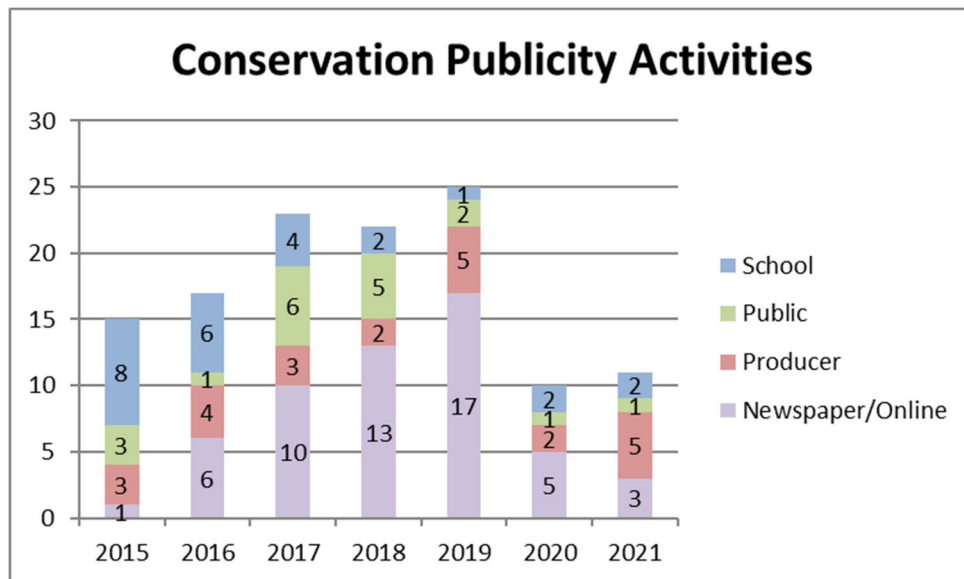
The performance standard for this objective is to conduct the requested analyses within forty-eight hours of receipt of the water sample. Six water quality analyses were performed this fiscal year; each

was analyzed within forty-eight hours of receipt of the sample. Results were provided to the owner or well contractor as appropriate.



Objective 1.2: Publicize groundwater conservation issues through local newspapers, group presentations, schools, and other media opportunities

The performance standard for this objective is to publicize groundwater conservation issues using the above outlets on at least one occasion by September 30th of each year. Where applicable, the Texas Water Development Board conservation webpage and best management practices should be used. In this fiscal year, the District publicized conservation issues in three newspaper/online articles, at five producer meetings, at one public meeting, and two school presentations. We continue to track our publicity work through online outlets such as Facebook posts. They are combined with the print newspaper data. This is one area which was dramatically affected by COVID-19 control measures. We are beginning to see a return to normal in most areas except school presentations which are still limited. The District website became corrupted this year and is being redesigned.



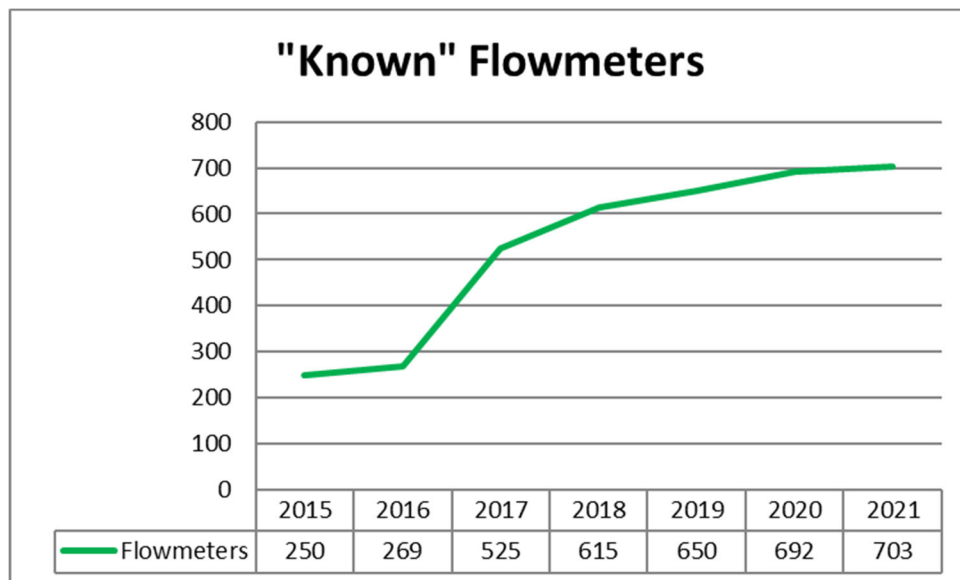
Management Goal 2: Providing the Most Efficient Use of Groundwater

Objective 2.1: Monitor flowmeters on wells to facilitate water usage efficiency studies

The performance standard for this objective is to read and record pumping data from at least ninety percent of flowmeter locations by May 1st each year. District staff received water production data from Producers this fiscal year and then performed quality control checks as needed to determine if the correct meters were being read and also to determine if meters that were reported as broken were, in fact, broken or if they were readable by an experienced technician. It was determined that 588 flowmeter readings reported by Producers or obtained by District staff were useable. This amounts to

83.6 percent of the known flowmeter locations that year. An additional 82 meter readings were either non-sensical or not acquire-able due to the electronic meter being broken. Those 82 readings were reported to the District as being broken or some similar condition. Ninety-five percent of known meter readings were reported in some fashion prior to May 1st but, as noted, only 83.6 percent of those reading were initially useful with the others needed inspection, repair, or replacement.

The popularity of electronic meters coupled with the potential for losing an entire year of data if they fail makes interpreting the District’s meeting or failing to meet this objective a difficult task. We did receive data on greater than ninety percent of the meters by May 1st but not all of that data was useable for the intended purpose. The District will continue to monitor this situation and may develop a different strategy to deal with electronic meter failures in the future. For the fiscal year, thirty-three new flowmeters were installed within the District. District staff inspected each flowmeter location and recorded initial production data at those locations.



Objective 2.2: Publicize the need for efficient use of groundwater through local newspapers, group presentations, schools, and other media opportunities

The performance standard for this objective is to publicize groundwater efficiency issues using the above outlets on at least one occasion by September 30th each year. During this fiscal year, the District publicized efficiency issues at one producer meeting, one public meeting, one school presentation, and maintained our website with conservation and water use efficiency information until said website became corrupted. A new website will be available soon with water efficiency information.

Management Goal 3: Controlling and Preventing Waste of Groundwater

Objective 3.1: Identify and address local irrigation practices that are wasteful of groundwater resources

The performance standard for this objective is to educate the public on wasteful irrigation practices with at least one news article, group presentation, or other local publicity opportunity by September 30th each year. District staff presented three educational seminars that addressed wasteful irrigation practices. Additionally, the District Board reviewed one instance of potential water wasting. Investigation revealed that it was addressed by the well operator prior to the Board's meeting. No action was deemed necessary by the Board.

Objective 3.2: Maintain a program to identify, locate, and obtain closure of abandoned wells

3.2a The performance standard for this sub-objective is to inspect and complete a report on each open or abandoned well within thirty days of receipt of the report of such well. District staff did not receive any reports of abandoned wells this fiscal year.

3.2b The performance standard for this sub-objective is to notify owners of any open or uncovered well described in 3.2a and seek compliance with Rules and statute. District staff did not receive any reports of abandoned wells this fiscal year.

Management Goal 4: Addressing drought conditions

Objective 4.1: Maintain the District's Drought Contingency Plan

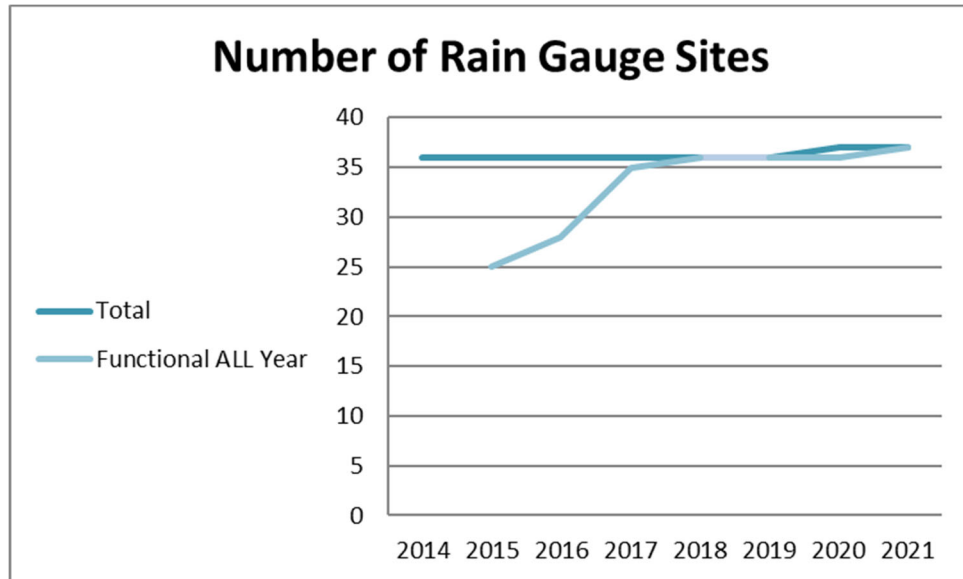
4.1a The performance standards for this sub-objective are to review and update the Drought Contingency Plan by September 30th each year. The Drought Contingency Plan was reviewed at the July Board meeting. No updates were deemed necessary at that time. The District continues to monitor rainfall utilizing a network of thirty-seven rain gauges maintained by the District.

4.1b The performance standard for this sub-objective is to incorporate newly annexed areas into the District's Drought Contingency Plan within a year of annexation. The District has not annexed any additional parcels in Briscoe County this fiscal year. The District will likely annex additional parcels in eastern Briscoe County in the future and is looking at several options for placing another rain gauge in that area. The graph below shows how the number of gauged sites has increased over time as well as the sites that remained functional for the entire year. The map on Page Seven depicts the rainfall amounts that were recorded at thirty-seven gauge sites that remained functional for the entire fiscal year. The data has been gridded and contoured to estimate likely rainfall amounts between gauge sites.

For the sites that were functional in FY 2020 and FY 2021, the average rainfall was 8.8 inches greater in FY 2021. This represents an average of 31.8 inches of rain across the District. As always, there are outliers with specific gauges showing anywhere from three inches less than last year to thirty-two inches

more than last year. The area on the map of deep blue trending toward red received approximately twice the average annual rainfall for this region.

The District spent significant time upgrading the rain gauge sites to be more resistant to being chewed up by rats and other animals in 2017 and 2018. That effort is shown in the high percentage of gauges that remained functional for more than a full fiscal year. In fact, no gauge has failed since 2017. A new gauge was added last year in northeast Collingsworth county.



Management Goal 5: Address recharge enhancement

Objective 5.1: Recharge Enhancement

5.1a The performance standard for this sub-objective is to review and update the District's Recharge Enhancement Feasibility Study by September 30th, at least once annually. The District completed the study on July 1, 2018. It was reviewed by the District's Board during their July 2020 meeting with no updates being deemed necessary.

5.1b The performance standard for this sub-objective is, if opportunity and funding become available, to team with private or public entities on Recharge Enhancement projects within the District. No projects were available to be funded or performed during the 2020 fiscal year.

Management Goal 6: Addressing Rainwater Harvesting

Objective 6.1: Rainwater Harvesting

6.1a The performance standard for this sub-objective is to publish an article in a newspaper of standard circulation at least once per year regarding rainwater harvesting with a focus on any projects established within the District. One article was published in a local newspaper highlighting rainwater harvesting projects within the District.

6.2b The performance standard for this sub-objective is to provide a summary of rainwater harvesting projects within the District.

A rainwater harvesting demonstration project was constructed at Ellison Park in Wellington in the spring and summer of 2014. The District cooperated with Bawcom Supply, AgriLife, and the City of Wellington to construct the project. FY2015 year saw the tank fill with water from rainfall. AgriLife has accepted responsibility for continuing the project as of August 2015 and plans to use it for students to learn about the principles of rainwater harvesting and strategies for conservation irrigation. No projects were performed during the 2021 fiscal year and the equipment has been removed.

A rainwater harvesting project was constructed at the office of First Priority Irrigation in Collingsworth County. The project is successfully providing water for use as sprayer make-up water.

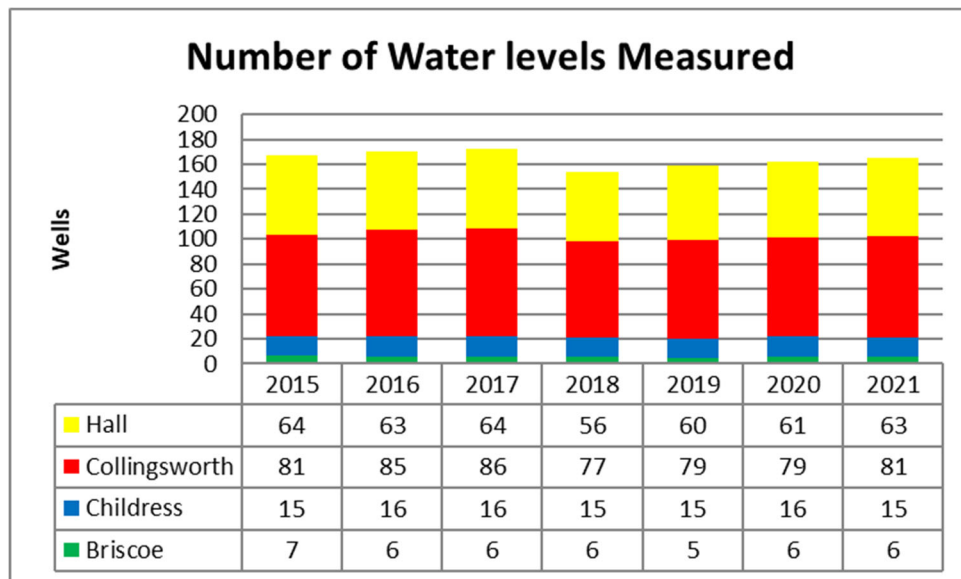
A rainwater harvesting project is planned at the District office. Needed roofing repairs are now complete with the rainwater harvesting project installation planned for Spring 2022.

Management Goal 7: Addressing the Desired Future Conditions Adopted by the District

Objective 7.1: Monitor static water levels in selected wells

The performance standard for this objective is to measure the static water level in at least one hundred wells within the District by April 1st. The District measured water levels in 165 wells within the District. The District will likely annex additional parcels in Briscoe County in the near future and is looking at several options for monitoring additional wells in that area.

The District has invested in three automated water level monitoring systems. One is installed in Collingsworth County within Seymour Aquifer Pod One. The second system is installed in Hall County within Seymour Aquifer Pod Two. The third system is not yet installed. The District continues to refine this program and will add new locations for water level measurements as they become available.



Objective 7.2: Complete hydrographs in monitored wells

The performance standard for this objective is to complete the hydrographs for the monitored wells by July 1st and provide them to the Board at their next regularly scheduled meeting. Hydrographs were not complete by July 1st but were completed soon afterward and provided to the Board at their July and August meetings.

Related to this objective, a special study of the water level decline within Seymour Aquifer Pod One was funded in FY 2020 and completed this fiscal year. It provided a greater understanding of that pod and confirmed that the District's Desired Future Conditions standard for that pod were not being met with the current weather and pumpage conditions. The District recognizes the need for more stringent rules in that pod to address water level declines that exceed the District's DFC for that pod. Unfortunately, Seymour Aquifer Pod Two is exhibiting some of the similar trends now that were seen in Pod One several years ago. As a result, rule-making will be conducted District-wide rather than just within Pod One.

Other District Activities

Data and Mapping

The District completed scanning and geo-referencing driller's logs, permits, and well registrations that existed in the District's hardcopy files in 2015. New well data is scanned and geo-referenced as it is received. Meter location and cumulative readings are now being entered into a database and can be analyzed and mapped as needed. Rainfall gauge locations and monthly measurements are also being entered into a database and can now be analyzed and mapped. This data is readily available to individuals to support decisions such as plugging, drilling, or rehabilitating a well, as well as to the District Board in support of setting Desired Future Conditions and other conservation actions by it.

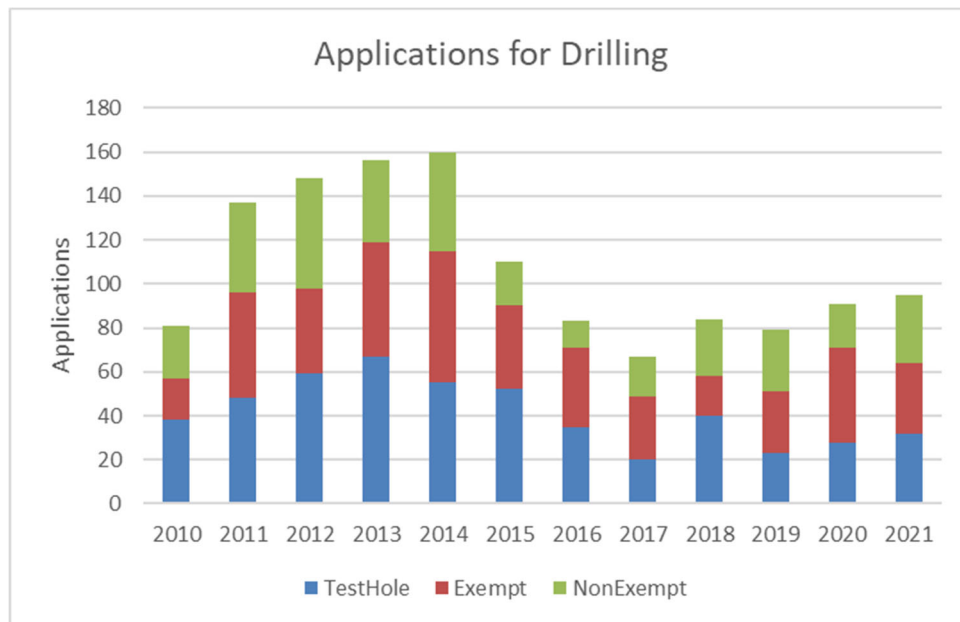
Declaration of Groundwater Production Units (GPUs) is complete for existing non-exempt water production, but new GPUs are being added for areas where new non-exempt production occurs. ArcGIS mapping software is used to capture the extents of each GPU, as well as features unique to each one. The addition of GPUs to District records enables a much more streamlined response to water wasting complaints and similar matters. Eventually, they will be the basis for production limits if aquifer Desired Future Conditions are not being met.

Aquifer assignments for each well in the database started being made in FY 2016. Prior to that, some wells had been assigned to an aquifer by the Texas Water Development Board and others. The initial focus of the District has been on the group of wells the District measures water levels in. There are approximately 850 additional wells with cutting descriptions sufficiently detailed enough to assign to an aquifer. The District has some form of data on an additional 3,000 wells, but it is insufficient for assigning an aquifer. This work will continue and be refined as additional data becomes available. The District has also found it useful to assign aquifers to meters. This work has started but is not yet complete.

Long term, all of this data will be used to measure the District’s compliance with our Desired Future Condition statement. While it is hoped that the Desired Future Condition is met in all geographic areas of the District, the data may also be useful to indicate areas where additional conservation efforts are needed without placing burdens on all the District water users as a whole.

Drilling Activities

The graph below shows the number of applications for testhole drilling and the number of applications for drilling a well. Keep in mind that not all applicants actually drilled after making application with the District and also that each testhole application may result in several testholes being drilled rather than one-to-one as the well applications are. The best use of the graph is as an indication of how drilling activities have changed over time. The applications submitted in 2021 represent a six year high.



Joint Planning

The District is actively involved in joint planning activities at the Area, Regional, and State level. The District has a voting membership in the Groundwater Management Area Six and the Region A Water Planning Group. These groups make decisions that affect the District both from a goal/rule setting standpoint and a monetary standpoint. All groups are on track with their planning and have held all required meetings. All full-time staff attend at least two state-wide meetings of groundwater conservation districts each year. The District is a voting member of the Texas Alliance of Groundwater Districts and the Region A Water Planning Group. As the Legislature continues to set more mandates for these groups (and the District); participation in them will only grow in importance.

Extra-District Activities

District staff participated in several organizations this year such as Texas Association of Groundwater Districts and the Texas Groundwater Association. Lynn currently serves on the TAGD Groundwater

Protection Committee and Legislative Committee. While these organizations do not directly manage groundwater, they do provide opportunities for inter-district cooperation and education on many levels. They also provide a good opportunity for staff to network with other agencies, water well contractors, and the general public.

Certifications and Seals

Mr. Lynn Smith, Texas Professional Geoscientist #11223, provided data analysis and prepared or supervised the preparation of the graphs and maps that occur within this report. He, in his capacity as General Manager and a Professional Geoscientist is responsible for the opinions and conclusions herein. The front cover of this document bears his seal and signature.