

ANNUAL REPORT

2019



LONE STAR
GROUNDWATER
CONSERVATION
DISTRICT

DISTRICT INFORMATION	3
MANAGEMENT	4
BOARD OF DIRECTORS.....	6
MANAGEMENT GOALS.....	9

Goal 10.1: Efficient Use of Groundwater.....	9-10, 13-14
Goal 10.2: Controlling and Preventing Waste of Water	14-15
Goal 10.3: Controlling and Preventing Subsidence.....	16-17
Goal 10.4: Conjunctive Surface Water Issues.....	18
Goal 10.5: Natural Resource Issues.....	19
Goal 10.6: Drought Conditions	20-21
Goal 10.7: Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control Where Appropriate and Cost Effective	22-24
Goal 10.8: Desired Future Conditions	25

EDUCATION & OUTREACH.....	11-12
GROUNDWATER MANAGEMENT AREA 14	26
FINANCIAL SUMMARY	27

CREATION

In 2001, the 77th Texas Legislature, through House Bill 2362, authorized the creation of the Lone Star Groundwater Conservation District (LSGCD). Montgomery County voters then confirmed the District's creation on November 6, 2001, with 73.85 percent of the vote.

Since its creation, LSGCD has carried out its statutorily-mandated functions to conserve and protect groundwater resources in Montgomery County, and has developed a system to ensure that the groundwater supply in Montgomery County will remain a sustainable resource for years to come.

LOCATION & EXTENT

The Lone Star Groundwater Conservation District is located in Montgomery County, in southeastern Texas. Its boundaries are coterminous with the boundaries of Montgomery County, Texas. The District is bordered by Walker County to the north, San Jacinto and Liberty Counties to the east, Harris County to the south, and Waller and Grimes Counties to the west.

Peach Creek is the boundary with San Jacinto County, and Spring Creek forms most of the boundary with Harris County. LSGCD comprises an area of approximately 1,090 square miles.

MISSION

The Lone Star Groundwater Conservation District's Board of Directors adopted a new District Management Plan in March 2019. In doing so the mission statement was revised to properly align with the elected Board's commitment to protecting both public interest and private property rights.

The mission of the Lone Star Groundwater Conservation District includes honoring and protecting private property rights by affording an opportunity for a fair share to every owner of each common, subsurface reservoir underlying Montgomery County. The District is also committed to providing a regulatory program that encourages the best conservation and development practice for the groundwater resources of the county.



DISTRICT OFFICE

655 Conroe Park North Drive
Conroe, Texas 77303
(p) 936-494-3436
(f) 936-494-3438

www.LoneStarGCD.org



KATHY TURNER JONES

General Manager

Kathy Turner Jones is a native Texan, having lived the majority of her life in the Lubbock area before moving to Montgomery County. Ms. Jones earned a Bachelor of Arts and Sciences in Business with a Finance Minor from the University of the Southwest in Hobbs, New Mexico, graduating Summa Cum Laude. She recently completed a Master of Science at Texas A&M University in the Water Management and Hydrological Science Program.

Bringing twelve years of experience in groundwater management, Ms. Jones was named General Manager of the Lone Star Groundwater Conservation District in 2002. There, she has led, and continues to lead, the District in its ongoing mission to conserve, protect, and preserve the groundwater resources of Montgomery County—one of the fastest-growing counties in the nation—currently touting a population of about a half a million residents. Under her

direction, the District established offices in Conroe, developed a core staff, created a well-permitting and registration system, while continually motivating public interest in good groundwater management practices. Ms. Jones has spearheaded many data-driven initiatives over the last decade, increasing the available hydrological research relevant to the area. These initiatives have also included advancements for engineering planning, water usage and water supply analysis, and appropriate, cost-effective regulatory policies.

Ms. Jones serves on several committees, including: Member on Region H Water Planning Group; Chair of GMA 14 Joint Planning Group; Member on Texas Groundwater Protection Committee. She is also an appointment member on the Trinity and San Jacinto and Galveston Bay Basin and Bay Area Stakeholder Committee. Ms. Jones serves as a Trustee for the Texas Water Conservation Association Risk Management Fund and as an Executive Board Member for the Texas Water Conservation Association. She additionally served as president of the Texas Alliance of Groundwater Districts for two terms.



SAMANTHA REITER

Assistant General Manager / Permitting Director

Samantha Reiter was born and raised in Round Rock, Texas. She moved to Montgomery County in 2010 and began her career with Lone Star Groundwater Conservation District. Ms. Reiter earned both an associate degree from Blinn College in Bryan and a Bachelor of Arts degree from Texas A&M University. Ms. Reiter has held a variety of positions with the District, getting her start in 2010 as the Executive Administrative Assistant to the General Manager and worked her way up to Permitting Director in 2012. Ms.

Reiter was recently promoted to Assistant General Manager in July 2017. In addition to her duties as Assistant GM, Ms. Reiter continues to manage the permitting department and oversees the District's GIS and online permitting database. She is also the District's Public Information Officer. Ms. Reiter prides herself on being well versed on the District's rules and regulations as well as staying in tune with legislative changes to groundwater laws in Texas. She is a graduate of Leadership Montgomery County (Class of 2015) and is also involved with the Montgomery County Fair & Rodeo.

Kathy Turner Jones

In March 2019, Kathy Turner Jones resigned as the General Manager of the Lone Star Groundwater Conservation District and announced she accepted a new position as the General Manager with the Prairieland Groundwater Conservation District.

In 2002, Ms. Jones was named General Manager of the newly formed Lone Star Groundwater Conservation District. Under her leadership, the District established groundwater use regulations throughout Montgomery County, and implemented a well permitting and registration program.

During Ms. Jones' leadership at the District, she earned a Master of Science at Texas A&M University in Water Management and Hydrological Science. Throughout her tenure, she served on several committees, including: Region H Planning Group, the Chair of GMA 14 Joint Planning Group and the Texas Groundwater Protection Committee. In addition, Ms. Jones presided as President of the Texas Alliance of Groundwater Districts (TAGD) and as an executive Board Member of Texas Water Conservation Association (TWCA).

Ms. Jones led the Lone Star Groundwater Conservation District through the process of compiling hydrological information on the characteristics of the Upper Gulf Coast Aquifer, engineering, planning, information on water usage and water supply in Montgomery County and implementing policies and procedures associated with the District's rules.

Succeeding Ms. Jones' final General Manager Report at the March Board of Directors meeting, action was taken to approve Resolution #19-003 in gratitude and appreciation of General Manager Kathy Turner Jones for her 17 years of dedicated service at Lone Star Groundwater Conservation District.

The District sincerely appreciates Ms. Jones' many years of leadership and contribution during her tenure as general manager and wishes her the best in her new endeavors in groundwater management. In an effort to show personal appreciation, the District's staff dedicated an arbor garden and plaque on the District grounds in honor of Ms. Jones.





Webb Melder
President

*Represents Conroe |
Term Expires
Dec. 01, 2020*



Harry Hardman
Vice President

*Represents County at Large |
Term Expires
Dec. 01, 2020*



Stuart Traylor
Secretary

*Represents County Precinct #1 |
Term Expires
Dec. 01 2020*



Jim Spigener
Treasurer

*Represents County Precinct #2 |
Term Expires
Dec. 01 2022*



Larry Rogers
Director

*Represents The Woodlands Township |
Term Expires
Jan. 31, 2021*



Jon Paul Bouche
Director

*Represents County Precinct #3 |
Term Expires
Dec. 01, 2022*



Jonathan Prykryl
Director

*Represents County Precinct #4 |
Term Expires
Dec. 01, 2022*

In 2017, the passage of House Bill 1982 by the 85th Texas Legislature Session amended Lone Star Groundwater Conservation District's enabling legislation, changing the previously nine member appointed board to a seven member elected board. Four of the directors are elected from each county commissioner's precincts (Place No. 1-4), one director is elected by the voters at large (Place No. 5), one director is elected from the City of Conroe (Place No. 6) and one director is elected from the Woodlands Township (Place No. 7).

The newly elected Board of Directors were sworn in on November 16, 2018 under the new board structure in which the permanent directors serve in staggered four-year terms and prohibit a director from serving more than three full terms. The LSGCD's Board of Directors serve to protect private property rights, while developing and promoting strategies to both conserve and utilize groundwater resources in Montgomery County.

Webb Melder

Webb Melder was appointed to the Lone Star Groundwater Board of Directors in 2017 by the Montgomery County Commissioner's Court. With the passing of House Bill 1982, Webb Melder was elected on November 6, 2018, as the Place 6 representative to act on behalf of the citizens of the City of Conroe. Following the first meeting held by the newly elected board, Mr. Melder was appointed as President of the Board of Directors. Following his years of service on the Board and even more time spent educating himself on groundwater, Mr. Melder resigned from his position on the board on December 10, 2019. The Lone Star Groundwater Conservation District Board of Directors and staff extend their thanks and appreciation to Mr. Melder for his service to the District and the residents of Montgomery County.

"There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things"

Change is not only likely, it is inevitable.

2019 brought forth transformations and new leadership to Lone Star Groundwater Conservation District. The newly elected Board of Directors began 2019 dedicated to educating themselves on groundwater matters, while recognizing and supporting private property rights.

The District faced ongoing and costly legal challenges following a 2015 lawsuit filed against LSGCD over the District's regulations of groundwater usage. On January 24, 2019 the LSGCD Board approved execution of a Compromise and Settlement Agreement with the City of Conroe, Quadvest, L.P., and other utilities that would end the protracted litigation over the validity of a provision in the District's Regulatory Plan requiring Large Volume Groundwater Users (LVGU) to reduce their groundwater production by thirty-percent (30%).

In March, 2019 Kathy Turner Jones resigned as the General Manager of the Lone Star Groundwater Conservation District after 17 years of dedicated leadership.

With extreme gratitude and appreciation of Ms. Jones' contribution to the District, the Board of Directors accepted her resignation on March 12, 2019 and appointed Samantha Reiter as Interim General Manager.

The LSGCD Board of Directors approved the submission of the District's Groundwater Management Plan for the Texas Water Development Board (TWDB) to begin its review on March 12, 2019. On May 16, 2019 the District received notice that declared the Management Plan was administratively incomplete by the TWDB. Immediately, the District filed a revised plan with a request to initiate a pre-review process with TWDB. Following the Management Plan Pre-Review Recommendation Report provided by the Texas Water Development Board, the District filed Points of Appeal addressing each of the Executive Administrator's reasons for denial of approval of the plan. On October 3, 2019, the TWDB heard the District's appeal requesting reversal of the decision that the District's Management Plan is not administratively complete. The denial of the Management Plan remained, and mediation between TWDB and the District will continue into 2020 to develop possible resolutions and come to an agreement on identified issues.

Transition of the District's leadership provided opportunity for the LSGCD Board of Directors to host town hall meetings across Montgomery County to provide an update on the state of the District, as well as receive stakeholder input on the District's upcoming rule revisions. The public attendance and participation presented concerns over subsidence and fear of water levels dropping in area wells if additional pumping was allowed. The District also received requests that the new rules protect permit holders' investment and apprehension of those already in a GRP or acting as a GRP sponsor. The District emphasized that the discussion and comments received at the town hall meetings would be considered by the District's technical consultants, General Counsel and staff in creating new rules.

To create fair and impartial rules, the Board of Directors elected to participate in various study groups, consisting of a Technical Study Group and a Non-Technical Study Group. The focus of the Technical Study Group is to review rules specific to permits and registrations, reporting requirements, well spacing and location, well operation, production and well maintenance. The Non-Technical Study Group concentrates on the language incorporating the District's Management Plan, rule enforcements, administrative fees and water use fees. Due to changes with District's consultants,

cont'd from page 7

the Study Groups are ongoing, and it is the District's hope to be completed in 2020.

During the August Board Meeting, the LSGCD Board of Directors unanimously approved the promotion of the Interim General Manager, Samantha Reiter to General Manager for the District. In addition to appointing a permanent General Manager, the Board of Directors approved Resolution #19-008, officially adopting water use fees for 2020. With due diligence, District staff worked with Directors Jim Spigener and Larry

Rogers to foresee all reasonably anticipated revenues, expenses, and activities. After much consideration, it was the Director's recommendation to reduce the regulatory water use fee rate of \$0.105 per 1,000 gallons to \$0.085 per 1,000 gallons for all groundwater produced from the Chicot, Evangeline, and Jasper aquifers.

Since the District's inception in 2002, adaption to the growing population within Montgomery County has been paramount. The District remains committed to continuously protecting both public and private interests, and encouraging the best practices in water conservation for groundwater resources in Montgomery County.



SUCCESSFUL ACHIEVEMENT OF 2019 MANAGEMENT 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 that identify the water supply resources and water demands, which 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 District is charged with providing evidence of the District's progress in achieving the management goals set forth in the District's Groundwater Management Plan. The evidence of the District's progress toward each goal is included in this Annual Report and made available to the public after adoption by the board of directors. This report is intended to fulfill the requirement of the District's Groundwater Management Plan in complying with the achievement of management goals as outlined herein.

GOAL 10.1: EFFICIENT USE OF GROUNDWATER

MANAGEMENT OBJECTIVE 1

The District will maintain a monitoring well network to provide coverage across aquifers and measure water levels at least once every calendar year. A written analysis of the water level measurements from the monitoring wells will be made available through a presentation to the Board of Directors at least once every three years.

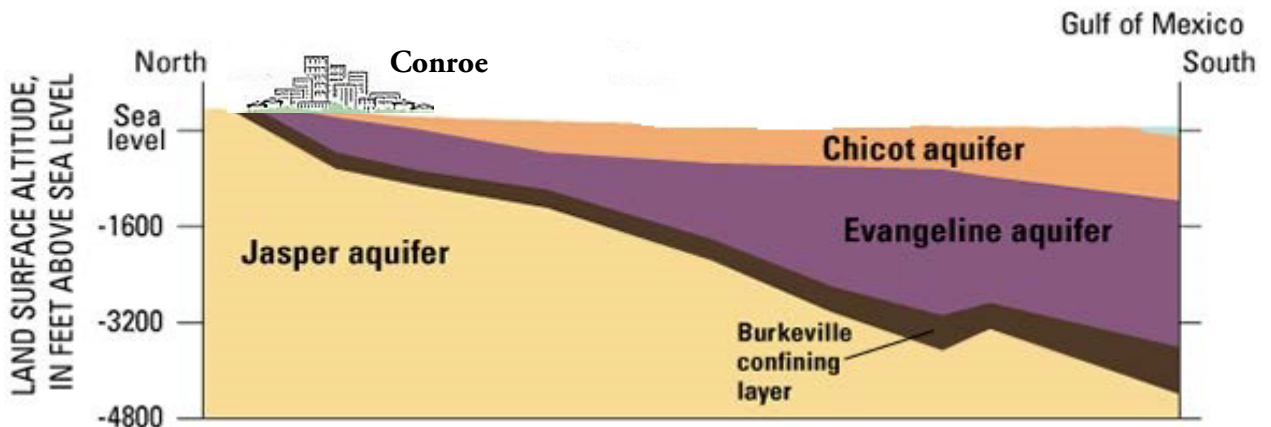
PERFORMANCE STANDARD 1

Maintain a monitoring well network and its criteria, and measure monitoring wells at least once every calendar year and perform site inspections as necessary.

STATUS

Primary withdrawal of public water supply occurs from the Evangeline and Jasper Aquifers.

The USGS, in cooperation with the District, have worked together to monitor and assess the Gulf Coast Aquifer System by conducting yearly synoptic water level measurements, evaluations, and continuous real time data collection within the Montgomery County region. A link to the District's well data can be found on the District's website.



MANAGEMENT

OBJECTIVE 2

The District will continue to support the activities of the Gulf Coast/Montgomery County Water Efficiency Network, WaterWise Program, and the Home Water Works, and maintains a technical library of information providing guidance on the efficient use of water.

PERFORMANCE

STANDARD 2

Program updates, notifications of monthly meetings and links to improve efficiency will be posted on the District website.

STATUS

The District continues to support water conservation throughout Montgomery County. The 2018-2019 Lone Star GCD Texas WaterWise Program was implemented by 1,477 teachers, students and their families. The District sponsored the Gulf Coast/Montgomery County Water Efficiency annual symposium, held on February 28, 2019. The theme was focused on new and innovative tools to assist utilities meet their water conservation needs.



MANAGEMENT

OBJECTIVE 3

The District will provide educational leadership to citizens annually through at least one printed brochure, and/or by speaking at service organizations and public schools as provided for by the District's public education program.

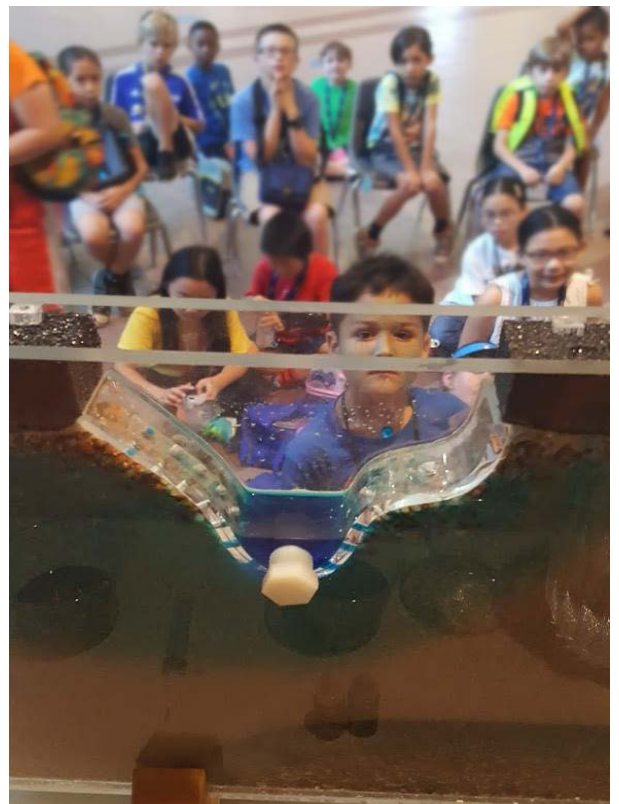
PERFORMANCE

STANDARD 3

Each year a summary of the publications and speaking appearances done by the District's public education program will be included in the Annual Report provided to the Board of Directors.

STATUS

The District provides water conservation education opportunities for students in classrooms throughout Montgomery County. A multi-faceted program is implemented with hands-on learning utilizing the District's Mobile Lab and classroom curriculum following TEKS guidelines.



2019 Education & Outreach



LSGCD's 2019 Tier I 4-H2O Leadership Academy sponsorship recipient, Max O'Brien, and his family visiting with District staff.



The District visiting with students from an area Primrose School in the Mobile Lab



4-H Water Ambassador 2020 Academy

Public education is critical to encouraging and promoting conservation. By way of the District's Education and Conservation Outreach Coordinator, the District can attend numerous speaking engagements, tours and events throughout the county, allowing staff to directly interact with the public. Below are a few of the public interaction opportunities in which staff was involved:

- 8th Annual Gulf Coast Water Conservation Symposium
- Texas Wildlife & Woodlands Expo
- Montgomery County Fair Association's Kid's Days
- Irons Junior High Mobile Lab visits
- Montgomery County Water Resource Day
- Knox Junior High Mobile Lab visits
- The Woodlands Primrose Schools Mobile Lab visit
- Agrilife Forest Service's Water Day
- Texas 4-H Water Ambassadors Program sponsor
- Tier I 4-H2O Leadership Academy sponsor
- Montgomery County Community Health and Resource Management Workshop
- Milam & Burleson County Annual Groundwater Summit
- Texas Groundwater Annual Summit
- Woodlands Landscaping Solutions Mobile Lab visit
- Magnolia Parkway Science Week Mobile Lab visits
- Oak Hills Junior High Mobile Lab visits
- Montgomery Junior High Mobile Lab visits
- Rainwater Harvesting Class at Texas A&M Agrilife



MANAGEMENT

OBJECTIVE 4

Each year, the District will require all new exempt or permitted wells that are constructed within the boundaries of the District to be registered or permitted with the District in accordance with the District Rules.

PERFORMANCE

STANDARD 4

Each year the District will accept, process, and review applications for the permitted use of groundwater in the District in accordance with the permitting process established by District Rules. The number and type of applications made for the permitted use of groundwater in the District and the number and type of permits issued by the District will be included in the Annual Report submitted to the Board of Directors.

STATUS

To demonstrate completion of Performance Standard 4, the number of exempt and permitted (non-exempt) wells registered with the District for 2019 is provided in Table 1. Table 2 is included to reference the type and number of applications for permitted use received by the District.

TABLE 1: NUMBER OF EXEMPT AND PERMITTED WELLS REGISTERED OR PERMITTED BY THE DISTRICT FOR 2019

Number of Exempt Wells Registered	418
Number of Non-Exempt Wells Permitted	98
Number of Non-Exempt Catahoula Wells Permitted	1
TOTAL	517

TABLE 2: NUMBER AND TYPE OF APPLICATIONS FOR THE PERMITTED USE OF GROUNDWATER RECEIVED IN 2019

Amendment to an Existing Operating Permit or Historical Use Permit Application*.....	136
New Operating Permits**.....	59
Amendment to an Existing Alternative Water Source Permit*.....	7
New Alternative Water Source Permit**	0
TOTAL	209

**Applications for Permit Amendments may not reference a specific well.*

***Applications for new operating permits may include more than one well.*

MANAGEMENT

OBJECTIVE 5

The District will maintain qualified staff and technical consultants necessary to execute and maintain the District's well registration and permitting system. This effort includes the timely processing and technical reviews of permit applications. Each year, the District will regulate the production of groundwater within the boundaries of the District in accordance with the District's rules.

cont'd from page 13

**PERFORMANCE
STANDARD 5**

The District maintains a qualified staff to assist water users in protecting, preserving, and conserving groundwater resources. The Board of Directors has in the past and continues today to base its decisions on the best data available to treat all water users as equitably as possible. Once data is collected, the District utilizes a wide variety of forums to provide important information to water users throughout

the District so that sound decisions regarding the efficient use of groundwater can be made.

STATUS

The District will evaluate and monitor groundwater conditions and regulate production consistent with District Rules. Production will be regulated, as needed, to conserve groundwater and protect groundwater users, with consideration of private property owner's rights.

**GOAL 10.2: CONTROLLING AND
PREVENTING WASTE OF GROUNDWATER**

MANAGEMENT

OBJECTIVE 1

The District operates a waste prevention outreach strategy that focuses on enhancing the use of the District's website to provide resources applicable to the prevention of groundwater waste. The District website provides a routinely updated link containing a Best Management Practices Guide (published by the Texas Water Conservation Advisory Council in partnership with the TWDB). The District will work to identify outreach opportunities with regional and local water providers so as to increase public awareness for the prevention of groundwater waste.

ment Practices, which includes helpful tips to control and prevent the waste of groundwater.

STATUS

The District maintains a link on its website to the most recent version of the *Best Management Practices Guide* by the Water Conservation Advisory Council. Additional helpful links on conservation are also available, including Best Management Practice mini-guides specific to Agriculture, Commercial and Institutional, Industrial, Municipal and Wholesale.

MANAGEMENT

OBJECTIVE 2

Each year, the District will apply a water use fee structure to the permitted use of groundwater in the District to encourage the elimination and reduction of waste of groundwater.

PERFORMANCE

STANDARD 2

Each year, with the exception of wells exempt from permitting, the District will apply a water use fee to the permitted use of groundwater in the District pursuant to District Rules. The amount of fees generated by the water use fee structure and the amount of water used for each type of permitted use of groundwater will be included in the Annual Report submitted by the General Manager to the Board of Directors of the District.

STATUS

See tables 3 & 4 on page 15

**PERFORMANCE
STANDARD 1**

The District provides and will routinely update the link on the District's website to Best Manag-



cont'd from page 14

TABLE 3: THE AMOUNT OF WATER USE FEES GENERATED BY THE DISTRICT IN 2019

Water Use Type	Permitted Amount	Fee Rate	Fee Amount
*HUP / Operating Permits	32,340,623,604	\$0.105/1,000 gallons	\$3,395,765.47
Water Subject to Transportation Fee	19,897,630	\$0.0525/1,000 gallons	\$1,044.62
AG Permits/Applications	525,549,288	\$1.00 per acre foot	\$1,612.84
Catahoula AWS Production Permits	2,769,640,000	\$0.06/1,000 gallons	\$166,178.40
Total	35,655,710,522 gallons		\$3,564,601.33

**May include water transported out of the District but not subject to transportation*

TABLE 4: AMOUNT OF WATER REPORTED TO DISTRICT AS PUMPED FOR EACH TYPE OF PERMITTED GROUNDWATER USE

Commercial	72,477,748	Public Supply (PWS).....	18,747,441,741
Industrial.....	459,709,039	*AWS-CRAF	1,474,284,000
Irrigation	644,702,634	**Total	21,593,494,602
Irrigation (Agriculture)	106,535,290	Grand Total.....	20,133,291,602
Public Supply	88,344,150		

**AWS-Catahoula Restricted Aquifer Formation | **Data received as of March 16, 2020. The reported pumping for 2019 is incomplete due to incomplete reporting by a small number of permittees | † Less AWS Pumping*



GOAL 10.3: CONTROLLING AND PREVENTING SUBSIDENCE

MANAGEMENT

OBJECTIVE 1

The District, shall in cooperation with the Harris-Galveston Subsidence District, monitor in real-time and maintain a network of 8 subsidence monitor stations to continually measure subsidence. To date, minor subsidence of less than 1 foot has been measured at monitoring stations located in the southern portion of the District.

PERFORMANCE

STANDARD 1

Results from the subsidence monitor stations will be noted in the summary of the joint conference on subsidence and included in the Annual Report submitted by the General Manager to the District Board of Directors.

STATUS

In 2019, LSGCD continued to collect data from the 8 subsidence monitor system stations throughout Montgomery County. The results of the data collected to date from all stations are available for viewing by the public on the District's website.

MANAGEMENT

OBJECTIVE 2

Each year, the District shall participate in a joint conference with the neighboring groundwater conservation districts or subsidence districts focused on sharing information regarding subsidence and the control and prevention of

subsidence through the regulation of groundwater production.

PERFORMANCE

STANDARD 2

Each year, a summary of the joint conference on issues regarding subsidence will be included in the Annual Report submitted by the General Manager to the Board of Directors

STATUS

The District General Manager and the Houston-Galveston Subsidence District General Manager convened meetings throughout 2019, focusing discussion regarding subsidence within Montgomery County and in neighboring counties. Due to the pending approval of the District management plan and forecasting rule amendments, it was agreed that both entities would continue to work closely together in all matters impacting subsidence in the future.

In October 2019, in cooperation with the USGS and Fort Bend Subsidence District, Houston-Galveston Subsidence District began updating the groundwater availability model for the northern portion of the Gulf Coast Aquifer System. The new model is expected to be completed by the end of 2021.

MANAGEMENT

OBJECTIVE 3

Controlling and preventing subsidence will be addressed during the review and processing of permits as authorized in Chapter 36 and District

Rules, and in setting desired future conditions for the common reservoirs.

PERFORMANCE

STANDARD 3

The District will continue its subsidence study and provide updates on the results of the study in the Annual Report of the District provided to the Board of Directors.

STATUS

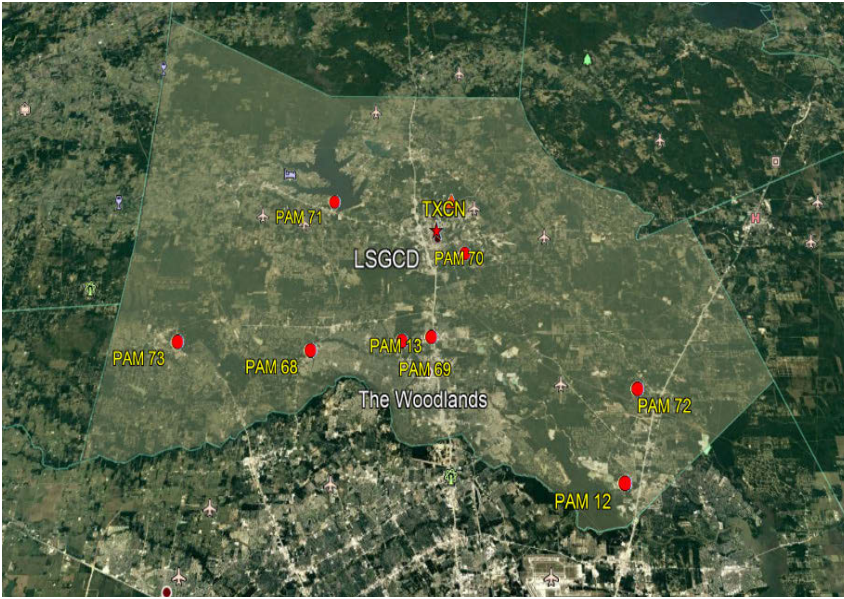
In 2019, District consultants began a thorough assessment of subsidence within Montgomery County and the greater Houston area. The entire proposed subsidence study will include three (3) phases as follows:

Phase 1- *Assessment of Past and Current Investigations*

Phase 2- *Detailed Technical Evaluation of Data and Modeling*

Phase 3- *Appraisal of Ramifications and Future Considerations.*

Updates and results of the subsidence study phases will be made available to the Board and public upon being presented by the District technical consultants at the monthly Board meetings.

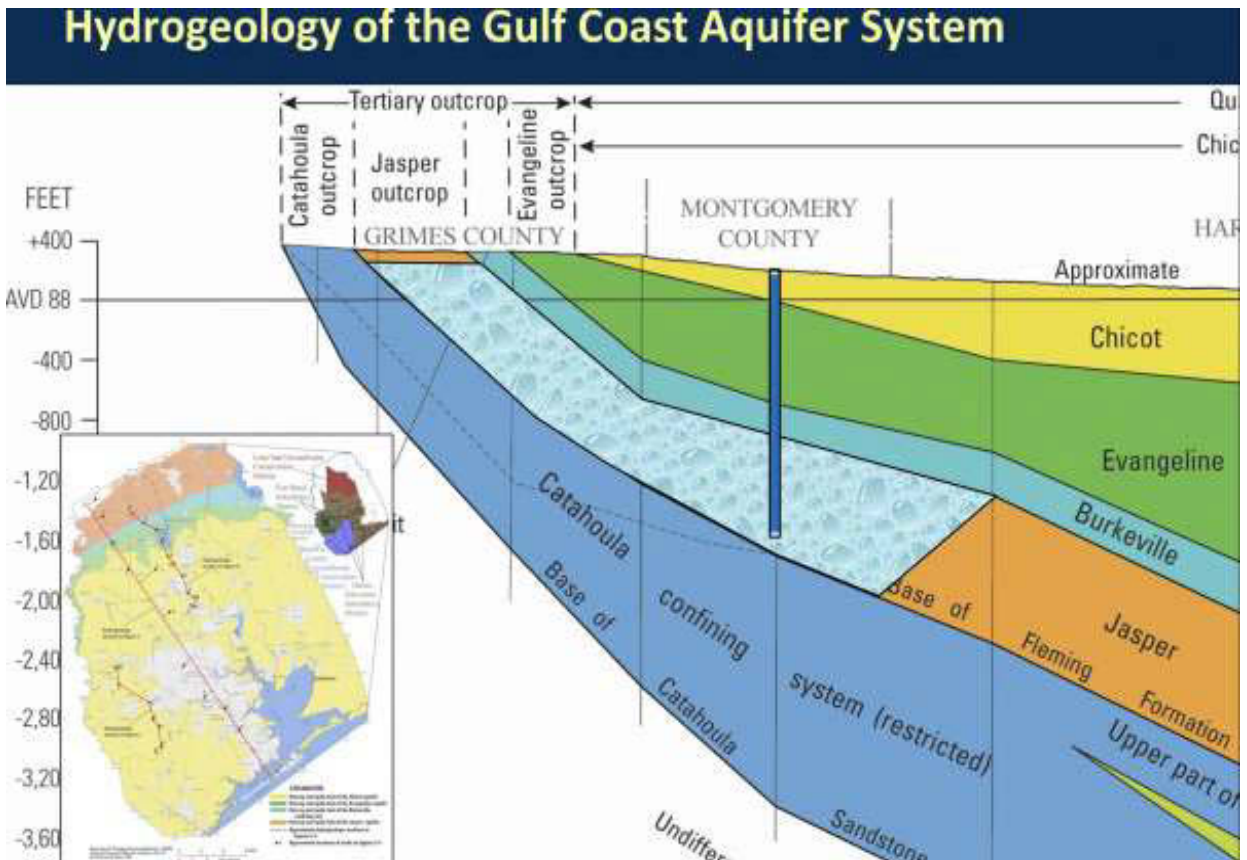


LINKS:

Lone Star GCD's PAM units:
www.lonestargcd.org/subsidence
Harris-Galveston Subsidence District
www.hgsubsidence.org



A reproduction of the subsidence monitoring system stations throughout Montgomery County



Management Goal 10.4.

GOAL 10.4: *CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES*

MANAGEMENT

OBJECTIVE 1

Each year, the District's designated representative will participate in the regional planning process by attending at least one of the Region H Regional Water Planning Group meetings annually.

PERFORMANCE

STANDARD 1

The participation and attendance of the District's designated representative at each Region H Regional Water Planning Group Meeting will be noted in the Annual Report submitted by the General Manager to the Board of Directors.

STATUS

Upon resignation of General Manager, Kathy Turner Jones, the GMA 14 districts voted to have Gary Ashmore serve as the voting member of the Region H Regional Planning Group. The District's representative, the General Manager, continued to participate in the regional planning process by attending 75 percent of the Region H meetings. Attendance at the meetings provides the District with the opportunity to provide valuable input regarding the role of groundwater in overall regional planning and to encourage the development of surface water supplies and conjunctive use to help meet the needs of water user groups in the District.

MANAGEMENT

OBJECTIVE 2

The District will review the State Water Plan in **Appendix B** and coordinate with public water supplies, other stakeholders and surface water management entities on conjunctive use.

PERFORMANCE

STANDARD 2

Each year the District will include a summary of the District's review of the State Water Plan and meeting summaries on the conjunctive use in the Annual Report to the Board of Directors of the District.

STATUS

The District works to address conjunctive surface water management issues by participating in regional joint planning efforts through GMA 14 and the Region H Regional Planning Group. As a means to facilitate conjunctive use discussions within Montgomery County, the District is considering hosting an annual meeting with Montgomery County public water suppliers, surface water management entities and other stakeholders to discuss the various strategies that could be implemented to meet water demands in the future or in times of groundwater shortages.

REGION H WATER PLANNING GROUP ATTENDANCE

February 9, 2019

Kathy Turner Jones

June 5, 2019

Samantha Reiter

September 4, 2019

Samantha Reiter

November 6, 2019

Samantha Reiter

GOAL 10.5: NATURAL RESOURCE ISSUES

MANAGEMENT

OBJECTIVE 1

The District will monitor permit applications and permit amendment applications for Class II injection wells filed with the Railroad Commission of Texas and Class I and Class V injection well permit applications and permit amendment applications filed with the Texas Commission on Environmental Quality. District staff will review these notices and brief the Board of Directors as appropriate. A summary of injection well permit activity and any action taken by the District in the response will be included in the Annual Report submitted by the General Manager to the Board of Directors of the District.

PERFORMANCE

STANDARD 1

Beginning with the 2014 Annual Report, a summary of injection well permit activity at the Railroad Commission of Texas and the Texas Commission on Environmental Quality along with any actions taken by the District in response will be included in the Annual Report submitted by the General Manager to the Board of Directors of the District.

STATUS

In October 2019, the District received a copy of an application for an injection well permit filed by Denbury Onshore, LLC with the Railroad Commission of Texas. The District's legal counsel identified a couple areas

of concern and the General Manager timely filed a protest of the application. There was concern in the request, as Denbury asked to recompleat an old well (drilled in 1933) into an injection well, there was question on the age of the casing in the well, and the likelihood of corrosion which could cause casing failure and endanger shallow freshwater aquifers. There were also concerns with the proposed maximum injection rate given the shallow injection interval top.

The District's legal counsel worked with Denbury's counsel to address the District's concerns. Denbury filed an amended application that addressed the District's concerns. Based on the amended application, the District withdrew its protest.



GOAL 10.6: DROUGHT CONDITIONS

MANAGEMENT

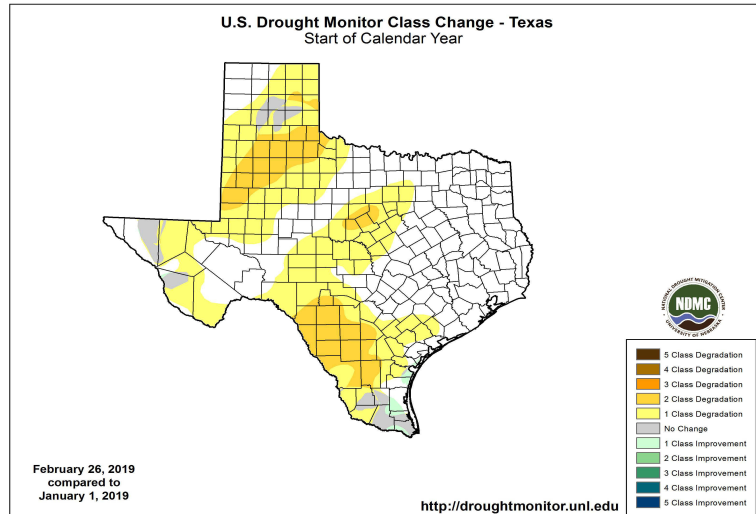
OBJECTIVE 1

An important objective of the District is to provide ongoing and relevant drought related meteorological information. Beginning in 2014, the District began making available through the District's website easily accessible drought information with an emphasis on developing droughts and current drought conditions. At least one of the following links will be provided: updates on the US Drought Monitoring Map for the region, the Drought Preparedness Council Situation Report, and the TWDB Drought page at <https://waterdatafortexas.org/drought>.

PERFORMANCE

STANDARD 1

Current drought condition information from at least one of the following will continue to be available to the public on the District's website and noted in the Annual Report submitted by the General Manager to the Board of Directors of the District: the US Drought Monitor map for the region, the Drought Preparedness Council Situation Report, or the TWDB Drought page at <https://waterdatafortexas.org/drought>.



LOCAL PRECIPITATION

According to precipitation data collected from the weather station located at Conroe-North Houston Regional Airport (station ID # USW0053902), 2019's annual rainfall total equaled 47.49 inches, 12.78 inches less than 2018's total precipitation (60.27 inches).

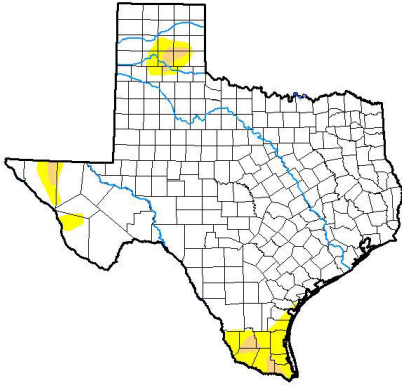
Six months of the year saw rainfall totals greater than 5 inches—January, May, June, August, September, and October. While May was recorded as the wettest month of the year, with 8.16 inches of rainfall, in March we experienced the driest month of the year receiving only 0.95 inches of rain.

STATUS

Links to the US Drought Monitor maps and situation reports can be found on the District website.



U.S. Drought Monitor Texas



January 8, 2019
(Released Thursday, Jan. 10, 2019)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	92.71	7.29	1.51	0.00	0.00	0.00
Last Week 01-01-2019	92.99	7.01	1.32	0.00	0.00	0.00
3 Months Ago 10-09-2018	69.42	30.58	11.67	3.04	0.59	0.00
Start of Calendar Year 01-01-2019	92.99	7.01	1.32	0.00	0.00	0.00
Start of Water Year 09-25-2018	57.46	42.54	20.19	7.03	0.96	0.00
One Year Ago 01-09-2018	27.08	72.92	36.93	10.75	0.39	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

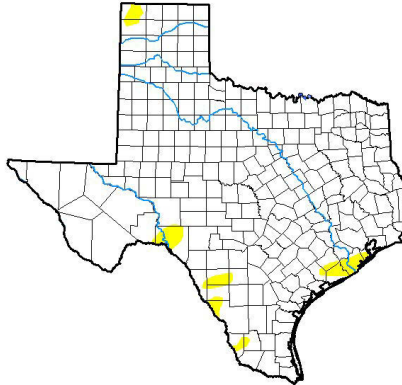
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Brad Pugh
CPC/NOAA



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Texas



May 7, 2019
(Released Thursday, May. 9, 2019)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	96.95	3.05	0.00	0.00	0.00	0.00
Last Week 04-30-2019	87.27	12.73	1.46	0.00	0.00	0.00
3 Months Ago 02-05-2019	81.97	18.03	1.81	0.00	0.00	0.00
Start of Calendar Year 01-01-2019	92.99	7.01	1.32	0.00	0.00	0.00
Start of Water Year 09-25-2018	57.46	42.54	20.19	7.03	0.96	0.00
One Year Ago 05-09-2018	39.78	60.22	38.80	22.30	12.97	4.61

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

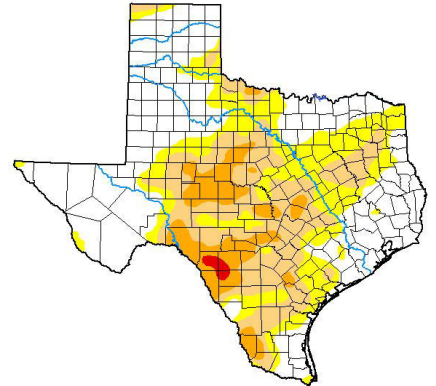
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Curtis Riganti
National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Texas



November 26, 2019
(Released Wednesday, Nov. 27, 2019)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	45.51	54.49	32.37	9.98	0.53	0.00
Last Week 11-19-2019	47.81	52.19	31.96	10.46	0.53	0.00
3 Months Ago 08-27-2019	25.90	74.10	37.58	8.75	1.21	0.00
Start of Calendar Year 01-01-2019	92.99	7.01	1.32	0.00	0.00	0.00
Start of Water Year 09-01-2019	31.74	68.26	46.05	22.33	6.32	0.00
One Year Ago 11-27-2018	97.73	2.27	0.80	0.00	0.00	0.00

Intensity:

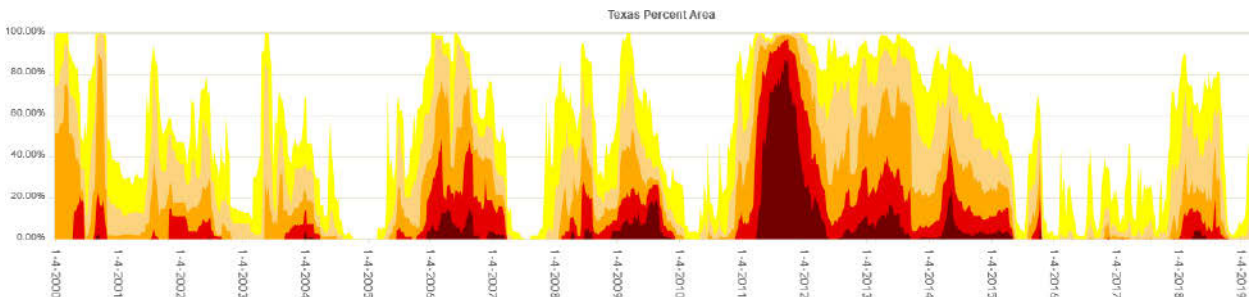
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Brad Rippey
U.S. Department of Agriculture



droughtmonitor.unl.edu



GOAL 10.7: CONSERVATION, RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL WHERE APPROPRIATE AND COST EFFECTIVE

Conservation and rainwater harvesting have been determined to be appropriate goals for the District. As part of the effort, the District is sponsoring and participating in water conservation programs such as the Gulf Coast/Montgomery County Water Efficiency Network, Texas Water Wise Program and the Home Water Works.

A visit to the District's headquarters is all that is required to realize the commitment of the District to rainwater harvesting. The entire comprehensive water conservation demonstration facility was designed as a

demonstration to the citizens of Montgomery County on the positive benefits of rainwater harvesting in reducing water consumption from the Gulf Coast Aquifer. The design and subsequent construction techniques integrated into the District headquarters have not only caught the attention of local residents, but also the 2010 Texas Water Development Board for the innovation demonstrated by the design of the new comprehensive water conservation demonstration facility.

After review by the Board of Directors, the General Manager and the District's technical consultants, it has been determined that the recharge enhancement, precipitation enhancement, and the brush control are not appropriate groundwater management strategies for the District. This evaluation is based on cost of operating and maintaining these programs, lack of neighboring programs in which to participate, and probable lack of effectiveness of these programs due to the climate, hydrogeology, and philosophy of the District.

.....



MANAGEMENT

OBJECTIVE 1

The District seeks to promote water conservation through an active water conservation awareness program. As part of this program, the District will maintain links to recognize water conservation awareness programs such as the Gulf Coast/Montgomery Water Efficiency Network, WaterWise Program, and the Home Water Works programs on the District's website.

PERFORMANCE

STANDARD 1

Links to at least one of the water conservation awareness programs such as the Gulf Coast/Montgomery County Water Efficiency Network, WaterWise Program, and the Home Water Works Program will be provided on the District's website and noted in the Annual Report submitted by the General Manager to the Board of Directors of the District.

STATUS

The District website contains valuable conservation links as well as references to outside expert resources. There is a "Consumer Tips" and "Resources" page, which can be accessed through the Programs and Education page, which contains practical information on ways to conserve at home, both indoors and outside. Also on the "Resources" page, there are links to outside resources, including Texas Agrilife Earth Kind Plant Selector (native plant resource), the Gulf Coast/Montgomery County Water Efficiency Network, Water IQ, Water-Use It Wisely, and the Home Water Works website.

MANAGEMENT

OBJECTIVE 2

Educational materials specific to rainwater harvesting have been developed to highlight the various water conservation techniques that are incorporated into the design of the District's headquarters. Information will be available at the main entrance to the District headquarters for visitors to take and review for use in homes and businesses in Montgomery County.

PERFORMANCE

STANDARD 2

Information on the District's headquarters and rainwater harvesting capabilities will be made available during business hours for use by visitors to the facilities. A summary of educational opportunities will be included in the Annual Report submitted by the General Manager to the Board of Directors of the District.

STATUS

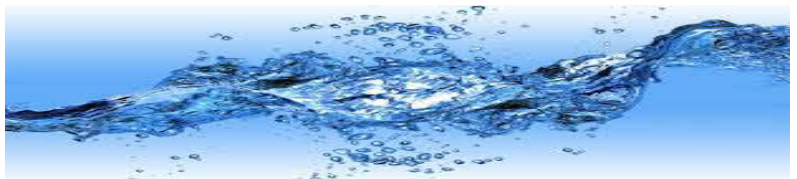
The Lone Star GCD facilities serve as real-life examples of conservation at work. The general public is welcome to visit during business hours. Upon arrival visitors will see the arroyo (dry river bed) as they approach the lobby. The

purpose of this feature is to convey any parking lot rainwater runoff into a 15,000 gallon-capacity underground tank. The majority of the roof downspouts are directed into four stand-alone, 2,500-gallon above-ground cisterns. The collected rainwater is used to irrigate the District's landscaping, which features native plants and grasses.

This award-winning system also has corresponding educational materials framed inside the District lobby, which tells the story and shows construction photos. This enables visitors to see the underground tanks which provides perspective on how much rainwater is being utilized.

Visitors to District offices do not go away empty-handed. There is an abundance of educational material about conservation, water supply and the purpose of the District. For those interested in installing a rainwater harvesting system at their home or business, there is a rain harvesting manual available on CD USB flash drives. The manual describes all types of systems, ranging from small home systems to more elaborate ones.

An additional 500-gallon rainwater harvester was added in 2017, on the backside of the District's building, to expand the building's total rainwater harvesting capacity.



MANAGEMENT

OBJECTIVE 3

The District added an important tool at its comprehensive demonstration facility that will collect weather data 24/7 in collaboration with Texas A&M Agrilife Extension experts. The objective of installing this equipment was to generate an Evapotranspiration ("ET") estimate to help residents use their irrigation systems more efficiently by knowing the ideal amount of water needed to sustain a healthy lawn. The District will roll out information from the program to enable commercial and residential "users" to regulate their irrigation system controllers so that they deliver only the amount of water necessary. Current measurements of ET will be maintained on the District's website.

PERFORMANCE

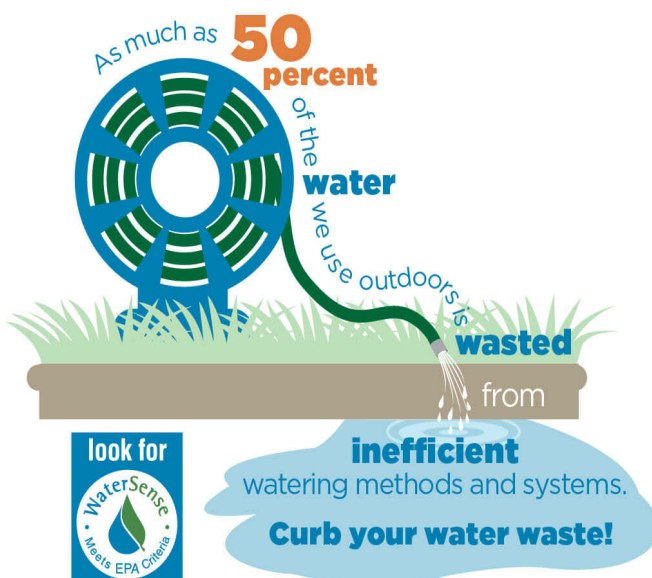
STANDARD 3

Lawn watering guidance is based on current measurements of ET and will continue to be maintained on the District's website throughout the active growing season each year and noted in the Annual Report submitted by the General Manager to the Board of Directors of the District.

STATUS

In 2019, The District continued to monitor weather conditions on a daily basis and posted weekly landscape watering advisories on its website under the heading, "Watering Recommendations". Montgomery County citizens can sign up thru the website to receive emails weekly directly to their inbox. Each week during irrigation season, working in conjunction with Texas A&M/AgriLife staff, the District compiles evaporation and transpiration information based on relative humidity, temperature, wind speed, and radiation levels as measured by the weather station located at its facilities. The water losses calculated are then compared to the amount of rainfall for the same period determining how much water should be applied to make up the difference and maintain a healthy lawn while using as little water as possible. To account for the significant variations in the amount of rainfall that occurs across an area as large Montgomery County, rainfall amounts for the previous seven days are obtained from rain gauges across the county.

Spruce Up Your Sprinkler System



GOAL 10.8: *DESIRED FUTURE CONDITIONS*

MANAGEMENT OBJECTIVE 1

The District is committed to continually work with the other members of GMA 14 to adopt, and to achieve, the most appropriate DFC's for each relevant groundwater reservoir identified in the joint planning process. The DFC's adopted by the District will support the District's regulatory mission to afford an opportunity for a fair share to each owner of a common subsurface reservoir. Because future use and landowner's choices are uncertain, in addition to hydrologic variability and uncertainty the actual conditions of the reservoirs in the future may change.

PERFORMANCE STANDARD 1

Draft rules, public meetings, and hearing announcements, and available supporting materials will be included prior to rulemaking activities by the District on the District's website.

STATUS

All postings, notices, and hearing announcements, and available supporting materials will be included prior to rulemaking activities by the District on the District's website at lonestargcd.org.

MANAGEMENT OBJECTIVE 2

The District will adopt well spacing and production allocation rules to implement the goals in this plan.

PERFORMANCE STANDARD 2

At least once every two years, the District will include discussion of the evaluation of the District's rules and the determination of whether any amendments to the rules are recommended.

STATUS

The District will adopt rules to regulate groundwater withdrawals by means of well spacing and production limits, as authorized in Chapter 36.

MANAGEMENT OBJECTIVE 3

At least once every two years, the District will collect and examine monitoring well data for the Chicot, Evangeline and Jasper aquifers from all available resources including the USGS monitoring well network and, the TWDB groundwater database, and analyze the historical data.

PERFORMANCE STANDARD 3

A summary of any amendments to District rules that are adopted throughout the calendar year will be included in the Annual Report submitted by the General Manager to the Board of Directors.

STATUS

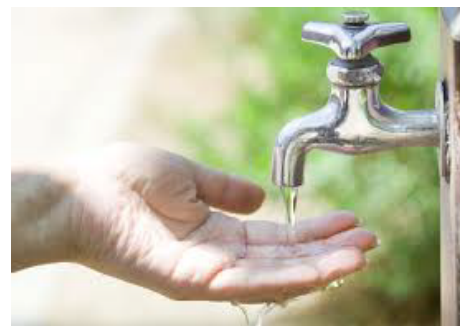
The District will maintain a monitoring well and subsidence station network that will be used by the District to monitor aquifer conditions over time.

PERFORMANCE STANDARD 4

Based on collected monitoring and reported pumping data demonstrating trends in reservoir conditions, the District will review annually whether: (i) the current plan and rules are working effectively; and (ii) specific amendments need to be made to this plan and/or rules; or (iii) amendments are needed to meet the management goals of the District (iv) a combination of (ii) and (iii). The collected data may be shared with GMA 14 districts and used to inform possible amendments to the adopted desired future conditions.

STATUS

The District will make regular assessments of water supply, water levels and groundwater storage conditions and report those conditions, as appropriate, in public meetings of the Board or public announcements. Production will be regulated, as needed, to conserve groundwater and protect groundwater users, in a matter not to adversely limit production or impact economic viability to the public.



The process for joint planning by Groundwater Conservation Districts (GCDs) in Groundwater Management Areas (GMAs) was originally established by House Bill 1763 in 2005 and substantially amended by Senate Bill 660 in 2011. One of the primary objectives of GMAs is to determine "desired future conditions" (DFCs) for relevant aquifers located within each GMA. Desired future conditions are defined as the desired, quantified condition of groundwater resources (such as water levels, spring flows, or volumes) within a GMA at one or more specified future times as defined by participating GCDs within a GMA as part of the joint planning process. There are 16 GMAs in Texas, and Montgomery County is in GMA 14. In September 2018, Southeast Texas GCD's General Manager, John Martin, was appointed to serve as Chair of GMA 14 for the next planning cycle. There are five GCDs in GMA 14 representing 13 of the 21 counties in GMA 14. Three other counties are represented by subsidence districts; five counties are not represented by any type of district. GMAs are currently in the third-round of the joint planning process, which runs from 2016-2021, with final adoption to occur by January 2022.

MILE MARKERS

January 30, 2019

- Lone Star Groundwater Conservation District Board of Director's Vice President, Harry Hardman, requested GMA 14 identify boundaries of each common, subsurface reservoir in GMA 14 for the purpose of adopting DFCs.

March 27, 2019

- Lone Star Groundwater Conservation District requested an alternative approach to the 3rd round of Desired Future Conditions planning. LSGCD Board of Director's President Melder and Vice President Hardman provided background and layout to the alternative approach. Mr. Mike Thornhill of Thornhill Group LLC, representing LSGCD, gave a presentation to GMA representatives. A motion was made to remove Run D from consideration as a future methodology and scope of work for the Round 3 joint planning process. The motion was seconded and carried unanimously.

June 26, 2019

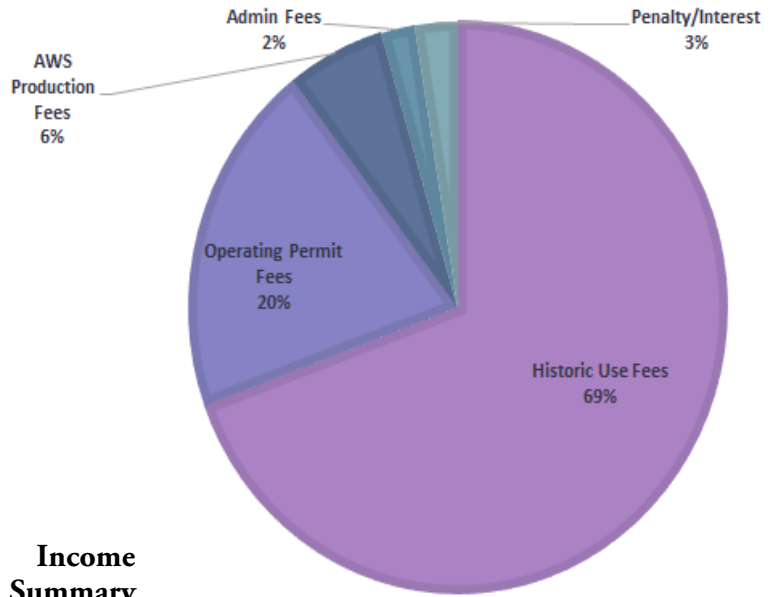
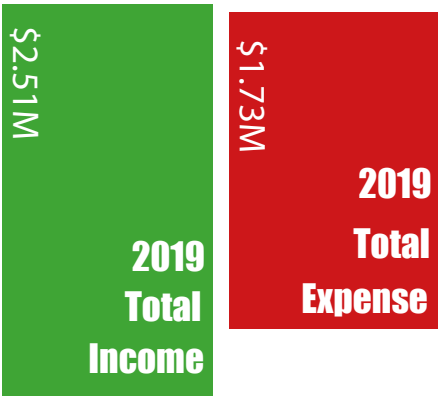
- Following the March 2019 LSGCD presentation given to the GMA representatives, Mr. Martin called for discussion and possible action regarding a request for consultants to evaluate different approaches for defining DFCs. Vice President Hardman made a motion to approve the DFC delineation discussion after all factors are fully evaluated. The motion was seconded by Mr. Holland, and carried.

August 15, 2019

- Ms. Stacey Reese, legal counsel for LSGCD, requested that GMA representatives consider expediting the third-round of DFC planning. Vice President Hardman noted the District did not have interest in regressing back to round two DFC planning but emphasized the necessity for resolution of the third-round planning process for LSGCD to become compliant regarding the District's Groundwater Management Plan. A recommendation to table the agenda item to allow time to gather additional necessary information before the expedited schedule was motioned. LSGCD agreed that the item be tabled for discussion at the next meeting.

November 13, 2019

- GMA 14 acted on Lone Star GCD's request to expedite the 3rd round DFC planning and denied the request to expedite. A presentation on required statutory factors and a proposal on designation of common reservoirs was given by District consultants. A motion was made to work with LSGCD on a pumping distribution methodology documentation and was approved unanimously.



FINANCIAL SUMMARY¹

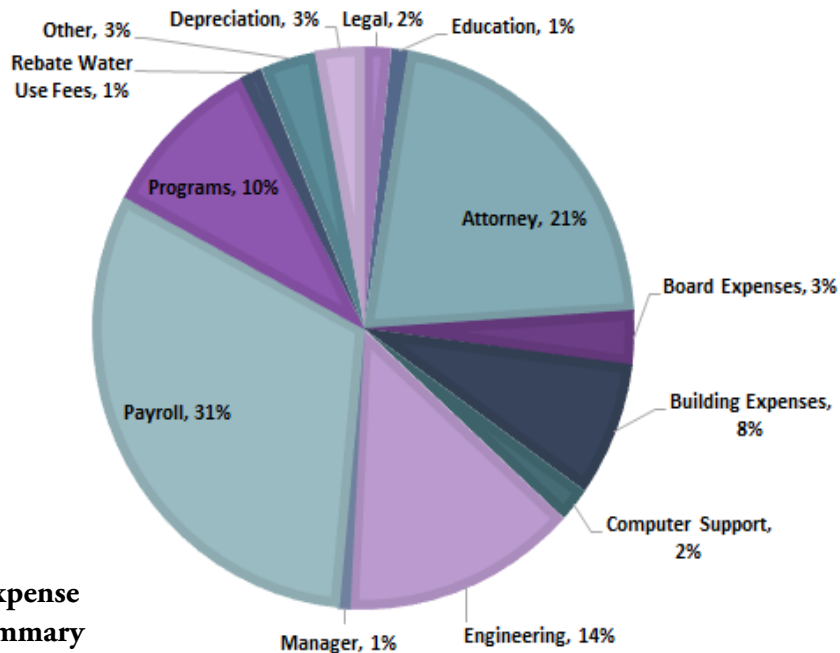
For the calendar year ending December 31, 2019, the District's total assets increased by \$568,465 and the District's current liabilities decreased by \$209,746.

The District's net position for 2019 increased by \$778,211.

The District's total net position increased by 33% compared to 2018.

1These amounts are per the audited financial states for the year ended on December 31, 2019.

Income Summary



Expense Summary



LONE STAR GROUNDWATER CONSERVATION DISTRICT

655 Conroe Park North Drive
Conroe, Texas 77303

Phone: 936.494.3634

Fax: 936.494.3438

www.lonestargcd.org

