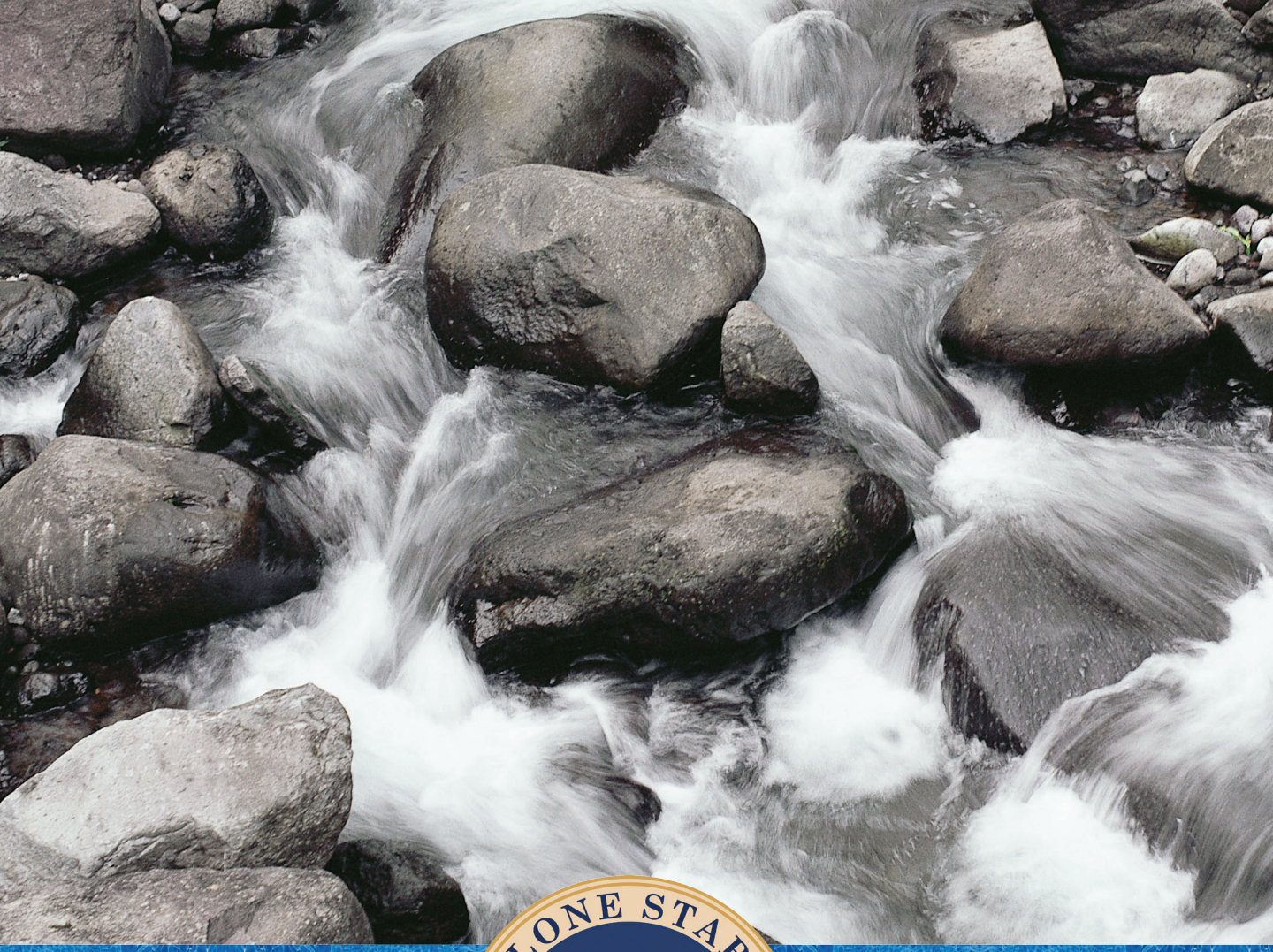

YOUR WATER YOUR FUTURE

LONE STAR Groundwater Conservation District
www.LoneStarGCD.org

2013

Lone Star Groundwater Conservation District

ANNUAL REPORT

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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 expended considerable resources to develop a system to ensure that the groundwater supply in Montgomery County will remain a sustainable resource for years to come.

Lone Star Groundwater Conservation District's Mission

The Lone Star Groundwater Conservation District is committed to managing and protecting the groundwater resources of Montgomery County and to working with others to ensure a sustainable, adequate, high quality and cost-effective supply of water.

LSGCD's regulatory system was developed through a public process and allows flexibility among water users in how they go about achieving compliance with LSGCD's rules and groundwater reduction requirements.

LSGCD will strive to develop, promote, and implement water conservation, augmentation, and management strategies to protect water resources for the benefit of the citizens, economy, and environment of Montgomery County. The preservation of this most valuable resource can be managed in a prudent and cost-effective manner through conservation, education, management and permitting.

Location and Extent

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 1090 square miles.

District Office

655 Conroe Park North Drive • Conroe, Texas 77303
Phone: 936-494-3436 • Fax: 936-494-3438
www.lonestargcd.org

// management //

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 is currently completing course work towards a Master of Science at Texas A&M University in the Water Management and Hydrologic Science Program. In 2002, Kathy was named General Manager of the newly formed Lone Star Groundwater Conservation District serving Montgomery County, bringing 12 years of groundwater experience and knowledge with her. Under her direction, the District has established its offices in Conroe, built a core staff and office operation, established a well permitting and registration system, and approved District Rules. In addition, Kathy has led the District through the process of compiling hydrologic information on the characteristics of the Upper Gulf Coast Aquifer, engineering planning, information on water usage and water supply in Montgomery County, and implementing regulatory procedures associated with the District's Groundwater Regulatory Plan. Prior to the Lone Star GCD, Kathy worked for the Sandy Land UWCD in West Texas and was later employed by an Austin-based environmental law firm to serve as their groundwater specialist. Kathy serves as a member of the Region H Water Planning Group, Chair of GMA 14, and currently serves on the Trinity and San Jacinto and Galveston Bay Basin and Bay Area Stakeholder Committee created by Senate Bill 3 during the 80th Legislative Session to look at environmental river flow issues in each river basin. In addition, Ms. Jones presides as current President of the Texas Alliance of Groundwater Districts (TAGD) and as an Executive Board Member of the Texas Water Conservation Association (TWCA).

Paul R. Nelson // Assistant General Manager

Mr. Nelson, former Planning and GIS Coordinator with the North Harris County Regional Water Authority, joined the Lone Star staff as the Assistant General Manager in May of 2011. Mr. Nelson comes to the District with an extensive background in the areas of public works administration, water conservation, and long-range water planning. He is an alternate member of the Region H Water Planning Group, and currently serves on the Trinity and San Jacinto and Galveston Bay Basin and Bay Area Stakeholder Committee created by Senate Bill 3 during the 80th Legislative Session to look at environmental flow issues in each river basin. In addition, Mr. Nelson is a member of the working committees of several statewide water-related organizations, including the Texas Water Conservation Association. He holds a Bachelor of Science Degree in Biology from Lamar University in Beaumont. He has lived in Montgomery County for over 30 years. Mr. Nelson's activities include performing, reviewing or coordinating efforts of consultants on technical studies pertinent to the determination of the effectiveness of the District's regulatory plan as it relates to the District's overall mission, managing and reporting on progress of consultant activities, assisting in presentations and communications with public water supply entities, and assisting the General Manager interfacing with federal, state and local agencies engaged in the groundwater industry in the state.

// board of directors //

The Lone Star Groundwater Conservation District was created to develop, promote, and implement water conservation, augmentation and management strategies to protect water resources for the benefit of the citizens, economy and environment of Montgomery County, Texas. To fulfill this directive, the Board of Directors adopted rules on August 26, 2002, to regulate the drilling and operation of water wells in Montgomery County and to set fees for the production of groundwater.

The Board of Directors of the Lone Star Groundwater Conservation District represent the various water interests of Montgomery County. The Board meets every month at the District offices to dispense with District business including the approval of well permits, decisions on rules and bylaws and progress reports on District committees.

Richard J. Tramm
President
Represents Montgomery County
Term Expires 1/31/17

Sam W. Baker
Vice President
Represents Montgomery County
Term Expires 1/31/15

M. Scott Weisinger, PG
Secretary
Represents all areas except Conroe
Term Expires 1/31/17

James M. Stinson, PE
Treasurer
Represents Woodlands Joint Powers Agency
Term Expires 1/31/15

John D. Bleyl, PE
Represents City of Conroe
Term Expires 1/31/17

Reed Eichelberger, PE*
Represents San Jacinto River Authority
Term Expires 1/31/17

Jace Houston*
Represents San Jacinto River Authority
Term Expires 1/31/17

Roy McCoy, Jr
Represents MUDs West of I-45
Term Expires 1/31/15

Rick Moffatt
Represents MUDs East of I-45
Term Expires 1/31/15

W.B. Wood
Represents Soil and Water
Conservation District
Term Expires 1/31/15

**Please note that Mr. Eichelberger retired from the San Jacinto River Authority in November 2013 and Mr. Houston was named to the Board to carry out the remainder of Mr. Eichelberger's term.*

// letter from the general manager //

// by Kathy Turner Jones //

The year 2013 has been a year of tremendous growth — for Montgomery County, for businesses that choose to call it home, and for those of us working to ensure our basic needs will be met for the foreseeable future. Leaders within Montgomery County anticipate the tremendous growth to continue, and their estimates are based on approximately 1,000 people moving to Texas daily according to transportation studies done by the Houston Galveston Area Council (HGAC). The 2010 US Census projections forecast a population of one million people in Montgomery County by the year 2040.

Large corporations are relocating to Montgomery County along with their vendors and business partners. The tremendous growth brings challenges to all of the governmental entities in Montgomery County, especially the Lone Star Groundwater Conservation District (LSGCD). LSGCD's biggest challenges will be to protect the Gulf Coast Aquifer, further encourage conservation, and manage the rules and regulations fairly and equitably while being practical at the same time. The District will also meet with all the various interested parties seeking answers about water regulations, joint Groundwater Reduction Plans (GRPs) that will accept new customers, and the existing and potential individual water well owners.

Our previous (and somewhat continuing) dry conditions, combined with current and projected growth, has caught the attention of lawmakers, existing and potential businesses, community leaders, and residents of Montgomery County. Groundwater availability and supply is now on nearly everyone's radar.

2013 was definitely a better year for Montgomery County in terms of rainfall than the extremely dry conditions of 2011, but we still had less rain than last year. In 2013, we experienced 40.78 inches of precipitation (according to official numbers from the weather station at Lone Star Airport in Conroe), compared with 2012's 50.05 inches. So, we are managing, but we must realize that it will take time to recover. According to a Washington Post report, persistent drought and erratic weather patterns across much of the U.S. (they specifically reference Texas' drought of 2011) has led to the smallest overall cattle herd in 61 years.

LSGCD started off the year by receiving the Texas Water Development Board's Texas Rain Catcher Award for incorporating an extensive rainwater catchment system into the design of our new building. You can read more about this honor on page 30 of this report, and feel free to come see the system in person!

This past April, we received notice from the State Auditors Office (SAO) that Lone Star GCD was one of the 23 groundwater conservation and underground water conservation districts selected and audited for their achievement of selected groundwater management plan goals and compliance with selected statutory requirements. The Lone Star Groundwater Conservation District fully achieved all four of the management goals audited: providing the most efficient use of groundwater; controlling and preventing waste of groundwater; addressing drought conditions; and addressing conservation. Additionally, Lone Star GCD received a perfect score from the SAO for fully complying with Texas Water Code statutory requirements for the manner in which groundwater districts are to operate.

The year 2013 was also very hectic with the legislature in session. Not unlike previous legislative sessions, it was no surprise when the 83rd Session was inundated with water bills, particularly when it came to water infrastructure financing. Certainly, the largest water issue during 2013 — and one of the biggest overall this session — was providing a mechanism for adequately funding the State Water Plan. Through the passage of two bills and one resolution, Texas legislators took an important, even revolutionary step toward meeting the long-term water needs of the state.

The groundwater issue that received the most attention during this session was brackish groundwater utilization, including desalination and aquifer storage and recovery. Early versions of filed bills would have essentially deregulated groundwater with a total dissolved solids (TDS) level of 1,000 parts per million (ppm) or more in order to promote its treatment and use. Despite efforts of legislators, staffers, and stakeholders to reach consensus, almost all of the groundwater bills filed failed to make it to Sine Die. In fact, just two housekeeping-type groundwater bills made it to the Governor for signature: SB 1282, extending the deadline for proposing the next round of DFCs to May 1, 2016, and HB 1563, increasing the maximum fees of office for a GCD Board Member from $150/day to $250/day (with the annual cap remaining at $9,000).

In the interim, I (on behalf of LSGCD) continue to represent and protect Montgomery County's groundwater needs serving on

the TWCA Groundwater Committee preparing for the 84th Session in hopes of reaching a consensus within the committee to develop draft legislation for review by Legislative Council and TWCA Board approval to be pre-filed on November 10, 2014. Within the groundwater committee, I co-chair the Brackish Groundwater Subcommittee charged to develop draft legislation to encourage production of brackish groundwater while protecting the quality of existing groundwater supplies and the regulatory jurisdiction and powers of GCDs.

The District continues to serve as the lead organization for the Gulf Coast/Montgomery County Water Efficiency Network, under the direction of Paul R. Nelson. The network is a group of water professionals from around the region that meets regularly to share industry information. In 2013, District staff coordinated eight meetings of the group with a range of topics that are outlined on page 22.

Regarding outreach and public education, District staff spoke at a number of community meetings and utilized our mobile education lab at various fairs, events and schools throughout the county. We also built a portable rainwater harvesting demonstration project that travels with our mobile education lab. Take a look at our new educational displays on pages 22 and 24. District staff works to keep the public informed through these mechanisms, as well as through the distribution of written material that explains the District as well as conservation information. LSGCD also regularly updates its website with information about all District public meetings and posts information about conservation and water supply.

From a rules and regulations standpoint, the LSGCD Board reviewed and re-adopted its Groundwater Management Plan as required once every five years. To prepare for the update, District staff notified the community, accepted public comment and held a public hearing on the topic. We also made changes to Phase II(B) of the District Regulatory Plan, as well as held a public hearing on the topic. Specific changes are outlined on pages 10 and 11 of this report.

Additionally, I continue to chair the GMA Planning Group created to facilitate joint planning efforts in Groundwater Management Area 14 and serve on the Region H Regional Planning Group, which provides recommendations to the Texas Water Development Board (TWDB) for the State Water Plan.

We achieved a good deal of success in 2013, including celebrating the passage of Proposition 6 on November 5, 2013 (which establishes a funding mechanism to finance much-needed water projects in our fast growing, drought-plagued state), and the re-adoption and certification of the District's Management Plan.

With regard to our more routine activities, LSGCD continues to work with the 471 well permittees to manage the annual regulatory requirements within the district's boundaries. LSGCD issued 67 new Gulf Coast Aquifer well permits and four Catahoula Aquifer well permits. Furthermore, LSGCD's staff is working with all the GRP administrators (33 GRPs in Montgomery County) to secure information of their status of compliance to reduce groundwater pumpage by January 2016.

In conclusion, LSGCD continues to perform its mission of conserving, preserving, protecting, and recharging groundwater in the LSGCD service area in order to prevent subsidence, prevent degradation of water quality and prevent waste of groundwater. I look forward to working with the community, business leaders and local and state legislators on water conservation and supply as we dive into 2014.

Successful Achievement of 2013 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 the 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 of complying with the achievement of management goals as outlined herein.

Register or Permit All New Exempt Wells

A.1. Objective

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

A.1. Performance Standard

The number of exempt wells registered or permitted by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.

Status

To demonstrate completion of Performance Standard 2.1, the number of exempt and permitted (non-exempt) wells registered or permitted by the District for the year is given in **Table 1** below:

Table 1: Number of Exempt and Permitted Wells Registered or Permitted by the District for 2013

Number of Exempt Wells Registered	520
Number of Non-Exempt Wells Permitted	67
Number of Non-Exempt Catahoula Wells Permitted	4
TOTAL	**591**

Regulate Groundwater Production

A.2. Objective

Each year, the District will regulate the production of groundwater by maintaining a system of permitting the use and production of groundwater within the boundaries of the District in accordance with the District Rules.

A.2. Performance Standard

Each year, the District will accept and process applications for the permitted use of groundwater in the District in accordance with the permitting process established by the 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 given to the Board of Directors.

Status

In addition to permitting or registering new exempt wells in Montgomery County, LSGCD is also responsible for regulating the production of groundwater by maintaining a system permitting the use and production of groundwater within the boundaries of Montgomery County. This year, 591 applications were submitted for the use of groundwater in Montgomery County.

The tables on page 9 show the number and type of permits issued by the District in 2013. **Table 2** provides the number and types of applications made to the District for the permitted use of groundwater during the year. **Table 3** provides the number of applications for Operating Permits or Permit Amendments issued or other administration disposition of applications made by the District in 2013. **Table 4** provides the primary use of water listed on the permit applications approved by the District in 2013.

Table 2: Number and Type of Applications for the Permitted Use of Groundwater Received in 2013

Amendment to an Existing Operating Permit or Historical Use Permit Application*	66
New Operating Permits**	68
TOTAL	**134**

**Applications for Permit Amendments may not reference a specific well*
***Applications for new operating permits may include more than one well*

Table 3: Number of Operating Permits or Permit Amendments Issued and Administrative Disposition of Applications/Permits Made by the District in 2013

Application or Permit Disposition	Number
Applications Approved as Submitted	108
Applications Approved as Amended	20
Applications or Permits Expired Due to In-Action by Applicant or Permittee	0
Applications Approved w/ Conditions	5
Applications Denied	0
Applications Pending at End of 2013	21
Applications Voided or Merged	0
Applications Withdrawn by Applicant	1
TOTAL*	**155**
TOTAL Less Pending at End of 2013	**134**

**Reflects Board Action on Applications in 2013. This total includes applications submitted in late 2012 but with Board action on the application occurring in 2013. The total excludes applications submitted in late 2013 which could not be set for Board action until 2014.*

Table 4: Primary Use of Water on Permits Approved in 2013

Water Use	Number of Applications
Industrial	11
Irrigation	22
Irrigation (Agriculture)	0
Public Supply/Commercial	44
Public Water Supply (PWS)	54
Other	3
TOTAL	**161**

// controlling & preventing waste of groundwater //

Evaluate District Rules Annually to Decrease Waste

B.1. Objective

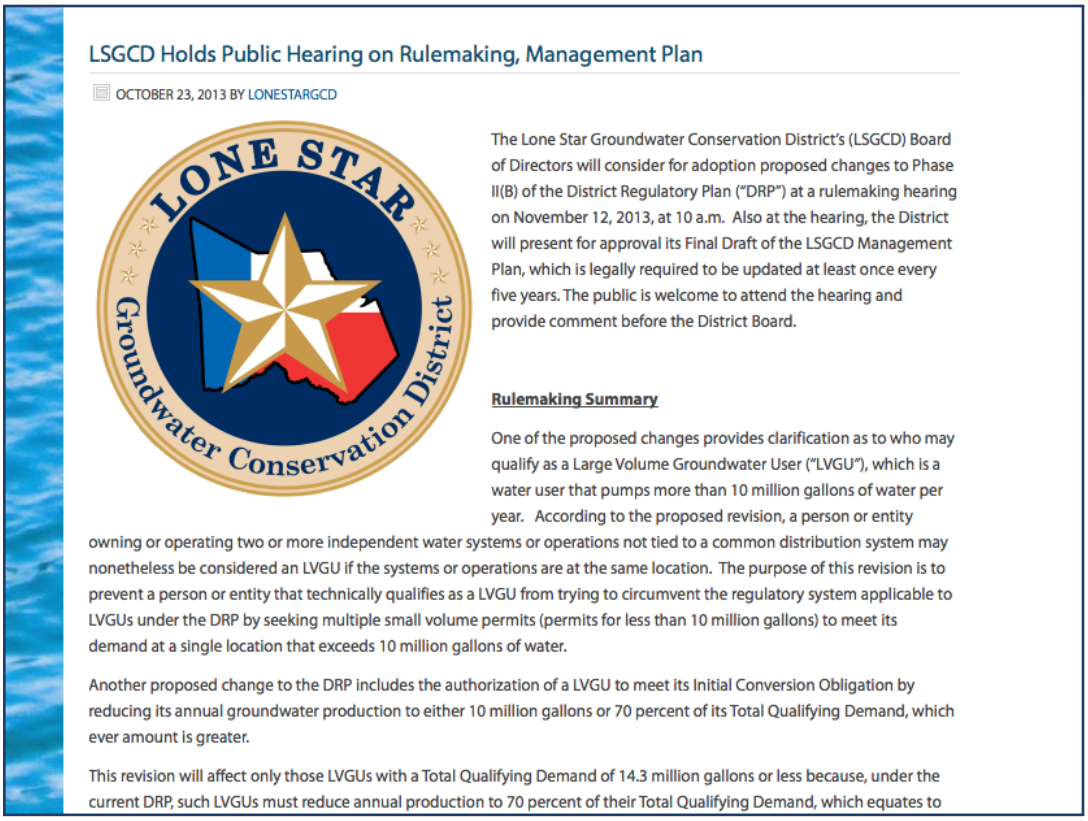
Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District.

B.1. Performance Standard

The District will include a discussion of the annual evaluation of the District Rules and the determination of whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.

Status

The District posted website announcements about public hearings on both Rulemaking changes and Management Plan changes. The organization also sent press releases to local media and notified, by email, those in the District's electronic database.



LSGCD Holds Public Hearing on Rulemaking, Management Plan

OCTOBER 23, 2013 BY LONESTARGCD

The Lone Star Groundwater Conservation District's (LSGCD) Board of Directors will consider for adoption proposed changes to Phase II(B) of the District Regulatory Plan ("DRP") at a rulemaking hearing on November 12, 2013, at 10 a.m. Also at the hearing, the District will present for approval its Final Draft of the LSGCD Management Plan, which is legally required to be updated at least once every five years. The public is welcome to attend the hearing and provide comment before the District Board.

Rulemaking Summary

One of the proposed changes provides clarification as to who may qualify as a Large Volume Groundwater User ("LVGU"), which is a water user that pumps more than 10 million gallons of water per year. According to the proposed revision, a person or entity owning or operating two or more independent water systems or operations not tied to a common distribution system may nonetheless be considered an LVGU if the systems or operations are at the same location. The purpose of this revision is to prevent a person or entity that technically qualifies as a LVGU from trying to circumvent the regulatory system applicable to LVGUs under the DRP by seeking multiple small volume permits (permits for less than 10 million gallons) to meet its demand at a single location that exceeds 10 million gallons of water.

Another proposed change to the DRP includes the authorization of a LVGU to meet its Initial Conversion Obligation by reducing its annual groundwater production to either 10 million gallons or 70 percent of its Total Qualifying Demand, which ever amount is greater.

This revision will affect only those LVGUs with a Total Qualifying Demand of 14.3 million gallons or less because, under the current DRP, such LVGUs must reduce annual production to 70 percent of their Total Qualifying Demand, which equates to

Additionally, the Conroe Courier published a story on the upcoming hearings as well as a "calendar" type notice in the publication.

THE COURIER OF MONTGOMERY COUNTY
HOUSTON COMMUNITY NEWSPAPERS

LSGCD board considers revised water guidelines

Related Content

LSGCD PUBLIC HEARING

The Lone Star Groundwater Conservation District will hold a public hearing, and may take action on the proposed re-adoption of the District Management Plan as required by Chapter 36 of the Texas Water Code. The meeting is at 10 a.m. Tuesday in the LSGCD's James Wesley Board Room, 655 Conroe Park North Drive

Posted: Monday, November 11, 2013 1:24 am

By **Howard Roden**

Large volume groundwater users are at the center of proposed changes to the Lone Star Groundwater Conservation District's Management Plan.

A public hearing on the re-adoption of the plan is set for 10 a.m. Tuesday at the LSGCD's offices located at 655 Conroe Park North Drive.

The LSGCD is legally required to update its plan at least once every five years.

The LSGCD board of directors will consider several items for addition to Phase II (B) of the District Regulatory Plan. One is to clarify which Montgomery County water systems quality as large volume groundwater users.

LVGUs are those water users who pump more than 10 million gallons per year.

In this proposal, a company or individual owning and operating two or more independent water systems not tied to a common distribution system could be classified as an LVGU if the systems or operations are at the same location.

"This version is to prevent a person or entity that technically qualifies as a LVGU from trying to circumvent the regulatory system … by seeking multiple small volume permits to meet its demand at a single location that exceeds 10 mgd," LSGCD General Manager Kathy Turner-Jones stated in a press release.

Another proposed change is for LVGUs to be given the option of reducing their groundwater production requirement by either the 10 mgd limit or 70 percent of their total qualifying demand, which ever amount is greater.

"Essentially, this revision sets an annual production floor for LVGUs at 10 mgd," Turner-Jones said.

Another proposal concerns the transferability of permits from Small Volume Groundwater Users to LVGUs.

While the LSGCD usually prohibits issuing transfers, that will change if the revision is approved.

// controlling & preventing waste of groundwater //

Apply Fees to Reduce or Eliminate Waste

B.2. Objective

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.

B.2. Performance Standard

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 a section of the Annual Report given to the Board of Directors of the District.

Status

In order to reduce and eliminate water waste, LSGCD applies a water use fee structure to the permitted use of groundwater in Montgomery County. In 2013, fees associated with water use totaled $1,907,581.98. The tables on Page 12 and 13 illustrate the fee structure and the amounts of water used for each type of groundwater use in the District.

Table 5: The Amount of Water Use Fees Generated by the District in 2013

Water Use Type	Permitted Amount (in gallons)	Fee Rate	Fee Amount
HUP Applications/ Operating Permits*	30,171,664,587	$.06/1000 gallons	$1,810,299.88
Water Subject to Transportation Fee	50,074,049	$.09/1000 gallons	$4,506.66
AG Permits/Applications	504,757,283	$1.00 per acre ft.	$1,549.04
Catahoula AWS Production Permits	1,520,440,000	$.06/1000 gallons	$91,226.40
TOTAL	**32,246,935,919 gallons**		**$1,907,581.98**

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

Table 6: The Amount of Water Reported to the District as Pumped for Each Type of Permitted Groundwater Use

Type of Use	Gallons
Commercial	6,374,499,214
Industrial	497,355,302
Irrigation	1,145,812,011
Irrigation (Agriculture)	239,269,841
Public Supply	454,720,329
Public Supply (PWS)	15,889,389,650
GRAND TOTAL*	**24,601,046,347**

**The reported pumping for 2013 is incomplete due to incomplete reporting by a small number of permittees. The District is currently pushing enforcement action to ensure compliance with reporting requirements.*

Provide Information to the Public to Reduce Waste

B.3. Objective

Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by including information on groundwater waste reduction on the District's website.

B.3. Performance Standard

Each year, a copy of the information provided on the groundwater waste reduction page of the District's website will be included in the District's Annual Report to be given to the District's Board of Directors.

Status

A copy of the information provided on the groundwater waste reduction page of the District's website is provided on Page 14.

// controlling & preventing waste of groundwater //

National Groundwater Awareness Week is March 10-16th

MARCH 20, 2013

MARCH 10th-16th IS NATIONAL GROUNDWATER AWARENESS WEEK. LEARN MORE ABOUT HOW YOU CAN PROTECT AND PRESERVE THIS PRECIOUS RESOURCE BY CONSERVING.

During National Groundwater Awareness Week, March 10th-16th, 2013, the Lone Star Groundwater Conservation District wants to remind Montgomery County citizens of how important groundwater is in our everyday lives and to encourage them to spread the word about protecting and preserving our precious water source.

Nearly the entire water demand in Montgomery County is supplied by groundwater from the Gulf Coast Aquifer System. While great strides are being taken to convert to alternate, non-groundwater sources, the fact remains that we depend on groundwater for our daily needs and it is important to do all that we can to minimize its use. In addition to local restrictions, here are a few basic indoor and outdoor water conservation tips:

- Never pour water down the drain when there may be another use for it such as watering your indoor plants or garden.
- Repair dripping faucets and toilets. One drop per second wastes 2,700 gallons of water a year.
- Pay close attention to your irrigation system controller, applying only as much water as necessary to maintain a healthy lawn; check for leaking or misdirected sprinkler heads.
- Retrofit all household faucets by installing aerators with flow restrictors.
- Choose appliances that are water and energy-efficient.
- Don't run a faucet when you're not using the water, such as while brushing your teeth or shaving.
- Only run the dishwasher when it is fully loaded, and use the "light wash" feature, if available, to use less water.
- Store drinking water in the refrigerator instead of running the tap until the water is cool.
- Avoid wasting water waiting for it to get hot. Capture it for other uses such as plant watering.
- Operate clothes washers only when they are fully loaded, or set the water level to match the size of your load.
- Plant native and/or drought-tolerant grasses, ground cover, shrubs, and trees. Once established, they do not need water as frequently and usually will survive a dry period.
- Install irrigation devices that are the most water efficient for each use. Micro and drip irrigation and soaker hoses are examples of efficient devices. Use mulch to retain moisture in the soil. Use a shutoff nozzle on the hose that can be adjusted down to a fine spray.

For more information on National Groundwater Awareness Week, go to http://www.tgpc.state.tx.us/. And for more on the conservation of water, no matter the source, go to www.lonestargcd.org.

Coordinate Information Sharing with Subsidence Districts

C.1. Objective

Each year, the District will hold a joint conference with the Harris-Galveston Subsidence District and the Fort Bend Subsidence District focused on sharing information regarding subsidence and the control and prevention of subsidence through the regulation of groundwater.

C.1. Performance Standard

Each year, a summary of the joint conference on subsidence issues will be included in the Annual Report submitted by the Board of Directors of the District.

Status

As background, LSGCD is authorized by legislation to regulate the withdrawal of groundwater in Montgomery County. Likewise, the Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) are authorized to regulate the withdrawal of groundwater in their respective counties (Harris, Galveston and Ft. Bend).

The withdrawal of groundwater in Montgomery County affects subsidence within the boundaries of the FBSD and the HGSD and vice versa. Realizing this, the three Districts entered into an inter-local agreement for the review and recalibration of the groundwater models for the Gulf Coast Aquifer and the effects of sustained pumping of that aquifer on land subsidence, as well as to update the regional population and water demand forecasts.

The 2013 joint conference between the Districts was held at the Harris-Galveston Subsidence District's offices on January 8, 2013. Those present included: **Paul Nelson**, Lone Star GCD; **Ron Neighbors**, Harris-Galveston Subsidence District; **Tom Michel**, Fort Bend Subsidence District; **Mark Lowry**, LSGCD Consultant; **Mike Reedy**, FNI; **Bill Thaman**, FNI.

The purpose of the meeting was to review progress on the two remaining open authorizations: Work Orders 5 (projected gallons per capita demands and projected population and water demand distribution) and 6 (groundwater pumping scenario analysis).

By year's end, the project was completed, and the results of the modeling work (known as the Houston Area Groundwater Model) were presented at a meeting on February 25, 2013. Those present included representatives from LSGCD, HGSD, the United States Geological Survey (USGS) and Freese and Nichols, Inc. (FNI).

In addition to presenting the project results, the Districts requested that the Texas Water Development Board (TWDB) accept this updated model for regional planning usage.

The management of Montgomery County's groundwater resources involves significant coordination with regional ground and surface water suppliers and ongoing interaction with other state and local regulatory entities. The continued analysis of accurate and current predictions on water usage and population growth is critical to the management of our water sources. The enforcement of real incentives on those who rely too heavily on groundwater and a steadfast commitment to practicing and promoting water conservation will continue to be significant management strategies.

Write an Article About Subsidence

C.2. Objective

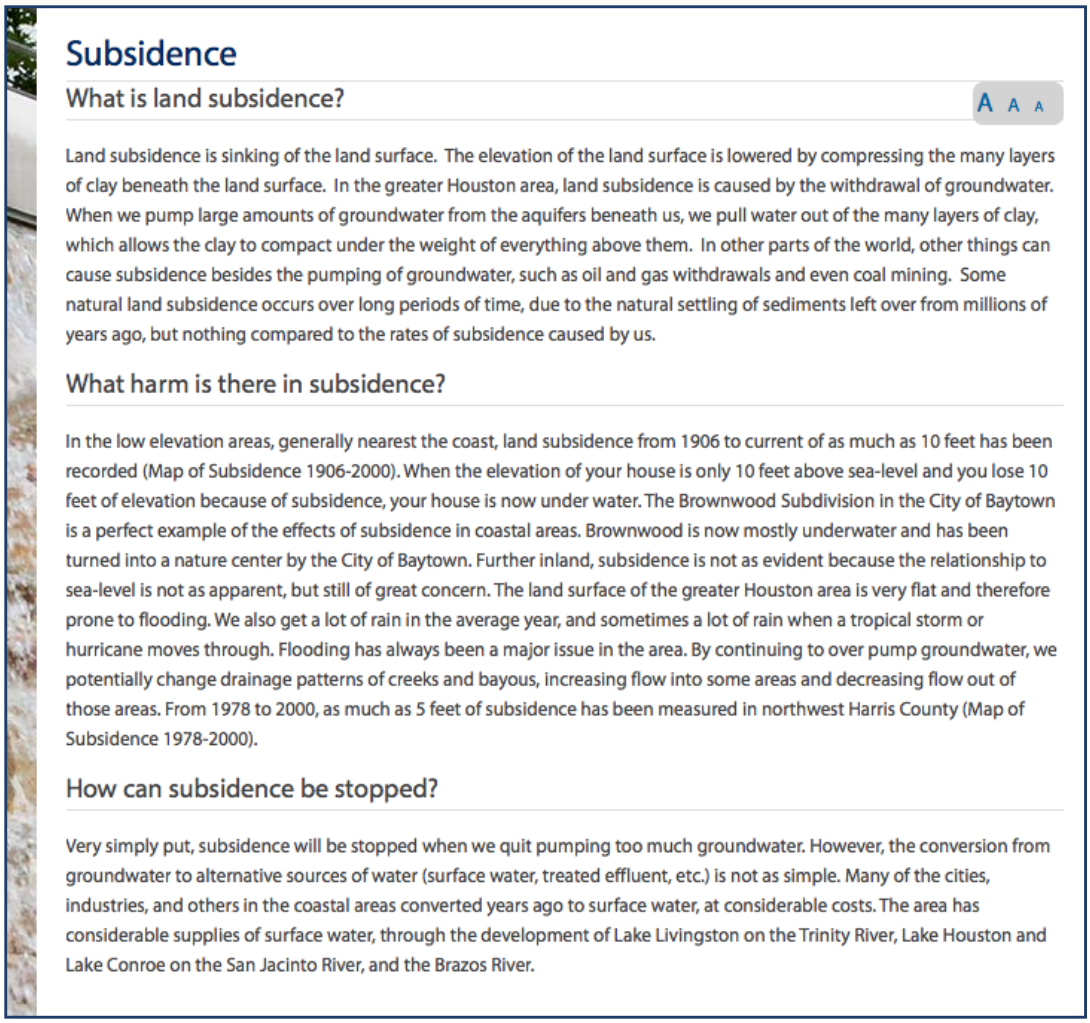
Each year, the District will provide one article annually on the District's website to educate the public on the subject of subsidence.

C.2. Performance Standard

The Annual Report submitted to the Board of Directors will include a copy of the article posted on the District's website.

Status

A copy of the article is available on the District website and can be found below:



Subsidence

What is land subsidence?

A A A

Land subsidence is sinking of the land surface. The elevation of the land surface is lowered by compressing the many layers of clay beneath the land surface. In the greater Houston area, land subsidence is caused by the withdrawal of groundwater. When we pump large amounts of groundwater from the aquifers beneath us, we pull water out of the many layers of clay, which allows the clay to compact under the weight of everything above them. In other parts of the world, other things can cause subsidence besides the pumping of groundwater, such as oil and gas withdrawals and even coal mining. Some natural land subsidence occurs over long periods of time, due to the natural settling of sediments left over from millions of years ago, but nothing compared to the rates of subsidence caused by us.

What harm is there in subsidence?

In the low elevation areas, generally nearest the coast, land subsidence from 1906 to current of as much as 10 feet has been recorded (Map of Subsidence 1906-2000). When the elevation of your house is only 10 feet above sea-level and you lose 10 feet of elevation because of subsidence, your house is now under water. The Brownwood Subdivision in the City of Baytown is a perfect example of the effects of subsidence in coastal areas. Brownwood is now mostly underwater and has been turned into a nature center by the City of Baytown. Further inland, subsidence is not as evident because the relationship to sea-level is not as apparent, but still of great concern. The land surface of the greater Houston area is very flat and therefore prone to flooding. We also get a lot of rain in the average year, and sometimes a lot of rain when a tropical storm or hurricane moves through. Flooding has always been a major issue in the area. By continuing to over pump groundwater, we potentially change drainage patterns of creeks and bayous, increasing flow into some areas and decreasing flow out of those areas. From 1978 to 2000, as much as 5 feet of subsidence has been measured in northwest Harris County (Map of Subsidence 1978-2000).

How can subsidence be stopped?

Very simply put, subsidence will be stopped when we quit pumping too much groundwater. However, the conversion from groundwater to alternative sources of water (surface water, treated effluent, etc.) is not as simple. Many of the cities, industries, and others in the coastal areas converted years ago to surface water, at considerable costs. The area has considerable supplies of surface water, through the development of Lake Livingston on the Trinity River, Lake Houston and Lake Conroe on the San Jacinto River, and the Brazos River.

Participate in Region H Planning Efforts

D.1. Objective

Each year, the District will participate in the regional planning process by attending at least 75 percent of the Region H – Regional Water Planning Group meetings to encourage the development of surface water supplies to meet the needs of water user groups in the District.

D.1. Performance Standard

The attendance of a District representative at each Region H Regional Water Planning Group will be noted in the Annual Report presented to the District Board of Directors and posted on the District website, **www.lonestargcd.org**.

Status

Each year, LSGCD participates in the regional planning process by attending Region H Planning Group Meetings. Attendance at these meetings, and membership on various Region H committees provides valuable input to the Planning Group, relative to groundwater's role in overall regional planning.

A record of attendance of District Representatives at each Region H Regional Water Planning Group is noted in **Table 7**:

Table 7: Record of District representative attendance at Region H Regional Water Planning Meetings (Total of 3 meetings were held with 100% attendance)

Meeting Date	Attendees
April 3	Kathy Turner Jones, Paul R. Nelson
July 3	Kathy Turner Jones
Nov. 6	Kathy Turner Jones, Paul R. Nelson

// drought summary //

Keep Up-to-Date With Drought Conditions

E.1. Objective

Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network website, **www.txwin.net**.

E.1. Performance Standard

Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors.

Status

Links to the PDSI maps and Situation Reports for 2013 can be found on the District website.

Quarterly Drought Briefings for 2013

1st Quarter 2013

January ended with above average temperatures and precipitation across most of the state. In February, the temperature was generally above average but precipitation fell below average. Despite frequent fronts in March, rainfall was minimal in most areas of the state, and the region ended with first quarter well below average rainfall totals. The U.S. Drought Monitor notated that Montgomery County was in a moderate to severe drought during the first quarter.

2nd Quarter 2013

April saw cooler than average temperatures with several fronts bringing precipitation to much of the region. May was also cooler than usual, and Montgomery County experienced above-average rainfall totals, while most of the rest of the state remained below average. June was warmer than normal across the state, and most regions experienced below-normal precipitation. The U.S. Drought Monitor notated that Montgomery County fluxuated between a moderate to severe drought during the first quarter.

3rd Quarter 2013

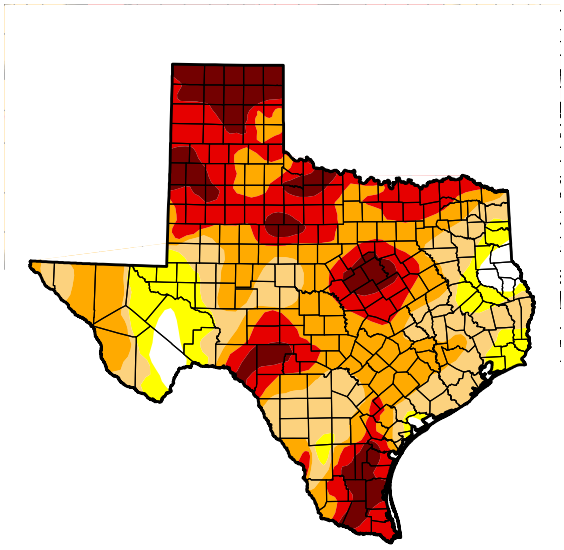
During July, an unusual upper-level low moved over the state, helping drive thunderstorms and long-lasting rainfall events for almost a week. Despite this unusual weather pattern, however, the region saw lower rainfall totals than normal for July and came in below average for the month. August was a warm month for most of the state, with several days of triple digits and lower-than-normal precipitation. Warmer temperatures and drought conditions persisted through most of the state during September. The U.S. Drought Monitor notated that Montgomery County was in a moderate to severe drought during the third quarter.

4th Quarter 2013

Frequent fronts, mixed with Gulf moisture, helped much of the eastern half of the state end October with well above normal precipitation. According to the U.S. Drought Monitor, Montgomery County experienced moderate drought conditions in early October, but by the end of the month, it was decreased severity to abnormally dry. Through November and December, the county was mostly considered to be out of the drought.

U.S. Drought Monitor

Texas



January 1, 2013

(Released Thursday, Jan. 3, 2013)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.04	96.96	87.00	65.39	35.03	11.96
Last Week 12/25/2012	4.54	95.46	88.31	64.13	34.48	10.32
3 Months Ago 10/2/2012	16.69	83.31	65.97	32.55	16.16	3.23
Start of Calendar Year 1/1/2013	3.04	96.96	87.00	65.39	35.03	11.96
Start of Water Year 9/25/2012	9.13	90.87	78.73	57.41	24.91	5.18
One Year Ago 1/3/2012	0.01	99.99	97.83	84.81	67.32	32.40

Intensity:

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

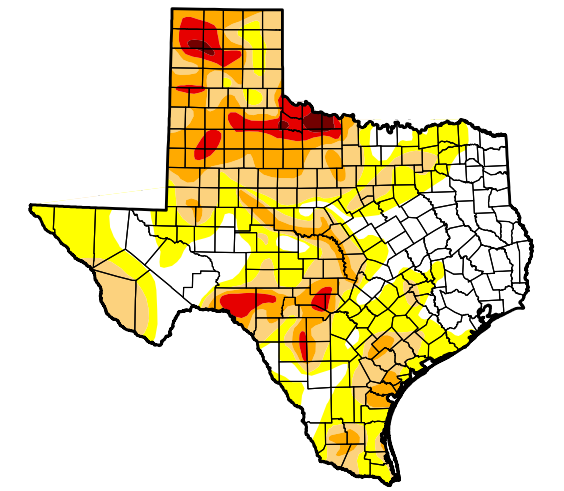
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Richard Heim
NCDC/NOAA

http://droughtmonitor.unl.edu/

U.S. Drought Monitor

Texas



December 31, 2013

(Released Thursday, Jan. 2, 2014)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	28.48	71.52	43.84	21.15	5.82	0.79
Last Week 12/24/2013	28.30	71.70	45.90	22.44	6.78	0.79
3 Months Ago 10/1/2013	6.62	93.38	70.95	25.08	4.01	0.12
Start of Calendar Year 1/1/2013	3.04	96.96	87.00	65.39	35.03	11.96
Start of Water Year 10/1/2013	6.62	93.38	70.95	25.08	4.01	0.12
One Year Ago 1/1/2013	3.04	96.96	87.00	65.39	35.03	11.96

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:
Matthew Rosencrans
CPC/NCEP/NWS/NOAA

http://droughtmonitor.unl.edu/

Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control Where Appropriate and Cost-Effective

The Lone Star Groundwater Conservation District remains committed to educating the residents of Montgomery County about the need for water conservation as an alternative to groundwater pumping. The cost for recharge enhancement is high due to the need for land acquisition for the use of spreading basins or through injection wells, which is also cost-prohibitive. To promote the use of alternative sources of water, the Lone Star Groundwater Conservation District continues to encourage the use of rainwater harvesting collection systems.

Altering precipitation patterns through artificial means is not a cost-effective or feasible program for the District at this point in time. Brush control is not being considered as a viable program for the District at this time due to the lack of cost-effectiveness.

Write an Article About Water Conservation in at Least One Newspaper

F.1. Objective

The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Montgomery County.

F.1. Performance Standard

A copy of the article submitted by the District for publication to a newspaper of general circulation in Montgomery County regarding water conservation will be included in the Annual Report to the Board of Directors.

Status

This year, LSGCD authored a number of guest columns encouraging water conservation methods in Montgomery County. The majority of articles have been in the Dock Line Magazine, both Conroe and The Woodlands Editions. There have also been a number of other stories written, including media coverage of a speaking engagement for a local chamber of commerce. Examples of these efforts are provided on Pages 32 through 34 and on the District website at **www.lonestargcd.org**.

Educate Students About Water

F.2. Objective

The District will develop or implement a pre-existing educational program for use in public or private schools that will be included in the Annual Report to the Board of Directors for the year 2013.

F.2. Performance Standard

A description of the educational program developed or implemented by the District for use in Montgomery County public or private schools will be included in the Annual Report to the Board of Directors for the year 2013.

Walraven – Book Cover Program

Lone Star Groundwater Conservation District also leads a program with SJRA to provide book covers with water conservation messages to Montgomery County students. For the 2013-2014 school year, more than 57,000 book covers were distributed to six school districts within the county to meet TEA's requirement that all textbooks be covered.

In 2013, LSGCD spent $4,745 for its part of the program. School districts included:

- Conroe ISD
- New Caney ISD
- Willis ISD
- Montgomery ISD
- Splendora ISD
- Magnolia ISD

Other Activities

Lone Star Groundwater Conservation District also educates the public by providing exhibits at local events in the county. In October of this year, the District added a new staff member — Education/Public Awareness Coordinator — to manage the outreach, community education, media relations and other related programs.

In 2013, the Mobile Education Trailer appeared at the following community events, with the purpose of general public education:

- Texas Wildlife and Woodlands Exhibition
- Toyota Bass Classic
- Woodlands Landscaping Event
- Conroe Catfish Festival
- Texas Alliance of Groundwater Districts Quarterly Meeting
- Peet Middle School (Conroe ISD)
- Montgomery Elementary School
- New Waverly Middle School
- Conroe Kidz Fest

Also in the fall, two new external displays were added to the trailer. First, a fun, child-friendly duck race was added. This feature prompts kids to talk about how people use to have to hand-pump water, and then District staff talks to them about how in the "old days" our forefathers respected water as the precious resource that it is. The second feature is a working rainwater harvesting display that demonstrates how simple it is to set up this type of system (see photo on page 24).

In addition, District staff made presentations to a number of organizations, including:

- Leadership Montgomery County
- Chambers of Magnolia Legislative Alliance Committee
- Madisonville High School Ag Issues Team
- A number of MUD Board Meetings throughout the county
- Water Utilities Association – Sam Houston Chapter
- Woodlands Home and Garden Show
- Texas Patriots PAC – Woodlands Chapter

LSGCD distributed a number of educational materials at these events and speaking engagements, ranging from aerators, rain gauges and moisture meters, to conservation coloring and activity books. Water Conservation Kits continue to be provided for walk-in traffic at the District offices as well. In all, staff estimates that more than 500 individuals were directly contacted during 2013 at these outreach events. This does not include those who did not have one-on-one interactions, but instead picked up materials and went on their way.

Gulf Coast/Montgomery County Water Efficiency Network

District staff continued to organize meetings for the Gulf Coast/Montgomery County Water Efficiency Network in 2013. LSGCD was instrumental in the network's creation in 2012, and is comprised of water professionals in the region that share industry information. Each meeting features a speaker on a variety of industry topics. In 2013, speakers ranged from licensed irrigators to governmental officials and topics included legislation, technology, reuse, landscape design and industry trends. The network also hosted a Water Conservation Seminar, which the District also sponsored, that drew attendees throughout the region (see below).

Water Conservation Seminar

The District co-sponsored the Gulf Coast Water Conservation Seminar on February 19, 2013. The event, held at Lone Star College, drew more than 150 attendees, and featured both local and national speakers. The focus of the seminar was on innovative options for setting water rates that will both promote conservation and provide the income to fund operation, maintenance and necessary capital projects by water providers.

Water Conservation Kits

The District provides complimentary water conservation kits. Each conservation kit contains the following items with a detailed description of the water benefit saving of each:

- Toilet Tummy
- Aerator
- Rain Gauge
- Moisture Meter
- Leak Detection Dye Tablets
- 5-Spray, Water-Saving Hose Nozzle
- Shower Flow Meter Bag

District staff maintains stock of these items for various presentations, meetings and outreach events. Staff estimates that approximately 200 conservation kits were distributed in 2013 at various events and presentations throughout the county. In addition, the conservation kits are available to the walk-in public on request. The District spent $1,941.34 on conservation education materials and water conservation kit supplies in 2013.

District Library

The District has created and established an in-house reference library of educational information available for all ages. Books, games, coloring books, videos and other factual information is included in the library, to be checked out for a period of time, depending on the specific resource.

The District offers and encourages educators to take advantage of the District's water resource information material. A desktop Groundwater Flow Model, which serves as an interactive classroom tool designed to show the flow of water and pollutants through differing gradients, is available and can be used in front of the classroom and is easily used by students themselves. It demonstrates flow through confined and unconfined aquifers, as well as the effects of pumping on these aquifers. The District maintains this teaching tool as a means to teach the community about the hydrologic characteristics of aquifers and the impacts of groundwater pumping.

// conservation programs //

State Youth Water Camp

Historically, the Lone Star Groundwater Conservation District provides two student scholarships to the State Youth Water Camp. This educational opportunity is co-sponsored by Texas AgriLife Extension Service, Natural Resources Conservation Service and the Upper Pecos Soil and Water Conservation District. The five-day event is designed to help older youth throughout the state become aware of current water issues, including municipal and home water use as well as water quality and supply. The camp features field trips, tours and hands-on group project work. Unfortunately, in 2013 the camp did not have enough campers enrolled, so it had to cancel the opportunity. It is our hope that we may again sponsor students in 2014.

Advocating Conservation

The Lone Star Groundwater Conservation District continues to be the county's leading advocate for water conservation. It does so in a number of ways, by:

- Backing the "Texas Water – Origins and Destinations" curriculum,
- Maintaining a mobile education/teaching lab for students,
- Providing water conservation kits and informative book covers for children,
- Implementing water-use reduction methods in area restaurants by asking restaurateurs to provide water only upon request,
- Using press releases, e-newsletters, magazine articles, guest columns and social media to keep conservation in front of the public,
- Hosting site tours, which demonstrate examples of water conservation techniques,
- Partnering with business and community groups to maximize impact of conservation messaging and leveraging funds, and
- Serving as an active member of the many communities in Montgomery County through chambers of commerce, public events and outreach opportunities.

Communicate to Permit Holders About Water Conservation by Mail

F.3. Objective

Each year, the District will include an informative flier on water conservation within at least one mailout to groundwater use permit holders distributed in the normal course of business for the District.

F.3. Performance Standard

The District's Annual Report will include a copy of the informative flier distributed to groundwater use permit holders regarding water conservation and the number of fliers distributed.

Status

This year, approximately 38,000 fliers were distributed in Montgomery County. The printing and distribution costs to the District totaled $1,500. An example of the flier is found below:

The District also created and made available fliers that provided educational information about Proposition 6, a bill put before voters which creates a funding mechanism for water projects:

SIX IMPORTANT FACTS ABOUT PROPOSITION 6

The 83rd Texas Legislature made some landmark decisions on actions needed to **secure our water resources for the future,** giving voters the opportunity to consider and vote on these measures on November 5, 2013.

1. **Proposition 6** is a Constitutional Amendment which creates the State Water Implementation Fund (SWIF) to assist in the financing of priority water projects and ensures the availability of adequate water resources.
2. The Texas Water Development Board (TWDB) updates the **State Water Plan** every five years based on input from regional planning groups that identify and prioritize critical water projects needed to meet increased future demand.
3. Texans have learned some hard lessons stemming from the recent -- and ongoing -- **devastating droughts**. Not only is the state's population expected to double over the next 40 years or so, but the state's groundwater supplies are projected to decrease by 30 percent over the same period of time.
4. The legislation ***does not include new tax measures***, but utilizes funds already in the State Treasury.
5. Proposition 6 authorizes the TWDB to offer **low interest loans** for critical infrastructure projects. This money will be *paid back*, to become available to fund other projects in the future.
6. The **long-term stability and growth of the Texas economy depend on ample water** for household, commercial, industrial and agricultural use. State funding can significantly reduce the total cost of financing regional and local projects, and can be renewed for permanent access to funding for qualified projects down the road.

LONE STAR Groundwater Conservation District

Promote Rainwater Harvesting

F.4. Objective

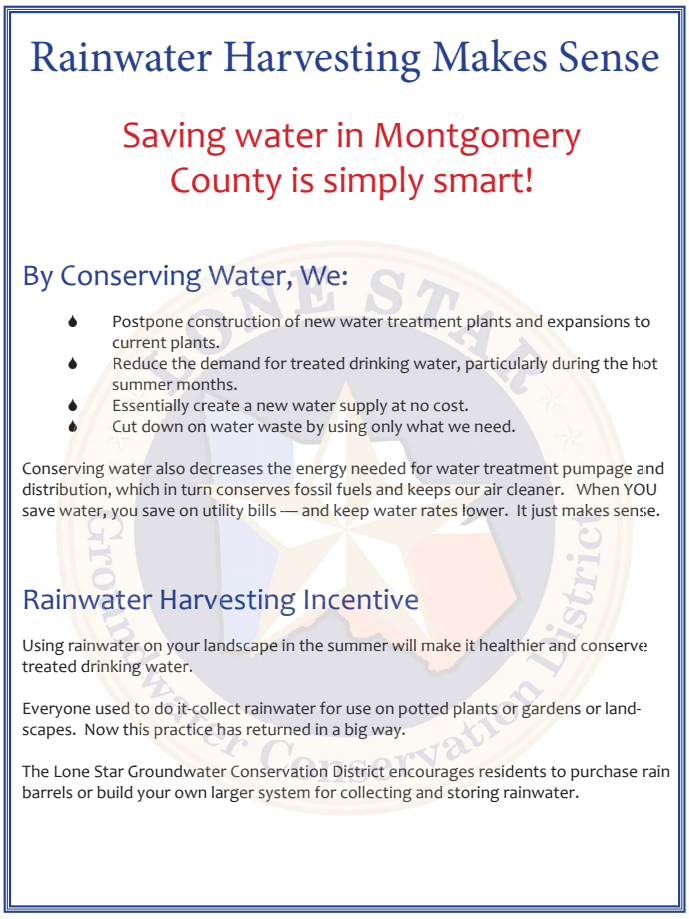
Each year, the District will promote rainwater harvesting by posting at least one informative article on rainwater harvesting on the District website. The District will also consider sponsoring rainwater harvesting activities when the project offers opportunities to advertise and promote the technology.

F.4. Performance Standard

Each year, the annual report will include a copy of the article that has been provided on the District website in rainwater harvesting.

Status

This year, Leadership Montgomery County selected Rainwater Harvesting as their class project. At year's end, District staff met a number of times with LMC Class members to assist with three rainwater harvesting projects throughout the county. The project is projected to be complete in May 2014. The District also created and distributed flyers on rain harvesting at events in 2013, as can be seen below and on Page 27.



Rainwater Harvesting Makes Sense

Saving water in Montgomery County is simply smart!

By Conserving Water, We:

- Postpone construction of new water treatment plants and expansions to current plants.
- Reduce the demand for treated drinking water, particularly during the hot summer months.
- Essentially create a new water supply at no cost.
- Cut down on water waste by using only what we need.

Conserving water also decreases the energy needed for water treatment pumpage and distribution, which in turn conserves fossil fuels and keeps our air cleaner. When YOU save water, you save on utility bills — and keep water rates lower. It just makes sense.

Rainwater Harvesting Incentive

Using rainwater on your landscape in the summer will make it healthier and conserve treated drinking water.

Everyone used to do it-collect rainwater for use on potted plants or gardens or landscapes. Now this practice has returned in a big way.

The Lone Star Groundwater Conservation District encourages residents to purchase rain barrels or build your own larger system for collecting and storing rainwater.

Using Rain Barrels

An age-old product that is now making a comeback, rain barrels are used to collect rain water, which homeowners can then use to supplement their well or municipally supplied water.

The homeowner places the barrel under a downspout (the downspout must be cut to fit the barrel beneath it). Water flows from the downspout into the barrel through an aluminum screened louver on top. The closed container is child safe and eliminates the possibility of bugs entering and breeding, Greenstein said.

Water can be released from the barrel through a spigot on the bottom to which a hose can be connected. A spigot on top is used to divert any overflow through a hose away from the house.

Over a spring, summer, and fall season an average household could collect as much as 4,000 gallons by using rain barrels.

Diverting water from your downspout into rainwater catchment systems has several advantages:

- reduces the volume of water flowing to the sewer treatment facility
- lowers the percentage of roof top rainfall as a component of urban runoff
- backup source of water during times of drought or between rain showers
- helps to keep our creeks and beaches clean
- naturally softened water - great for delicate houseplants, auto cleaning and window washing
- saves money by lowering your water bill
- reduces the need for additional tax dollars earmarked for sewer expansion
- chlorine-free water helps maintain a healthy biotic community in the soil
- educational tool for teaching residents about water conservation

Lone Star Groundwater Conservation District
936.494.3436

Montgomery County: A Thirst for Growth

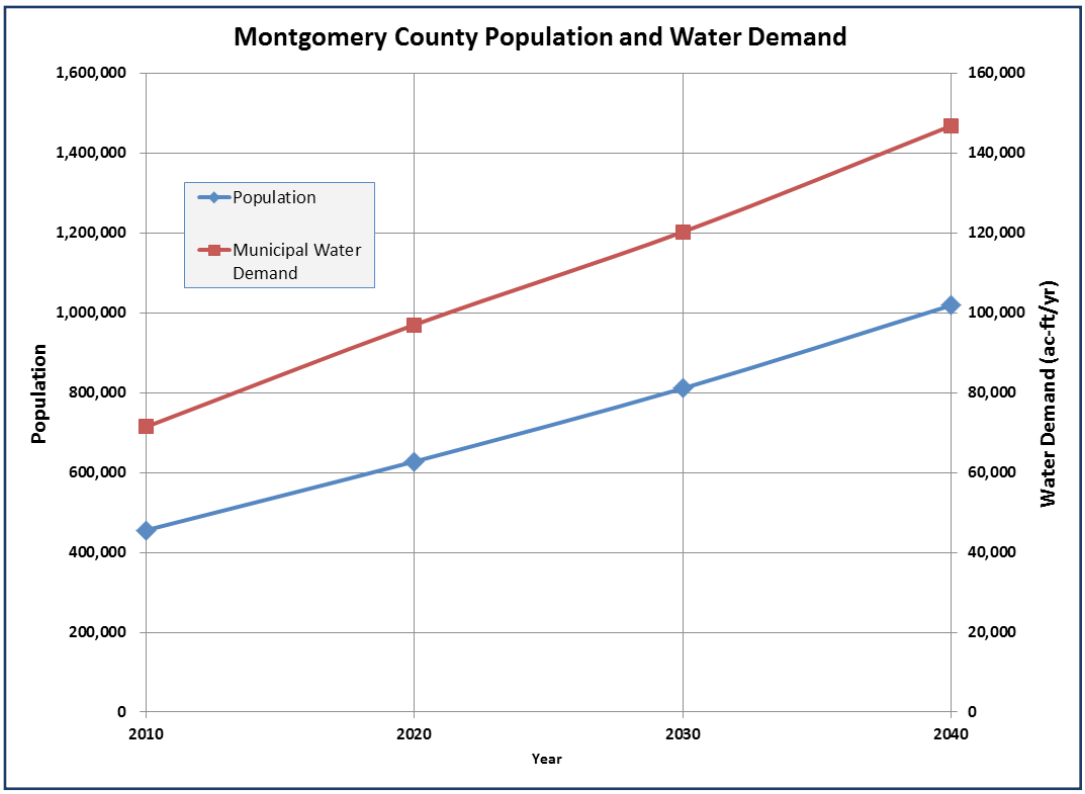
Forty years ago, only 45,000 people lived in Montgomery County. Just 10 years ago, the population of the county was 290,000. Today, we're at almost half a million and that number is expected to double by 2040.

There's little surprise then, that public water supply requires 85 percent of the water pumped from the Gulf Coast Aquifer in Montgomery County. At current water-use rates, that demand significantly exceeds the Gulf Coast Aquifer's ability to recharge. The county is running at a deficit.

To continue to meet our rapidly growing needs, new water sources and a continued emphasis on conservation are required.

"The county's water demand will continue to climb, and if alternative sources of water aren't found, the amount of water within the local aquifers could fall by hundreds of feet."

Kathy Turner Jones,
General Manager



Throughout 2013 the District has strived to keep the citizens of Montgomery County updated with the latest news and information concerning groundwater. The District submitted many articles through many sources during the year in hopes to keep the communication lines open with the public.

Below is a summary list of press releases distributed to area newspapers, including The Houston Chronicle, Montgomery County News, Conroe Courier and Community Impact Newspaper, as well as being distributed electronically by District staff via an email distribution list:

Press Releases

February 28, 2013, Conroe: **Texas Water Development Board Honors Lone Star Groundwater Conservation District with Texas Rain Catcher Award**
The Texas Water Development Board has announced Lone Star Groundwater Conservation District as the recipient of the 2012 Texas Rain Catcher Award in the government category.

March 20, 2013, Conroe: **National Groundwater Awareness Week is March 10th-16th**
During National Groundwater Awareness Week, March 10th-16th, 2013, the Lone Star Groundwater Conservation District wants to remind Montgomery County citizens of how important groundwater is in our everyday lives and to encourage them to spread the word about protecting and preserving our precious water source.

July 25, 2013, Conroe: **Lone Star Groundwater Conservation District Board Votes to Continue 2014 Water Use Fees at Current Level**
The Lone Star Groundwater Conservation District (LSGCD) Board of Directors has passed a resolution that continues the 2014 fiscal year water use fee at the current rate of $0.06 per 1,000 gallons for the fourth consecutive year.

October 3, 2013, Conroe: **LSGCD Hires Education/Public Awareness Coordinator**
The Lone Star Groundwater Conservation District (LSGCD) officials this week announced they hired Marlisa Briggs as the District's Education/Public Awareness Coordinator.

October 23, 2013, Conroe: **LSGCD Holds Public Hearing on Rulemaking, Management Plan**
The Lone Star Groundwater Conservation District (LSGCD) Board of Directors will consider for adoption proposed changes to Phase II(B) of the District Regulatory Plan ("DRP") at a rulemaking hearing on November 12, 2013, at 10 a.m.

November 12, 2013, Conroe: LSGCD Welcomes Jace Houston to Board of Directors
The Lone Star Groundwater Conservation District (LSGCD) today swore in Jace Houston, general manager of the San Jacinto River Authority (SJRA), to its Board of Directors. Houston is replacing Reed Eichelberger, who served on the District's board since 2006 as the SJRA representative.

December 4, 2013, Conroe:
Lone Star Groundwater Offers Conservation Tips to Magnolia Chamber Members
Magnolia business leaders were given an informal quiz on water consumption at a recent chamber alliance meeting, and those in attendance were surprised learn how much water is consumed on everyday items.

// press releases //

FOR IMMEDIATE RELEASE
FEBRUARY 28, 2013

TEXAS WATER DEVELOPMENT BOARD HONORS LONE STAR GROUNDWATER CONSERVATION DISTRICT WITH TEXAS RAIN CATCHER AWARD

CONROE, TEXAS - The Texas Water Development Board has announced Lone Star Groundwater Conservation District as the recipient of the 2012 Texas Rain Catcher Award in the government category. The award was presented today at the Board's meeting.

The TWDB recognizes excellence and innovation in capturing water from rainfall that might otherwise be wasted. Lone Star Water's General Manager, Kathy Turner Jones, believes the award will help promote the group's mission to conserve water in Montgomery County.

"We are very grateful for the Texas Water Development Board's recognition of our efforts. Our project emphasizes that rainwater can be used to create beautiful landscapes while conserving our valuable resource. We hope it inspires the community to implement similar practices," Jones said. "Our reservoirs and aquifers need all the help they can get."

Lone Star Water's headquarters are located on a 4.9-acre site that harvests rainwater from impermeable sources such as rooftops and parking lots and diverts the water into aboveground and underground tanks. Water from the reservoirs is then used to maintain attractive landscaping for the community. In addition, the site is constructed with low-impact development features such as permeable concrete and pavers that allow rainwater to percolate to reach the water table. These features can be implemented widely as part of new development design and platting.

The project encourages the use of rainwater for landscaping, rather than pumping water from the Gulf Coast Aquifer System. The Montgomery County area must significantly reduce the use of groundwater even as growth continues in the county, located northwest of Houston.

Jones said the award reflects positively on the leadership of the Board President, Richard J. Tramm, and W. B. "Billy" Wood, chair of the Water Awareness and Conservation Committee, who provided support and encouragement to incorporate water efficiency improvements when the new building was first envisioned.

Texas Water Development Board Chairman Billy Bradford, Jr. is pleased with the award's ability to drive innovation in rainwater conservation.

"It thrills us to see the award spur initiatives by various groups to improve their rainwater harvesting processes. Rainwater harvesting is part of the State Water Plan. We are particularly happy to have implemented a solution to harvesting rainwater that is both efficient and educational. Visitors to Lone Star Water's headquarters are able to witness the recycling of rainwater firsthand, see the landscape it nourishes, and learn about why water conservation is a top priority."

The Texas Rain Catcher Award recognizes individuals, organizations, governmental entities, and companies who promote and educate the public about the application of rainwater harvesting systems. The award distinguishes excellence in the following three categories: residential, commercial/industrial, and educational/governmental.

CONSERVATION DISTRICT "CATCHES" TWDB AWARD

What better way to underscore the **Lone Star Groundwater Conservation District's** (LSGCD) mission than to "walk the walk"? The LSGCD — created in November 2001 to manage, conserve, and protect Montgomery County's groundwater resources, to develop and implement water conservation strategies, and to work collaboratively to ensure a sustainable, adequate, high quality and cost effective water supply for current and future needs – is demonstrably living up to their "middle name" of Conservation.

When it came time to design and plan the construction of LSGCD's eye-catching new headquarters, the District had a unique opportunity to demonstrate that expansion in fast-growing Montgomery County can be achieved without sacrificing lifestyle quality in the face of looming water concerns. The project started with the glimmer of an idea by the District's Water Conservation Committee Chairman, W. B. "Billy" Wood. A frequent Texas traveler, Wood had seen an exciting concept for a water efficient facility during a visit to north Texas. It was his vision that sparked the innovative design that prompted him and General Manager Kathy Turner Jones to work with the District's architect, Mark Todd Architects, to incorporate the concept into the final building plans. At that point, the District's "Building and Facilities Committee took over management of the project.

Conservation essential to the future water supply...

Virtually all of the water supply for Montgomery County has traditionally come from groundwater — from the Gulf Coast Aquifer System. According to Jones, "The important point here is that current research indicates that the long term sustainable recharge of the aquifer is about 64,000 acre-ft. a year. By 2040 the total water demand is expected to be 154,000 acre feet. What this means," she emphasized, "Is that in 2040, we will be exceeding the sustainable recharge rate of the aquifer by almost 90,000 acre-feet per year!

"Economic growth in Montgomery County is supported by each of us," Jones continued. "For the growth and prosperity to continue, our community must have a reliable and adequate water supply. Lake Conroe is a reservoir, and it was designed to meet our future water demands. We'll continue to evaluate alternate sources for the future….but the bottom line is that water conserved is always the least expensive option for meeting our needs."

Jones is a member of both Groundwater Management Area 14 and the Region H Planning Group, and serves on several of the Group's committees. She strongly believes that this long-range planning process is essential in balancing her area's water requirements with the available supply. The information gathered by the group -- area

The Dock Line Magazine

The "Dock Line" Magazine is published monthly, and the District authors an article for each issue, which is printed at no cost to the District. In 2013, 11 articles were published with a circulation distribution of 65,000. Copies of each published article are available on the District website, **www.lonestargcd.org**, and samples can be found on Pages 32 through 34.

The Amount of Water on Earth

By: Paul R. Nelson
Assistant General Manager Lone Star Water

Let's stop for a moment to think about a few important facts concerning the amount of water on the Earth. Although we often think of our planet as "water-rich", in reality some 97.5 percent of the Earth's water is found in the world's oceans and seas.

Of the 2.5 percent left over, two-thirds is locked up in glaciers and ice caps. We can't use that water, either. That leaves only 1.66 percent to supply us with the water we need every day to drink, grow our crops, generate electricity and process raw materials into the products that we use every day. Our lakes, rivers, swamps and streams comprise an extremely small percentage of the total water supply. While our rivers and lakes play a huge role in all of our lives, and we rightfully compose songs and poems about them, they in fact carry a tiny fraction of the world's available potable water supply.

According to the United States Geological Survey, of all the freshwater that exists, 25% is estimated to be stored as groundwater, the kind of water we rely on here in Montgomery County. The Gulf Coast Aquifer has been our sole source of water for many years and with proper care will continue to be an important source for many years to come.

We're not alone in our dependence on groundwater. According to global experts, 2.5 billion people worldwide depend solely on groundwater resources to satisfy their daily needs for water. Groundwater is the source for nearly half of all drinking water in the world and around 43 percent of all water is effectively consumed in irrigation. Even those who normally rely on rivers and lakes for their daily needs turn to groundwater in times of drought. This "conjunctive use" is critical to maintaining life during stressful times.

With this article, we hope to promote the primary goal of National Groundwater Awareness Week, March 10-16; to make people more aware of the vital role aquifers play in our lives. Let's take it a step further and look at some of challenges we face in maintaining a sustainable supply of groundwater.

Texas will have less groundwater available in the future than it does today.

According to the Texas Water Plan, before 1940, groundwater provided less than 1 million acre-feet of water per year to Texans. Since the drought of record in the 1950s, groundwater production has been about 10 million acre-feet per year. According to the latest available Texas Water Development Board water-use information, groundwater provided 60 percent of the 16.1 million acre-feet of water used in the State.

While these numbers might lead us to believe that there are ample supplies of groundwater available, it is estimated that by 2060 existing groundwater supplies are expected to decline 30 percent, to about 5.7 million acre-feet per year. This decline is due primarily to reduced supplies from aquifers such as the Ogallala. The Ogallala stretches across all or portions of eight states, including Texas. And while tremendous improvements have been made in irrigation practices and conservation, with the projected increases in population and demand it will remain a challenge to get back to the point where the pumping of water from the aquifer doesn't exceed its rate of recharge.

Closer to home, we know that the amount of water taken from the Gulf Coast Aquifer on an annual basis exceeds the amount of recharge by almost 5 billion gallons per year. As we pump the water out of the sands of the aquifer, not only does the water level drop, making it more and more expensive to bring water to the surface, the ability of the layer to sustain the weight of the land over it decreases and the land sinks. We've already

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Lone Star Groundwater Hits the Road with New Exhibits!

Fall is always a busy time for festivals, fairs and conferences, and the Lone Star Groundwater Conservation District (LSGCD) has been on the road spreading the word about water conservation!

LSGCD reached out to the community at the Woodlands Landscaping Solutions event, the Toyota Bass Classic and the Conroe Cajun Catfish Festival.

A little girl pumps water to race her duck at the Conroe Catfish Festival.

From the avid gardner to the weekend fisherman, it seems nearly everyone has something to say about our county's water, and our staff enjoys helping people understand just how easy it is to protect this valuable resource.

This year, District staff created three new additions to our educational "toolbox": a porous concrete sample, a working rainwater barrel and an awesome duck race for the kids!

First, we chose to demonstrate how porous concrete works because we utilize this material for the sidewalks at our offices, and we are extremely pleased! Porous concrete is just that - concrete with holes in it that allows water to seep through to the soil below, therefore helping to "recharge" the earth's groundwater and minimize runoff. This option is great for the environment, and the bonus is there's no puddles on our sidewalks!

Harvesting rainwater is something everyone can do that not only conserves our water, but also saves money!

Our new exhibit is a fully-functional rainbarrel that demonstrates how easy it is to set one up at home, and it also saves money since you're using rainwater to irrigate plants. They like rainwater better than treated water anyway!

The third exhibit, our duck races, is just plain fun! As kids race their ducks using the old fashioned water pumps, we talk to them about how our ancestors didn't have the luxury of simply turning on the faucet in their homes. Water was treated as a valuable resource, and we should learn from their example.

In November, we visited Peet Jr. High, and a group of teachers taught more than 260 seventh-graders about groundwater and conservation utilizing our education trailer. Students always learn more when they can see something hands-on, and we are happy to send our trailer to Montgomery County schools!

Leadership Montgomery County invited the District to take part in their Infrastructure Session, where we presented information on where the county's water comes from, what the current and projected water levels are, and what we can do to help preserve this precious resource.

Lone Star Groundwater Conservation District participated in the Toyota Bass Classic, talking to attendees about water conservation and providing tools such as rain gauges and moisture meters.

If your organization or group would like more information about water conservation, don't hesitate to contact our Education/Public Awareness Coordinator, Marlisa Briggs, at 936.494.3436.

LSGCD's rainwater harvesting exhibit demonstrates just how easy it is to collect and reuse rainwater at home. Plants love rainwater, and it saves money!

As the regular session of the 83rd Texas Legislature headed to adjournment, the process of obtaining critical funding, once and for all, to secure the state's water future, hung in the balance. Debate continued almost to the last minutes of the Session, addressing the appropriate balance of funding, and whether and how water funding issues should be presented to the voters. Ultimately, thanks to an extraordinary amount of collaboration, HB-4, HB- 1025, and SJR-1 were approved.

HB-4, authored by State Representative Allan Ritter and sponsored by State Senator Troy Fraser, creates two water implementation funds[1] to be administered by a restructured Texas Water Development Board (TWDB) to provide low interest loans for projects in the State Water Plan.

HB-1025, by Representative Jim Pitts and Senator Tommy Williams, is a supplemental appropriations bill that transfers $2 billion out of the Economic Stabilization fund (the Rainy Day Fund) to the water implementation fund contingent upon voter approval of SJR-1.

SJR-1 is a joint resolution by Senator Williams and Representative Pitts that, if approved by the voters in November, will amend the Texas Constitution to create funding mechanisms in the state treasury but outside the general revenue fund that will allow the TWDB to provide the financial assistance prescribed in HB-4.

"The Legislators worked right up to the wire to accomplish what has never been done before, and they deserve special recognition for their visionary efforts," commented Kathy Turner Jones, General Manager of Lone Star Groundwater Conservation District. "It is absolutely critical to secure viable, longterm funding for water infrastructure – which is undeniably the lifeblood of the sustained economic growth and development of our state," she continued. "We have an exceptional opportunity to leave a critical legacy for future Texans. In Montgomery County, we know that our economy depends on it… our municipalities depend on it…and at the end of the day, our quality of life depends on it, too."

The State Water Plan...

Every five years, the TWDB publishes a state water plan by gathering data on population and water demands from sixteen regional water planning areas. After each region adopts its plan, it is sent to TWDB for approval. The TWDB then develops a statewide water plan based on information submitted by the sixteen regions, as well as other sources. Both regional and state water projects must be developed and implemented by a local sponsor.

The 2012 State Water Plan, adopted in December 2011, recommends 562 unique water supply projects to meet the State's projected needs for additional water supplies over the next 50 years.

If implemented, these projects would result in an additional 9 million acre-feet per year by 2060 to meet the anticipated 8.3 million acre-feet shortfall. Although the TWDB has provided financial assistance for water projects for decades, Texas previously has not had a comprehensive strategy for funding the State Water Plan, however, this is now recommended in the legislation passed this session.

Lone Star Groundwater Conservation District's General Manager, Kathy Turner Jones, is a member of the Region H Planning Group and serves on several of the Group's committees.

According to Jones, "This planning process is extremely important in the long-term, to balance our area's water requirements and available supply. The information gathered by the group, such as area population projections, trends in water requirements for agriculture and industry, the availability of water supplies (both surface and ground) and water supply strategies is not only critical to our area's future, but to that of the state, as well. We simply cannot stress the importance of this process often enough."

"The state's groundwater supplies are projected to decrease by 30 percent – from approximately 8 million acre-feet today to about 5.7 million acre-feet in 2060," Jones said. "We have to be prepared to take the necessary actions to secure our future water resources. Doing so will require public understanding of some complex issues, and a commitment to accomplish these critical long-range strategies."

"These bills are part of an historic package of water-related actions passed by the Legislators at the end of the regular session – to be considered by voters in November in a constitutional amendment on the general ballot. The legislation *does not include new tax measures*, but utilizes funds already in the State Treasury. The other important point is that the funding offers low interest loans for the critical infrastructure projects," she continued, "This is money that will be paid back, to become available to fund other projects into the future."

It's up to the voters…

Just ahead is the critical juncture where policy and people converge… where voters must take ownership of future water supply issues by considering this landmark legislation at the ballot box in November. Jones, along with other water industry experts, stress that the long-term stability and growth of the Texas economy depend on the provision of ample water for household, commercial, industrial and agricultural use. State funding can significantly reduce the total cost of financing regional and local projects, and be renewed for permanent access to funding for qualified projects down the road.

Texans have learned some hard lessons stemming from devastating droughts. Since the legendary "dry spell" of the 1950's, significant attention, manpower, and resources have been devoted to making sure that our state is better prepared to weather future dry cycles. The enduring 1950's drought was an eye-opener; but back then, the state still had only 53 major water supply reservoirs despite the dreadful 1930's Dust Bowl experience that almost choked the Panhandle to death. By 1980, 179 major reservoirs dotted the Texas landscape; and today, the state has 188 major water supply reservoirs. More are needed…as the record breaking 2011 drought confirmed.

"The lingering legacy of the 2011 drought is that people are more per-

[1] *The State Water Implementation Fund for Texas (SWIFT) and the State Water Implementation Revenue Fund for Texas (SWIRFT)*

Financial Summary

For the fiscal year ending December 31, 2013, the District's assets decreased by $80,854 and liabilities decreased by $420,838. Net assets increased by $399,984.

During the year, the District had expenses that were $141,256 less than the prior year. Total revenues were $1,243 less than in 2012.

Net assets of the District increased by 13% ($2,902,720 compared to $2,562,736). Lone Star Groundwater Conservation District has a long-term debt of $343,216 due to financing of the new District facilities.

Lone Star Groundwater Conservation District

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