

# LONE STAR GROUNDWATER CONSERVATION DISTRICT

April 14, 2020

## MINUTES OF PUBLIC HEARING ON PERMIT APPLICATIONS

The Board of Directors of the Lone Star Groundwater Conservation District (“District”) met in regular session, open to the public, but held via a publicly accessible webinar/telephone conference call, within the boundaries of the District on April 14, 2020.

### CALL TO ORDER:

President Hardman called to order the Public Hearing on Permit Applications at 6:20 PM announcing the meeting open to the public.

### ROLL CALL:

The roll was called of the members of the Board of Directors, to wit:

Jon Paul Bouché  
Harry Hardman  
Jonathan Prykryl  
Larry A. Rogers  
Jim Spigener  
Stuart Traylor

All members of the Board were present, with the exception of Director(s) Rogers, thus constituting a quorum of the Board of Directors. Also, in attendance at said meeting were Samantha Reiter, General Manager; Stacey V. Reese, District Counsel; District staff; and members of the public. *Copies of the public sign-in sheets and comment cards received are attached hereto as Exhibit “A” to the Regular Board of Directors Meeting minutes.*

### PRAYER AND PLEDGES OF ALLEGIANCE:

President Hardman called on Director Traylor for the opening prayer and Director Hardman to lead the Pledge of Allegiance and the Pledge of Allegiance to the state flag.

### PUBLIC COMMENTS:

No comments were received.

Ms. Reiter briefed the Board on permit applications received for the month. Applications for consideration and recommended for possible approval included the below:

**1. Quadvest, LP (Pine Acre Trails)**

Applicant is requesting registration of a new well and production authorization in the amount of 864,000 gallons for 2020 and 5,622,000 gallons for 2021 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

~~**2. Lake Bonanza Water Supply Corp.**~~

~~Applicant is requesting an amendment to an Operating Permit for drilling authorization only. No additional production authorization is being requested at this time. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.~~

**3. New Caney MUD**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 100,118,100 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**4. T & W Water Services (Hidden Springs Ranch)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 10,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**5. T & W Water Services (Rio Vista)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 10,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**6. T & W Water Services (Riverwalk)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 11,992,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**7. Monarch Utilities, Inc. (Decker Hills/Park Place/Champions Glen)**

Applicant is requesting an amendment to an Operating Permit for drilling authorization only. No additional production authorization is being requested at this time. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**8. Nerro Supply, LLC (Hazy Hallow)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 2,350,300 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**9. Nerro Supply, LLC (White Oak Valley)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 963,037 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**10. City of Cut and Shoot**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 2,116,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**11. East Montgomery County MUD #5**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 28,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**12. Wood Trace MUD #1**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 79,407,200 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**13. Pinehurst Decker Prairie**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 2,015,936 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**14. Quadvest, LP. (Benders Landing)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 27,622,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**15. Quadvest, LP. (McCall Sound)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 7,049,000 gallons for 2020 and annually thereafter. Based on

technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**16. Quadvest, LP. (Mostyn Manor)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 27,500,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**17. Blaketree MUD #1**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 27,550,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**18. Aqua Texas, Inc. (Westwood 1&2/Old Egypt)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 26,355,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**19. Aqua Texas, Inc. (Greenfield Forest)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 26,355,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**20. Woodland Oaks Utility Co. Inc.**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 14,974,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**21. Montgomery County MUD #15**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 67,144,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**22. Montgomery County MUD #139**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 115,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**23. Montgomery County MUD #96**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 30,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**24. Montgomery County MUD #105**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 45,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**25. Montgomery County MUD #119**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 175,000,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**26. Montgomery County MUD #137**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 33,800,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**27. City of Montgomery**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 49,733,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**28. Sherwood Sporthorses Inc.**

Applicant is requesting registration of a new well and production authorization in the amount of 600,000 gallons for 2020 and 800,000 gallons for 2021 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**29. Undine Texas LLC (Porter Terrace)**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 7,491,000 gallons for 2020 and annually thereafter. Based on technical review of the information supplied, it is the General Manager's recommendation to approve that which is requested.

**30. Montgomery County MUD #111**

Applicant is requesting an amendment to an Operating Permit for an increase in production authorization in the amount of 2,200,000 gallons for 2020 only. Based on technical review of the

information supplied, it is the General Manager's recommendation to approve that which is requested.

Ms. Reiter reported that there were thirty applications for this month. Item #2 was withdrawn as an incorrect address was given. Following Ms. Reiter's report, Director Spigener motioned to approve items #1, 3-30, as recommended by the General Manager. Director Traylor seconded. Motion approved.

President Hardman adjourned the public hearing on permit applications at 6:27 PM.

**PASSED, APPROVED, AND ADOPTED THIS 12<sup>th</sup> DAY OF MAY 2020.**



Larry A. Rogers, Board Secretary

# LONE STAR GROUNDWATER CONSERVATION DISTRICT

April 14, 2020

## MINUTES OF REGULAR MEETING

The Board of Directors of the Lone Star Groundwater Conservation District ("District") met in regular session, open to the public, but held via a publicly accessible webinar/telephone conference call, within the boundaries of the District on April 14, 2020.

### CALL TO ORDER:

President Hardman presided and called to order the regular Board of Directors meeting at 6:27 PM, announcing that it was open to the public.

### ROLL CALL:

The roll was called of the members of the Board of Directors, to wit:

Jon Paul Bouché  
Harry Hardman  
Jonathan Prykryl  
Larry A. Rogers  
Jim Spigener  
Stuart Traylor

All members of the Board were present, with the exception of Director(s) Rogers, thus constituting a quorum of the Board of Directors. Also, in attendance at said meeting were Samantha Reiter, General Manager; Stacey V. Reese, District Counsel; District staff; and members of the public. *Copies of the public sign-in sheets and comment cards received are attached hereto as Exhibit "A".*

### PUBLIC COMMENTS:

Webb Melder, former President of Lone Star GCD, submitted a written comment which President Hardman read. *A copy of the public comment is attached hereto as Exhibit "D".*

### EXECUTIVE SESSION:

After a proper and legally sufficient announcement to the public by President Hardman, the Board of Directors recessed into a Closed Executive Session at 6:28 PM pursuant to Texas Government Code, Sections 551.071, to consult with the District's attorney regarding pending or contemplated litigation, settlement offers, personnel matters (§551.074), or on matters in which

the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act, Chapter 551, Government Code.

**RECONVENE IN OPEN SESSION:**

Following Executive Session, the Board reconvened in Open Session and President Hardman declared it open to the public at 7:15 PM. Director Rogers joined the meeting during Executive Session.

**APPROVAL OF THE MINUTES:**

President Hardman stated the Board would consider the meeting minutes as listed for approval on today's agenda. Without further discussion, upon a motion by Director Prykryl seconded by Director Spigener, the Board approved the meeting minutes as presented.

- a) March 10, 2020, Public Hearing on Permit Applications
- b) March 10, 2020, Regular Board of Directors Meeting

**REVIEW OF UNAUDITED FINANCIALS FOR THE MONTH OF MARCH 2020;**

Ms. Samantha Reiter reported that for the month of March 2020, income was \$268,906 and expenses were \$120,865 resulting in a net income of \$148,040. Year-to-date net income is \$260,259. Total cash was \$1,388,278.

- a) Review of 1<sup>st</sup> Quarterly Investment Report 2020  
Ms. Reiter stated that at the beginning of March the Money Markey and the TexPool accounts balance was \$1,245,959. March deposits totalled \$88,790. At the end of the month earned interest was \$1,524.

**DISCUSSION, REVIEW AND POSSIBLE APPROVAL OF 2019 ANNUAL REPORT FOR THE LONE STAR GROUNDWATER DISTRICT:**

Ms. Jennifer Thayer, Education and Conservation Outreach Coordinator, discussed the annual report draft and the few items yet to be finalized. President Hardman announced the tabling of this item until next month.

**RECEIVE INFORMATION FROM DISTRICT'S TECHNICAL CONSULTANTS REGARDING SUBSIDENCE STUDIES AND/OR DISCUSSION REGARDING THE SAME:**

Mr. Mike Thornhill explained the absence of a report due to the Stay At Home/Stop the Spread order. He cited the future need to meet with agencies and stakeholders.

**RECEIVE INFORMATION AND/OR STATUS UPDATE REGARDING THE TWO STUDY GROUPS ON PROPOSED DRAFT RULES:**



Ms. Stacey Reese gave a presentation reviewing the rules in developing groundwater district rules. This presentation explained the purpose of GCDs, the ownership of wells, the rulemaking section along with the tools used in rulemaking and well permitting.

Mr. James Beach gave a presentation discussing district data and the process used in making rules for the District. He summarized the next steps in the rule making process and itemized specific areas for the LSGCD Technical Study Group to consider. The considerations for the LSGCD Technical Group included the following steps:

- per Day, one purpose of groundwater regulation is to afford each owner of water in a common, subsurface reservoir an opportunity for a fair share
- impact of allocations on HUP/OP and vice versa
- feasibility of achieving DFC with various allocations
- impact of potential future rollback of HUP/OP as total permit volume grows
- evaluate impact on existing investment backed expectations
- Other factors

*A copy of the combined presentation is attached hereto as Exhibit "E".*

**GROUNDWATER MANAGEMENT AREA 14 - UPDATE THE BOARD ON THE ISSUES RELATED TO JOINT PLANNING ACTIVITIES AND DEVELOPMENT OF DESIRED FUTURE CONDITIONS IN GMA 14:**

Ms. Reiter, General Manager, reported that the GMA 14 cancelled the March 24<sup>th</sup> meeting. However, the April 29<sup>th</sup> meeting will take place via a webinar where it is anticipated that action will be taken to approve DFC options. The DFC Committee has continued to host important meetings regarding DFC discussions. Ms. Reiter and Ms. Reese and consultants have joined these meetings.

a) Presentation(s) by District's technical consultant(s) on model scenarios

Ms. Reiter explained that the work of determining a DFC had been commissioned among the three consultants. Mike Thornhill's specific area is the DFC process. Mike Keester's concentration is on modeling. James Beach's piece includes the factors to consider in reaching a DFC.

Mr. Thornhill presented an outline of the process of forming a DFC which included the following:

1. Select Potential DFCs
  - An aquifer condition – not pumping amount or distribution
  - Measurable in real life at proper monitoring sites
  - Can be selected prior to/independent of any model runs
  - Process should be applicable in other aquifers and areas
2. Assess Per Statutory Factors Using GAM/Other Information
  - Is the proposed DFC viable and acceptable in light of conditions/factors?
  - How do potential DFCs affect common reservoir/other proposed DFCs?

- Results in deriving at least one pumping amount/distribution (possible MAG)
  - Note that MAG values can change with varying models/statistical approaches
3. Submit Approved Request for DFC Model Run(s) to GMA 14

Mr. Keester showed slides illustrating and explaining the different models and way to develop models. He summarized the recent modeling conclusions in the following three points:

1. Model assumptions affect results
2. DFC statement can be simple
  - Determining the MAG can be complicated
  - Results will vary with the model and assumptions
3. Will need to provide GMA 14 specific instructions to limit uncertainty

Mr. Beach gave a presentation regarding the factors in forming a DFC. He mentioned the May 2021 deadline for the GMA 14 in establishing a DFC. The following is a list of the nine factors he explored in discussing formation of a DFC:

1. Aquifer Uses or Conditions
2. Supply Needs & Management Strategies
3. Hydrological Conditions
4. Environmental Impacts
5. Subsidence Impacts
6. Socioeconomic Impacts
7. Private Property Rights
8. DFC Feasibility
9. Other Relevant Information

*A copy of the combined presentation is attached hereto as Exhibit "F".*

- b) Discussion, consideration, and possible action on any items related to Lone Star GCD's proposal(s) to and/or participation in GMA 14

Ms. Reiter drew attention to the potential DFCs as remaining available drawdowns. She opened the discussion by presenting the three options that LSGCD would present at the next GMA 14 meeting. These are: 1) Baseline – Run "D"; 2) Moderate and 3) Aggressive Jasper. Following some discussion, the Board chose all three options with preferences for Option #2 and Option #3. Director Spigener motioned to use all three options in a specified priority. Director Prykryl.

Ms. Reese suggested that a meeting of the DFC Committee convene before the GMA 14 next meeting.

**GENERAL MANAGER'S REPORT:**

Ms. Reiter announced three upcoming meetings: April 23<sup>rd</sup> is a Region H public hearing for the regional water plan; April 29<sup>th</sup> is GMA 14 meeting; and on June 3 is Region H meeting.

She discussed the missing Show Cause Order from the April agenda. The notices of violation were mailed out March 1<sup>st</sup> with a deadline of April 1<sup>st</sup>. Due to the Stay At Home order, it was decided to extend the deadline through April 30<sup>th</sup> and postpone the Show Cause Hearing until May's board meeting.

**GENERAL COUNSEL'S REPORT:**

Ms. Reese apprised the group of one legal case regarding a GRP rate litigation. It concerns the reasonableness of the rate. The ruling was made from Travis County but case will be heard in Montgomery County.

**NEW BUSINESS:**

Ms. Reese suggested that the Technical Study Group resume their meetings in the near future.

**ADJOURN:**

There being no further business, President Hardman announced the meeting was adjourned at 9:14 PM.

**PASSED, APPROVED, AND ADOPTED THIS 12<sup>th</sup> DAY OF MAY 2020.**

  
Larry A. Rogers, Board Secretary

# Lone Star Groundwater Conservation District

Board Meeting

April 14, 2020



# MANAGEMENT PLAN HEARING



April 14, 2020

# MANAGEMENT PLAN REQUIREMENTS

Develop a management plan that addresses the following management goals, as applicable:

- (1) providing the most efficient use of groundwater;
- (2) controlling and preventing waste of groundwater;
- (3) controlling and preventing subsidence;
- (4) addressing conjunctive surface water management issues;
- (5) addressing natural resource issues;
- (6) addressing drought conditions;
- (7) addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective; and
- (8) addressing the desired future conditions adopted by the district under Section 36.108.

## WITHIN THE MANAGEMENT PLAN, A DISTRICT MUST INCLUDE ESTIMATES OF:

- (A) modeled available groundwater in the district based on the desired future condition established under Section 36.108;
- (B) the amount of groundwater being used within the district on an annual basis;
- (C) the annual amount of recharge from precipitation, if any, to the groundwater resources within the district;
- (D) for each aquifer, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers;
- (E) the annual volume of flow into and out of the district within each aquifer and between aquifers in the district, if a groundwater availability model is available;
- (F) the projected surface water supply in the district according to the most recently adopted state water plan; and
- (G) the projected total demand for water in the district according to the most recently adopted state water plan;

# GROUNDWATER DISTRICT REQUIREMENTS

## A District must:

- (1) identify the performance standards and management objectives under which the district will operate to achieve the management goals; and
- (2) specify, in as much detail as possible, the actions, procedures, performance, and avoidance that are or may be necessary to effect the plan, including specifications and proposed rules.



# GROUNDWATER DISTRICT REQUIREMENTS

A District shall develop a management plan:

- Using the district's best available data, and
- Forward the management plan to the regional water planning group for use in their planning process.

# GROUNDWATER DISTRICT REQUIREMENTS

- A District must:
  - get the plan approved as administratively complete by TWDB;
  - consider the water supply needs and water management strategies included in the adopted state water plan;
  - Share the management plan with joint planning group; &
  - adopt rules necessary to implement the management plan including achieving the DFCs addressed in the plan.

# AGREED LANGUAGE FROM MEDIATION

Parties worked in good faith in mediation to resolve dispute and have reached resolution that includes agreed language for certain portions of plan.

- Impacts portions of Sections 7 and 10 only:
  - Section 7: explains 2016 DFCs no longer reasonable; plan refers to the 2010s as the last adopted DFCs in joint planning that were not challenged; and
  - Section 10: changes made to include specific and time based management objectives and performance standards.

# AGREED LANGUAGE FROM MEDIATION

- District will continue to work with GMA 14 to adopt reasonable DFCs for each relevant aquifer.
- District will adopt well spacing and production allocation rules.
- District will collect and examine monitoring well data from all available sources and analyze historical data.
- District will review annually whether plan and rules are working, amendments are necessary, and share data with GMA 14 to be used to inform DFCs.

# ADDITIONAL CHANGES

- A few other changes were made to update the plan based on current initiatives the district had undertaken since the plan was adopted in March 2019.
- For example, the updated plan acknowledges the district's commitment to conduct a subsidence study, which will be measured by updates on the results in the annual report.

QUESTIONS ?

# Lone Star Groundwater Conservation District

Board Meeting

April 14, 2020



**RESOLUTION NO. #20-002**

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE LONE STAR  
GROUNDWATER CONSERVATION DISTRICT APPROVING  
SUBMISSION OF THE DISTRICT GROUNDWATER MANAGEMENT PLAN  
FOR TEXAS WATER DEVELOPMENT BOARD REVIEW**

**THE STATE OF TEXAS**

§

**LONE STAR GOUNDWATER CONSERVATION DISTRICT**

§

§

**WHEREAS**, the Lone Star Groundwater Conservation District ("District") was created by the Texas Legislature through the enactment of House Bill 2362, Chapter 1321, Acts of the 77th Legislature, Regular Session, 2001 (together with subsequent legislative amendments, the "Act"), pursuant to the authority of Article XVI, § 59 of the Texas Constitution, as a groundwater conservation district operating under Chapter 36, Texas Water Code, Section 59, Article XVI of the Texas Constitution, and the Act;

**WHEREAS**, the creation of the District was confirmed by the voters of Montgomery County on November 6, 2001, and as required by Chapter 356 of Title 31 of the Texas Administrative Code as in effect at the time, the District's original management plan was adopted and submitted to the Texas Water Development Board within two years of the confirmation election and subsequently amended and re-adopted in 2008 and again on November 12, 2013;

**WHEREAS**, Texas Water Code §36.1072(e) requires the District to review and readopt a management plan with or without revisions at least once every five years, and pursuant to Title 31, Texas Administrative Code, Section 356.54, the District must readopt that plan at least 90 days before the date the current plan expires;

**WHEREAS**, in September 2018, the prior nine-member appointed board of directors held a hearing and approved a revised, draft management plan for review and approval by the new seven-member elected board that would take office in November 2018 as a result of the passage of House bill 1982 by the 85th Texas Legislature (Regular Session) in 2017, which amended the Act;

**WHEREAS**, in September 2018, members of the Montgomery County legislative delegation requested the prior appointed board to refrain from readopting a management plan so the newly elected board of directors could make the policy decisions embodied in a plan, a request of which the appointed board honored.

**WHEREAS**, the Texas Water Development Board (TWDB) had previously instructed the District to include the 2016 DFCs and 2016 modeled available groundwater information in its management plan, and in September 2018, TWDB pre-approved a draft management plan with the 2016 information;



**RESOLUTION NO. #20-002**

**WHEREAS**, the new seven-member board of directors (the "Board") was duly sworn into office on November 16, 2018;

**WHEREAS**, the Board held a public hearing on November 20, 2018 for purposes of hearing public comment on re-adoption of the management plan prepared and approved by the prior board;

**WHEREAS**, on November 20, 2018, based on public comment received and internal deliberations, the Board voted for a continuance of the decision on approval of a management plan until mid-January 2019 to allow for further review and discussion;

**WHEREAS**, in December 2018, TWDB's Executive Administrator acknowledged the "challenge of developing and adopting a groundwater management plan during the period of transition between an appointed and newly-elected Board of Directors for the District";

**WHEREAS**, on January 15, 2019, the District held an open board workshop during which the District's management plan was discussed;

**WHEREAS**, on January 30, 2019, the District held a special meeting in conjunction with the Groundwater Management Area Planning Committee Meeting;

**WHEREAS**, under the direction of the new Board, the District's staff, legal counsel, engineer, and geoscientist reviewed, analyzed, and revised the District's management plan in accordance with the statutory requirements provided by Section 36.1071 of the Texas Water Code and the administrative requirements provided by Chapter 356 of Title 31 of the Texas Administrative Code;

**WHEREAS**, on February 12, 2019, the District approved the form of a management plan for publication and hearing;

**WHEREAS**, on February 19, 2019, District staff and counsel had a teleconference with representatives at the TWDB regarding the proposed management plan approved for publication and hearing;

**WHEREAS**, the District issued notices in the manner required by state law and held a public hearing on the proposed management plan on March 12, 2019;

**WHEREAS**, the Board adopted the proposed management plan on March 12, 2019, and the District submitted it to the TWDB for approval in March 2019. In its March 2019 submittal, the District included the 2016 DFCs and MAG information but stated that the DFCs were found to be no longer reasonable and GMA 14 had taken no action to update the DFCs applicable to the District.

**WHEREAS**, in response by letter dated May 16, 2019, TWDB's Executive Administrator notified the District that the submitted plan was not administratively complete; and TWDB acknowledged that the 2016 DFCs were declared "no longer reasonable" and

**RESOLUTION NO. #20-002**

recommended the plan to be revised to address the DFCs as adopted in 2010, which were that last approved DFCs that were not challenged.

**WHEREAS**, the District timely appealed the Executive Administrator's decision to TWDB, and TWDB upheld the Executive Administrator's decision; and as part of appeal process, the District timely requested mediation with TWDB and timely filed an appeal in district court in Travis County, Texas.

**WHEREAS**, in a good faith effort to resolve the dispute, the District and TWDB mediated the dispute; and through the mediation process, the District and TWDB reached a tentative resolution that included agreed language for certain portions of the management plan.

**WHEREAS**, following an order by the district court in Travis County regarding the mediation (attached to this resolution as Exhibit A), the District revised its management plan in compliance with the statutory requirements and the agreed language from the mediation with TWDB.

**WHEREAS**, the District has been operating under the effective parts of the management plan adopted and approved in 2013, and will continue to operate under the effective parts of the plan adopted and approved in 2013 until TWDB approves a management plan.

**WHEREAS**, the District is actively participating in the joint planning process with the district representatives in GMA 14; the GMA 14 districts shall propose DFCs for round three by May 1, 2021; and the GMA 14 districts shall adopt DFCs by January 5, 2022.

**WHEREAS**, when the DFCs are adopted in the third round of joint planning by the GMA 14 voting districts, the District will update its plan as required under Chapter 36 of the Texas Water Code.

**WHEREAS**, on March 10, 2020, the District approved the form of a revised management plan for publication and hearing that incorporated the agreed language from the mediation with the TWDB, among other changes made to update information (the "Management Plan");

**WHEREAS**, the proposed Management Plan adopts several guiding principles for the District's regulatory program including without limitation (i) honoring and protecting private property rights by affording an opportunity for a fair share to every owner of each common reservoir, (ii) adopting and enforcing fair and impartial rules that allow for potential adjustments as warranted to achieve the management standards, and (iii) collecting and sharing data so each stakeholder can make informed decisions;

**WHEREAS**, the District issued notices in the manner required by state law and held a public hearing on the proposed management plan on April 14, 2020;

**WHEREAS**, based on written and public comments received by the District, no substantive changes were made to the proposed Management Plan;

**RESOLUTION NO. #20-002**

**WHEREAS**, the District will coordinate with the appropriate surface water management entities after the public hearing and readoption of its Management Plan to afford surface water management entities within the boundaries of the District the opportunity to review and provide comments to the District on its Management Plan;

**WHEREAS**, the District will forward, after the public hearing and readoption of its Management Plan, a copy of the plan to the other districts in the management area;

**WHEREAS**, the Board finds that the proposed Management Plan meets all of the requirements of Chapter 36, Texas Water Code, and 31 Texas Administrative Code Chapter 356 and includes the agreed language from the mediation with the TWDB; and

**WHEREAS**, the Board finds that re-adoption of its Management Plan at its April 14, 2020 meeting will restart the five-year statutory time period by which the District must readopt its Management Plan, and the District will update its plan after adopting desired future conditions as required under Chapter 36 of the Texas Water Code.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS THAT:**

1. The above recitals are true and correct.
2. The Board hereby adopts the following guiding principles for the District's regulatory program:
  - a. honoring and protecting private property rights by affording an opportunity for a fair share to every owner of each common reservoir;
  - b. adopting and enforcing fair and impartial rules that allow for potential adjustments as warranted to achieve the management standards; and
  - c. collecting and sharing data so each stakeholder can make informed decisions.
3. The Board hereby adopts the Management Plan as the Management Plan of the District, including any revisions made based on the comments received from the public at the hearing or Board meeting, and based on recommendations from the District Board, staff, legal counsel, engineer, geoscientist, or TWDB, and authorizes submittal of the Management Plan to the TWDB for review and approval.
4. The Board, District staff, and the District's legal counsel, engineer, and geoscientist are further authorized to take all steps necessary to implement this resolution and submit the Management Plan to the TWDB for its approval.

RESOLUTION NO. #20-002

5. The Board, District staff, and the District's legal counsel, engineer, and geoscientist are further authorized to take any and all action necessary to coordinate with the TWDB as may be required in furtherance of TWDB's approval.
6. This Resolution shall be posted on the District's website and in its office.

AND IT IS SO ORDERED.

PASSED AND ADOPTED FOR SUBMISSION TO THE TEXAS WATER DEVELOPMENT BOARD TO BEGIN ITS REVIEW by a quorum of the Board of Directors on April 14, 2020.

LONE STAR GROUNDWATER CONSERVATION DISTRICT

By:

  
Harry Hardman, President

ATTEST:

  
Larry Rogers, Board Secretary



# EXHIBIT A

Filed In The District Court  
of Travis County, Texas

MAR - 9 2020 NNR

At 2:33 PM  
Velva L. Price, District Clerk

CAUSE NO. D-1-GN-19-007442

LONE STAR GROUNDWATER  
CONSERVATION DISTRICT,  
Plaintiff,

§  
§  
§  
§  
§  
§  
§  
§  
§  
§

IN THE DISTRICT COURT OF

v.

TRAVIS COUNTY, TEXAS

TEXAS WATER DEVELOPMENT  
BOARD,  
Defendant.

353rd JUDICIAL DISTRICT COURT

AGREED ORDER ON JOINT MOTION TO ABATE  
PENDING OUTCOME OF MEDIATION

After considering the Joint Motion to Abate Pending Outcome of Mediation, the Court grants the motion and abates the case as follows:

1. Lone Star Groundwater Conservation District's ("District") administrative appeal is brought pursuant to section 36.1072(f) of the TEX. WATER CODE ("Section 36.1072") and 31 TEX. ADMIN. CODE § 356.55(b) ("TWDB Rule 356.55") authorizing a groundwater district to appeal the Texas Water Development Board's ("TWDB") denial of approval of a management plan in a suit for *de novo* review in Travis County, Texas if the District and TWDB do not resolve the conflict through mediation.
2. The District requested mediation pursuant to Section 36.1072(f) and filed this administrative appeal.
3. The District and TWDB mediated the dispute on January 23, 2020. The District and TWDB worked in good faith to resolve the dispute and have reached a tentative resolution that includes agreed language for certain portions of the management plan.

SCANNED

The District and the State, on behalf of the TWDB, request the Court to abate this case to allow time for the District to amend the plan in accordance with the agreed language, hold a hearing on the adoption of the revised plan, and resubmit any revised adopted plan to the TWDB for approval; and for the TWDB to review and consider approval of the plan. If the District's plan is approved as administratively complete, this lawsuit will be mooted and the District and State will subsequently notify the Court and request the Court to dismiss the suit. If the District and TWDB do not resolve the dispute and/or the District's plan is not approved as administratively complete, the District and State will notify the Court that mediation was unsuccessful and request the Court to lift the abatement so the appeal can proceed.

4. The District will provide a status update to the Court on or before May 1, 2020.

SIGNED on this 9 day of March, 2020.



Presiding Judge

Dustin M. Howell

AGREED AS TO FORM AND SUBSTANCE:

STACEY V. REESE LAW, PLLC

910 West Avenue, Suite 15

Austin, TX 78701

(512) 535-0742

(512) 233 -5917 FAX

By:

*Stacey V. Reese*

---

STACEY V. REESE

State Bar No. 24056188

[stacey@staceyreese.law](mailto:stacey@staceyreese.law)

*ATTORNEYS FOR LONE STAR  
GROUNDWATER CONSERVATION DISTRICT*

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Attorney General of Texas

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First Assistant Attorney General

DARREN L. MCCARTY

Deputy Attorney General for Civil Litigation

PRISCILLA M. HUBENAK

Assistant Attorney General

Chief, Environmental Protection Division

State Bar No. 10144690

[priscilla.hubenak@oag.texas.gov](mailto:priscilla.hubenak@oag.texas.gov)

*Shelly M. Doggett*

SHELLY M. DOGGETT  
Assistant Attorney General  
State Bar No. 24069619  
shelly.doggett@oag.texas.gov

Office of the Attorney General of Texas  
Environmental Protection Division  
P.O. Box 12548, MC-066  
Austin, Texas 78711-2548  
Tel. (512) 463-2012  
Fax. (512) 320-0911

ATTORNEYS FOR THE STATE, ON BEHALF OF TWDB



**From:** [Harry Hardman](#)  
**To:** [Stacey Reese](#); [Samantha Reiter](#)  
**Subject:** Fwd: April 14, 2020 Public Hearing on Re-Adoption of Management Plan  
**Date:** Friday, April 3, 2020 6:54:27 PM

---

Ladies,

I just received this from Mr. Melder. He is not capable of participating on the 14th, and asked if this could be read during public comments.

Thank you,  
Harry Hardman

PLEASE NOTE: This email is privileged and confidential communication for the sole use of the intended recipients as it pertains to LSGCD business and attorney/client privilege. If you are not the intended recipient, you are hereby notified that any dissemination of this communication is strictly prohibited. If you have received this communication in error, please delete it and notify the sender immediately.

Harry

----- Forwarded message -----

From: <[melderbw@aol.com](mailto:melderbw@aol.com)>  
Date: Fri, Apr 3, 2020, 6:20 PM  
Subject: Fwd: April 14, 2020 Public Hearing on Re-Adoption of Management Plan  
To: <[hhardman@gmail.com](mailto:hhardman@gmail.com)>

TO: Mr. Harry Hardman, President LSGCD, and the LSGCD Board

Re: Public Hearing ( via teleconference ) on Re-adoption of Management Plan - scheduled for April 14, 2020 @ 6:00 p.m.

As a former Director and President of LSGCD, I'm writing to let you, the Board & staff know I support you. It has been well established the newly elected board inherited an " illegal disaster "; a product of incestuous power politics and self interest. I salute the new board and staff for the outstanding job you are doing as you go about your efforts to " right the ship ". On behalf of the good citizens of Montgomery County, Texas, please know most of us support your honest and transparent approach to restoring credibility to the LSGCD.

It took many years to expose, and legally nullify the illegal 30% " forced " groundwater pumpage reduction rule adopted by the previous board, of which SJRA and the WJPA both held directors positions. You, your newly elected board and staff are to be commended for your collective efforts to establish a new Management Plan,

**Where**

Per compliance with Governor Abbot's March 16, 2020 order, this hearing will be held remotely. Information on accessing the meeting will be available on the District's website and sent out the week prior to the meeting.

Per Governor Abbott's March 16, 2020 order temporarily suspending certain open meetings requirements for governmental entities to mitigate the spread of COVID-19, **the District will hold this hearing/meeting remotely via teleconference.** Information on how to access the meeting via Zoom Webinar will be posted next week.

Please submit written comments on the proposed Management Plan to the General Manager at [sreiter@lonestargcd.org](mailto:sreiter@lonestargcd.org). All comments received will be documented in the hearing minutes.

To view a copy of the Notice of Hearing and proposed Groundwater Management Plan, go to:  
<https://www.lonestargcd.org/meetings>

**Sincerely,**

Samantha Reiter  
Lone Star Groundwater Conservation District  
[sreiter@lonestargcd.org](mailto:sreiter@lonestargcd.org)  
9364943436

Lone Star Groundwater Conservation District,  
655 Conroe Park North Drive, Conroe, TX 77303

[SafeUnsubscribe™](#) [webbmelder@gmail.com](mailto:webbmelder@gmail.com)

[Forward email](#) | [Update Profile](#) | [About our service provider](#)

Sent by [sreiter@lonestargcd.org](mailto:sreiter@lonestargcd.org)

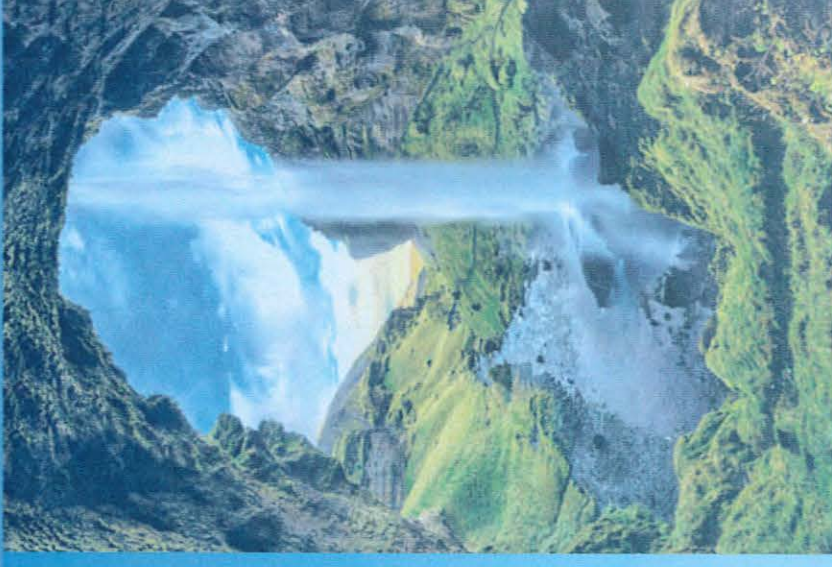
# Chapter 36 Rules

Prepared for Lone Star  
GCD Board Meeting  
April 14, 2020



# PURPOSE OF GCDs: 36.015

- In order to conserve, preserve, protect, recharge and prevent waste of groundwater and to control subsidence, GCDs may be created.
- GCDs are preferred method of groundwater management to:
  - Protect property rights
  - Balance conservation & development to meet state needs
  - Use best available science in conservation & development through rules



# OWNERSHIP: 36.002

## Express Acknowledgement

- Landowner owns groundwater as real property
- Can drill and produce without causing waste, malicious drainage or negligent subsidence
- Nothing is construed to divest ownership & rights

## Does NOT

- Entitle landowner to capture a specific amount of water
- Prohibit district from adopting rules for permitting, spacing & production
- Require GCD to adopt prod. allocation rule
- Affect regulation under EAA or SDs

# RULEMAKING: 36.101, 36.116

## GCD Shall

- Consider all uses & needs
- Develop fair & impartial rules
- Consider ownership & rights
- Consider public's interest in purposes
- Consider MP goals
- Select method of regulation based on aquifer conditions

## GCD May

- Regulate by well spacing:
  - Distance between well and property lines or adjoining wells-can be based on production capacity or pump size
- Regulate production (quantity):
  - Limits on individual wells
  - Limits based on acreage or tract size
  - Limits for defined number of acres
  - Limits based on acre-feet per acre or gallons per min per well per acre
  - Managed depletion or
  - Any combination of above
- Consider service area of retail public utility if regulating based on acre/tract size
- Preserve HU or EU to max extent practicable (see next slide)
- Adopt different rules per aquif./subdiv.

# PERMITTING: 36.113

## GCD Shall

- Require permit but not for exempt
- Require a sworn, written application
- Consider whether:
  - Application conforms to rules
  - Proposed use
    - Unreasonably affects existing GW and SW resources or existing permits
    - Dedicated to beneficial use
    - Consistent with approved MP
  - Applicant agrees to avoid waste, conserve, protect quality & plug wells
- To extent possible, issue permits up to point that total volume of exempt and permitted production will achieve applicable DFC
- Manage total prod L/T to achieve DFC & consider:
  - MAG, estimate of exempt use, authorized volumes, permitted volumes & yearly precipitation

## GCD May

- Require certain info in app
- Impose more restrictive conditions on new or am. applications to increase HU if:
  - Apply to all new/am. applications
  - Bear reasonable relationship to existing MP and
  - Are reasonably necessary to protect existing use

# Assessment of LSGCD Permit Database as Related to District Rules

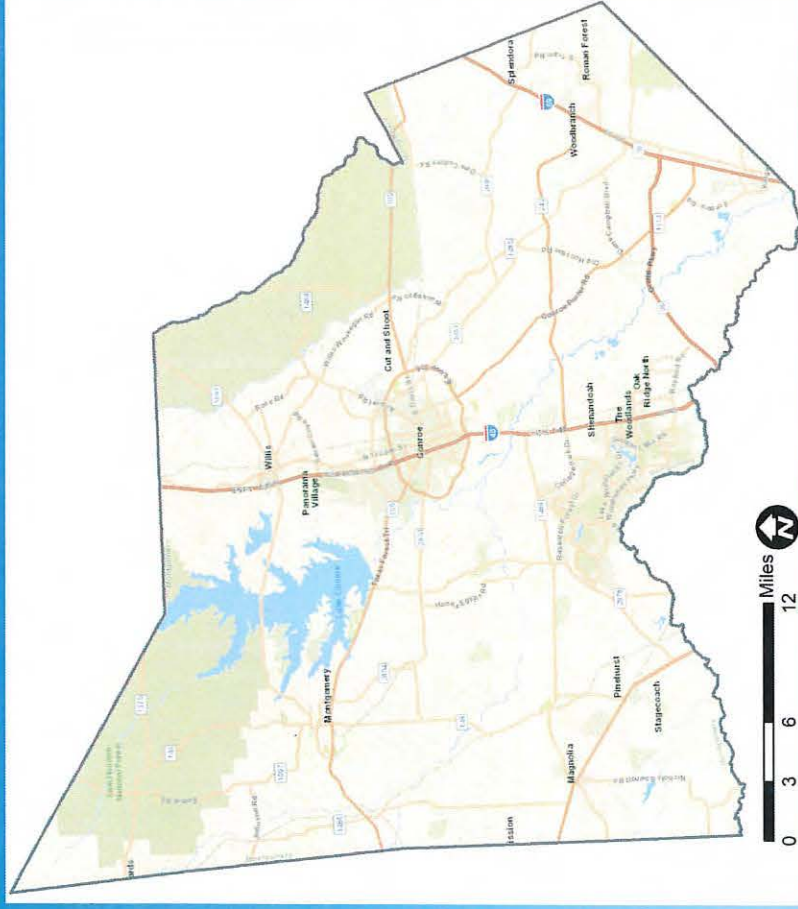
April 14, 2020





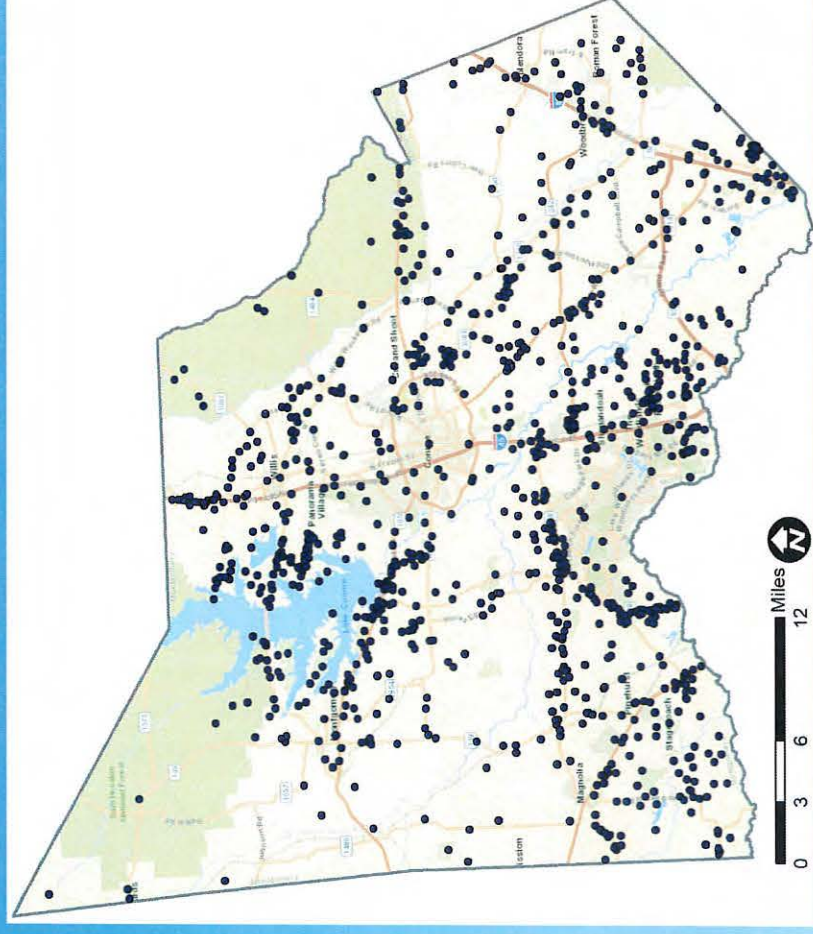
# LSGCD PERMIT DATABASE

- Permits – OP’s & HUP’s
  - Total Permits in LSGCD Database: 1,703
  - AWS Permits (Catahoula Aquifer): 24
  - Permits in LSGCD Database (non-AWS): 1,679
- Permits in LSGCD Database (non-AWS):
  - 254 = Denied, Expired, Void or Withdrawn
  - 1,425 = Approved Permits  
*(1,428 March 2020 GM Report)*
- Total Permitted volume (non-AWS):
  - 98,098 AFY (database)  
*(98,188 AFY March 2020 GM Report)*
  - AWS Permitted volume: 8,500 AFY



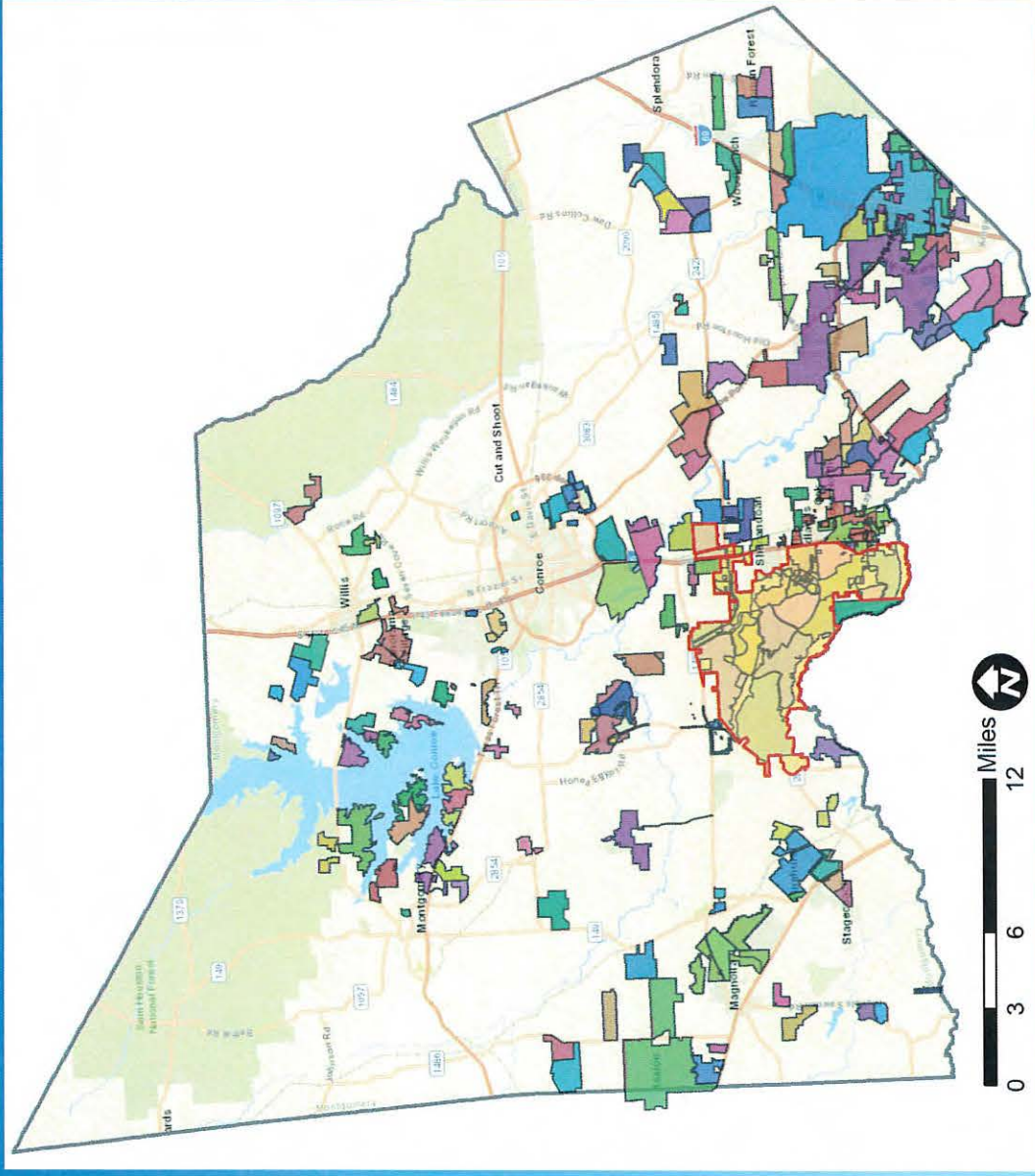
# ASSIGN SPATIAL LOCATIONS TO PERMITS

- Join Permit Numbers to Permitted Water Well Locations
  - 1,425 Approved Permits
  - 33 Permits Locations Needed
  - 1,392 Permits Joined to Spatial Locations
- Assign Area to Pumping Permit
  - Municipal Utility District (MUD) – TCEQ
  - Certificate of Convenience and Necessity (CCN)  
*(Public Utility Commission of Texas)*
  - 2019 Land Parcels - TNRIS



# Montgomery County Municipal Utility Districts (MUD)

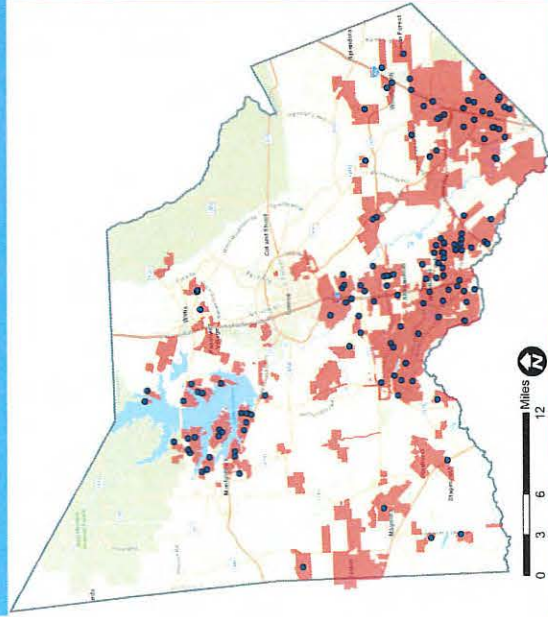
- 161 Municipal Utility Districts in Montgomery County
- Multiple Municipal Utility Districts Comprise SJRA Service Area (Service Area is Highlighted in Red on Map)



# ASSESSING AREAS ASSOCIATED WITH PERMITS

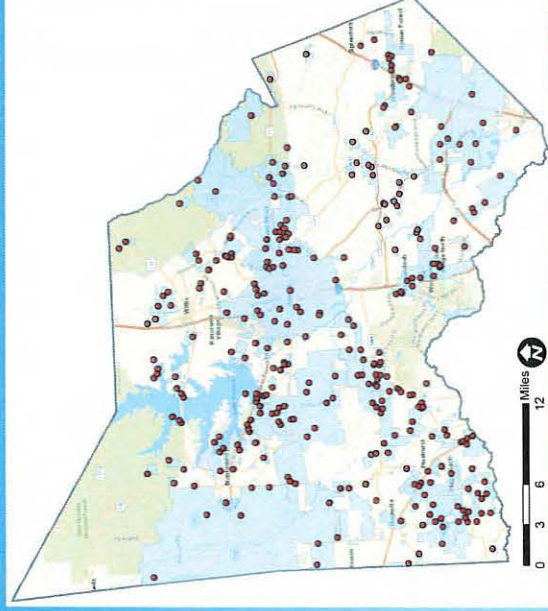
## Municipal Utility District

- Permit Amount: 45,403 acre feet



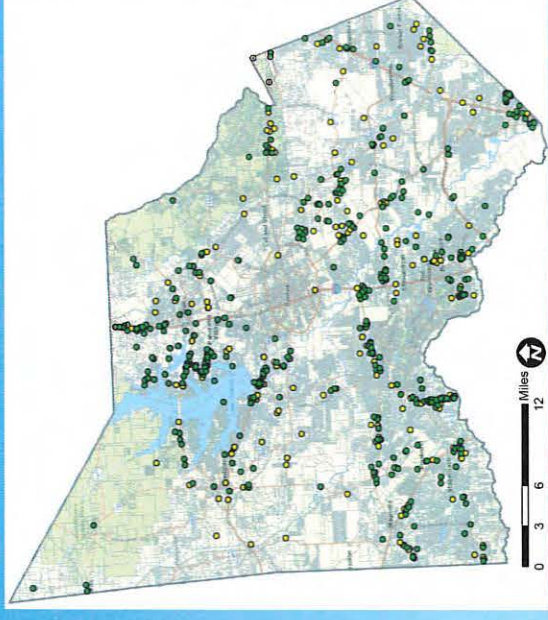
## CCN

- Permit Amount: 29,932 acre feet



## Other (Land Parcels)

- Permit Amount: 20,610 acre feet

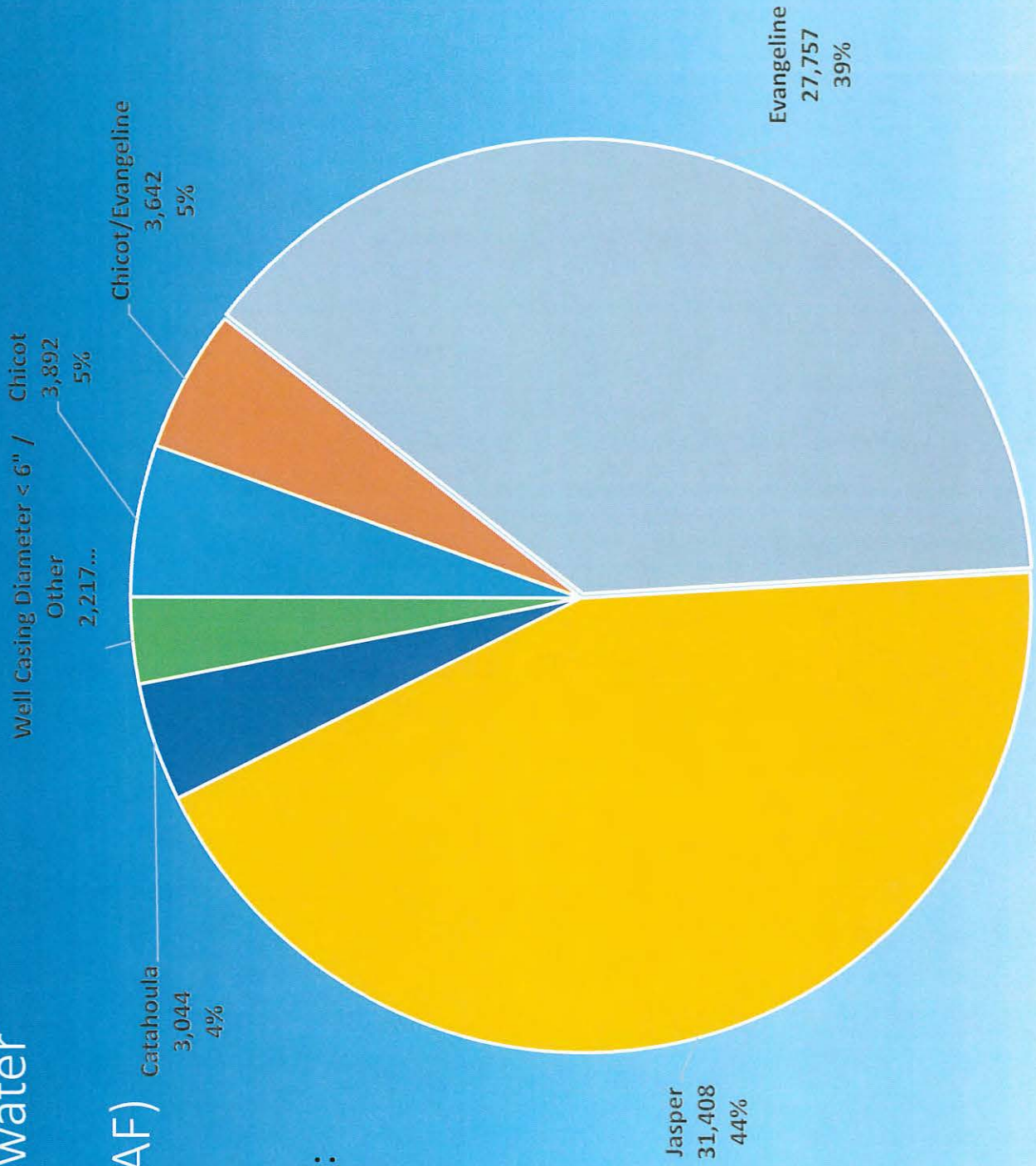


# PERMITTED PUMPING SUMMARY

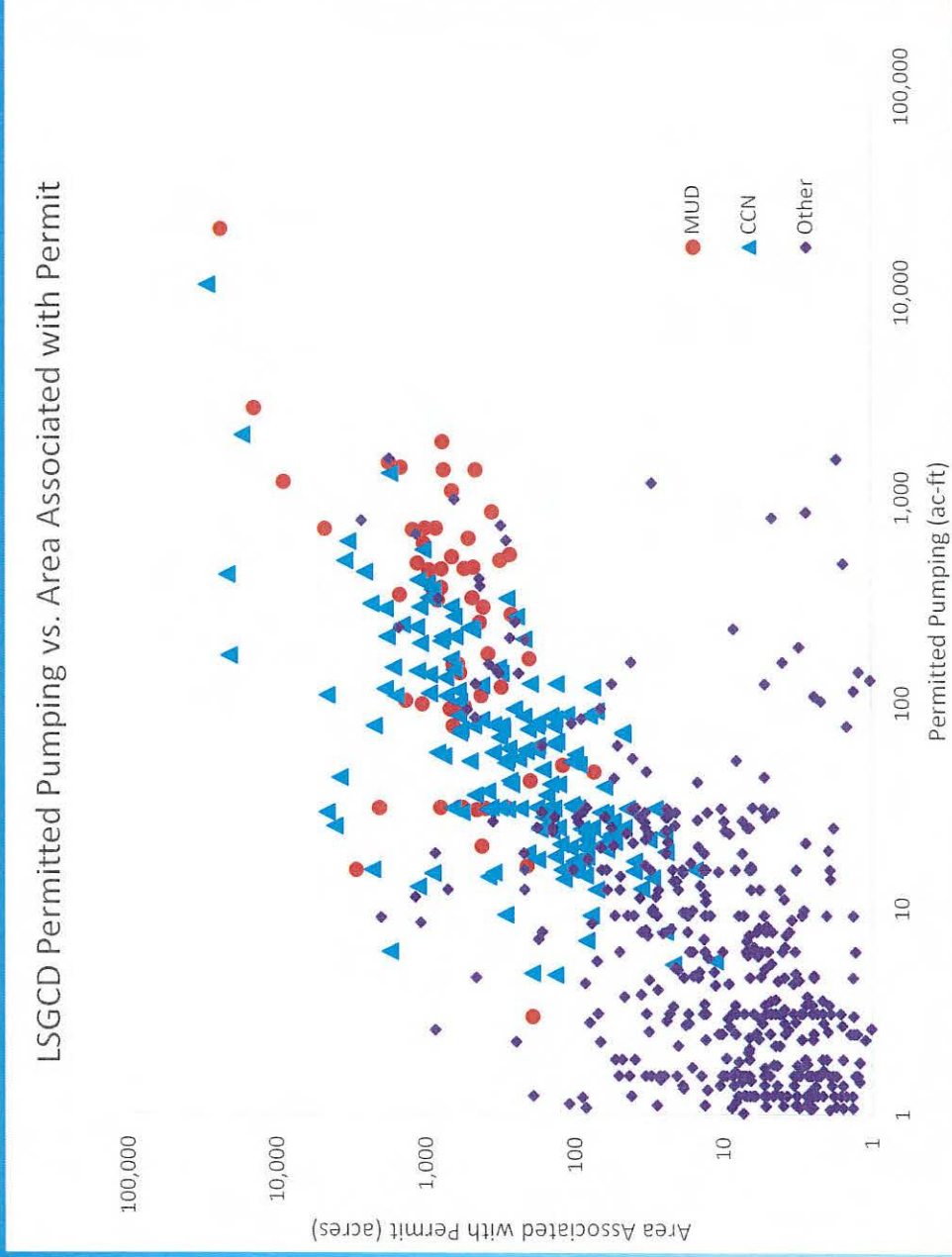
- Total LSGCD Permitted Pumping Based on LSGCD Database = 98,098 acre feet
- Total Permitted Pumping Based on Area = 95,972 acre feet
- Difference = 2,126 acre feet
- Contributing Factors to Difference in Permitted Amount:
  - 33 Permits Need Locations = 397 acre feet
  - Some Permits could not be joined to a MUD, CCN or Land Parcel area

# 2014 Montgomery County Groundwater Pumping by Aquifer (AF)

2014 Pumping Total:  
73,323 acre feet



# PERMITTED VOLUME VS AREA



Log-Log plot



# NEXT STEPS

- Evaluate
  - Volume allocation for landowners
  - Volume credit for service areas
- Considerations for the LSGCD Technical Group
  - per Day, one purpose of groundwater regulation is to afford each owner of water in a common, subsurface reservoir an opportunity for a fair share
  - impact of allocations on HUP/OP and vice versa
  - feasibility of achieving DFC with various allocations
  - impact of potential future rollback of HUP/OP as total permit volume grows
  - evaluate impact on existing investment backed expectations
  - Other factors



QUESTIONS ?

# Lone Star Groundwater Conservation District

Board Meeting

April 14, 2020



Exhibit "F"

# LSGCD PROPOSED DFC PROCESS AND GAM-RUN REQUEST TO GMA 14



*Presented to:*

Lone Star Groundwater Conservation District  
Board of Directors Meeting

APRIL 14, 2020

# JOINT PLANNING PROCESS – LSGCD KEY CONSIDERATIONS

- Manage Common Groundwater Reservoirs/Subdivisions within the Management Area
- Provide Every Groundwater Owner Opportunity for “Fair Share”
- Balance – Conservation/Development of Groundwater Resources
- Provide Best Current Estimates of Groundwater Availability Under the Management Standards (i.e., DFCs)

# JOINT PLANNING PROCESS – DFCs and MAGs

- **GCDs and GMAs develop and adopt DFCs and provide to TWDB TWC 36.001 (30) “Desired future condition”** means a quantitative description, adopted in accordance with Section 36.108, of the desired condition of the groundwater resources in a management area at one or more specified future times.  
**31 TAC 356.10 (7) Desired future condition--**The desired, quantified condition of groundwater resources (**such as water levels, spring flows, or volumes**) within a management area at one or more specified future times as defined by participating groundwater conservation districts within a groundwater management area as part of the joint planning process.
- **TWDB derives MAGs (from GAMs) and provides to GCDs/RWPGs**  
**TWC 36.001 (25) “Modeled available groundwater”** means the amount of water that the **executive administrator** determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108.

# LSGCD'S APPROACH – PROCESS IS AS IMPORTANT AS RESULT

- **Select Potential DFCs**
  - ✓ An aquifer condition – not pumping amount or distribution
  - ✓ Measurable in real life at proper monitoring sites
  - ✓ Can be selected prior to/independent of any model runs
  - ✓ Process should be applicable in other aquifers and areas
  
- **Assess Per Statutory Factors Using GAM/Other Information**
  - ✓ Is the proposed DFC viable and acceptable in light of conditions/factors?
  - ✓ How do potential DFCs affect common reservoir/other proposed DFCs?
  - ✓ Results in deriving at least one pumping amount/distribution (possible MAG)
  - ✓ Note that MAG values can change with varying models/statistical approaches
  
- **Submit Approved Request for DFC Model Run(s) to GMA 14**

# OVERVIEW OF LSGCD WORK TO DATE

- **Initial Simulations – Presented to GMA 14 (February 24, 2020)**
  - ✓ Agreed with GMA 14 consultant that LSGCD would do this in-house
  - ✓ Considered common reservoir boundaries and potential groundwater strategies
  - ✓ 8 pumping distributions based on previous MAG and aquifer properties
  
- **Selected Potential DFCs**
  - ✓ Target water levels (not calculated drawdown)
  - ✓ Subsidence
  
- **Conducted Numerous Model Runs**
  - ✓ Various starting points with respect to pumping files (MAGs, Run D, GMA 14)
  - ✓ Ranges in DFC targets
  
- **Developed 3 Options to Present to Board**
  
- **Contemplated Use of Run D**

# RUN D – WHY OR WHY NOT?

- Legal Considerations – Stacey Reese
- Different Approach than Other Current Alternatives
  - ✓ Not a specific aquifer-wide, water-level target
  - ✓ Pumping distribution based on specific water users
  - ✓ Pumping distribution based on invalid regulatory plan
- Similar Results to Current Alternatives (resulting potential MAG)
  - ✓ Starting pumping distributions are very similar
  - ✓ Target water levels are reasonably similar at existing monitoring sites
  - ✓ HAGM simulation of artesian aquifer



QUESTIONS ?

# DEFINITIONS FOR DFC OPTIONS

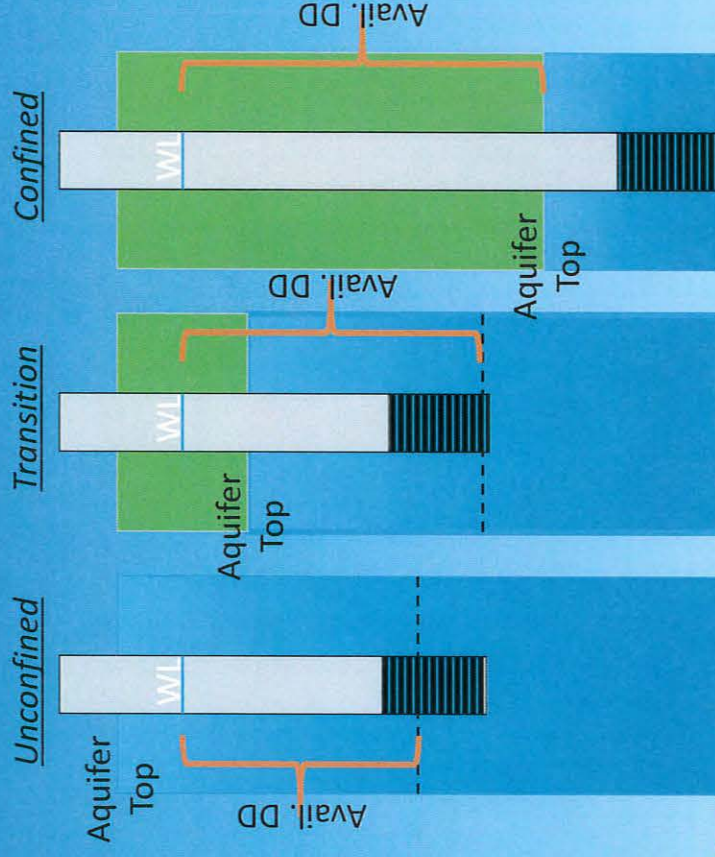
- Must have an ending date = 12/31/2080
- May utilize a baseline date = 12/31/2009
- Aquifer zones
  - Unconfined
    - Thin – Water level  $\leq$  middle of aquifer
    - Thick – Water level  $>$  middle of aquifer
  - Transition – Water level  $\leq$  maximum available drawdown
  - Confined – Water level  $>$  maximum available drawdown

# AVAILABLE DRAWDOWN

- Water level minus deepest desired pumping water level
- Maximum (unconfined and transition) = 200 feet
- Remaining:

$$Avail_{dd_{remt}} = \frac{Avail_{dd_t}}{Avail_{dd_0}} \times 100$$

for example:  $\frac{258}{696} \times 100 = 37\%$



DFC  
Statement

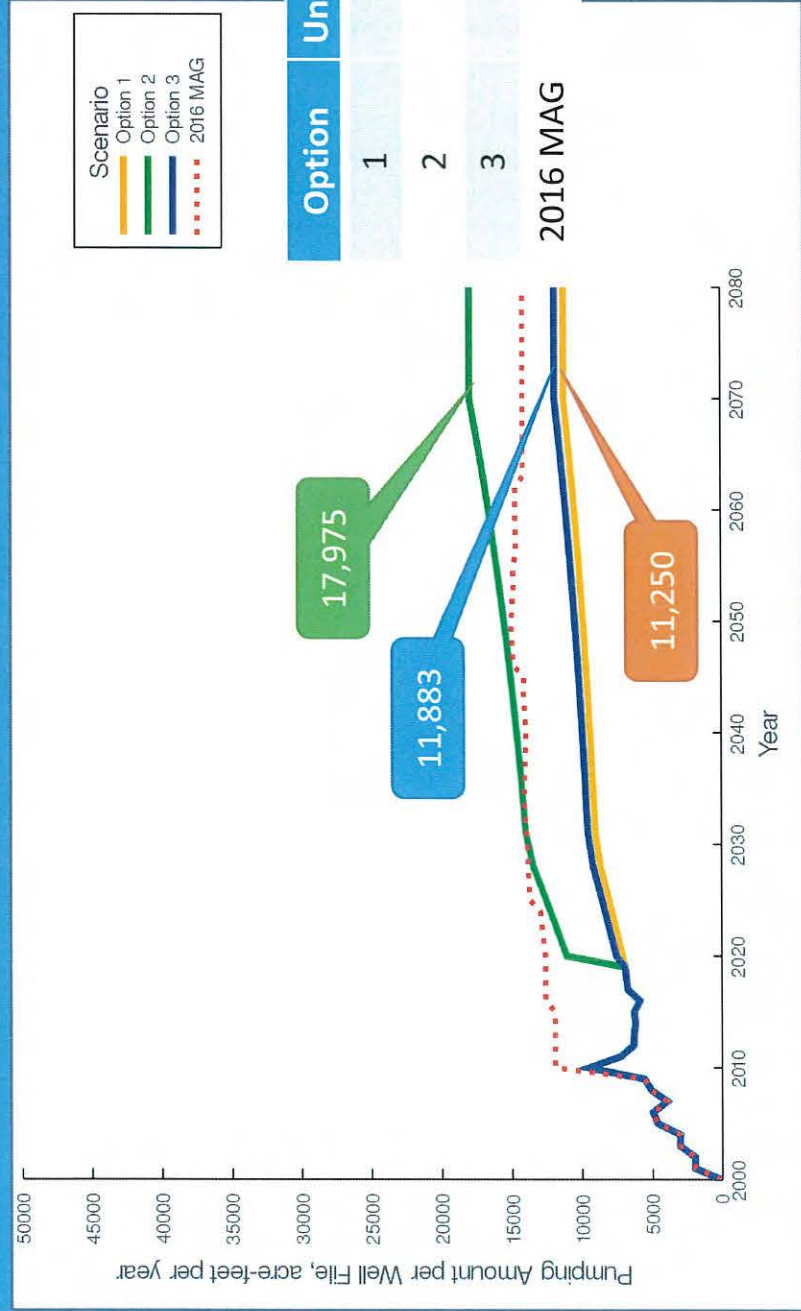
# POTENTIAL DFCS AS REMAINING AVAILABLE DRAWDOWN

Option	Summary	Aquifer	Unconfined	Transition	Confined
1	Baseline (Run D)	Chicot	45%	N/A	N/A
		Evangeline	120%	83%	88%
		Jasper	86%	0%	67%
2	Moderate (Less remaining available drawdown in all aquifers)	Chicot	39%	N/A	N/A
		Evangeline	110%	75%	38%
		Jasper	77%	0%	17%
3	Aggressive Jasper (Baseline with less remaining available drawdown in Jasper)	Chicot	45%	N/A	N/A
		Evangeline	120%	80%	85%
		Jasper	50%	0%	0%

## RECENT MODELING

- Purpose: Determine potential MAG associated with DFC options
- Optimize potential MAG
  - Start with Run D pumping distribution
  - Increase/decrease to meet DFC option
  - Results remain subject to model limitations
  - Potential MAG will vary with different modeling assumptions

# RESULTS – CHICOT AQUIFER

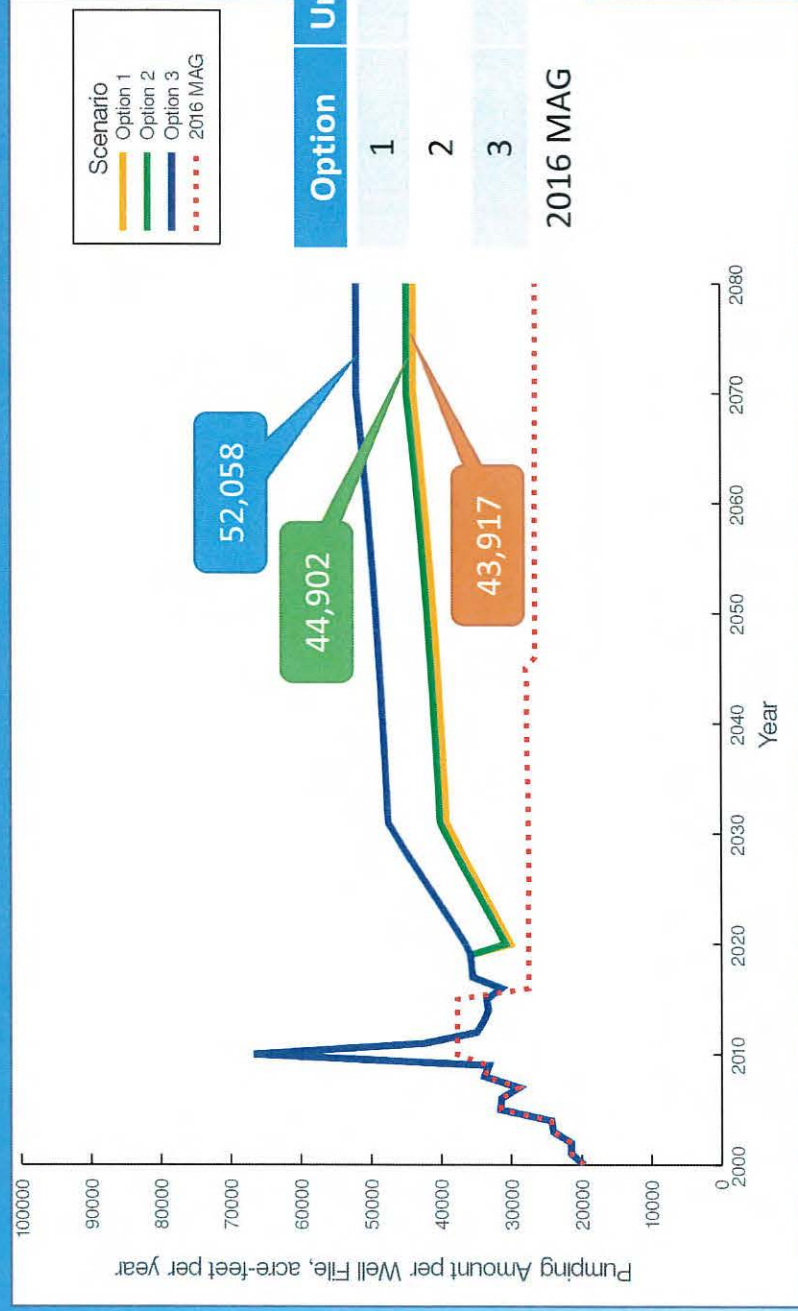


Option	Unconfined	Transition	Confined
1	45%	N/A	N/A
2	39%	N/A	N/A
3	45%	N/A	N/A
2016 MAG	54%	N/A	N/A

For Montgomery County



# RESULTS – EVANGELINE AQUIFER

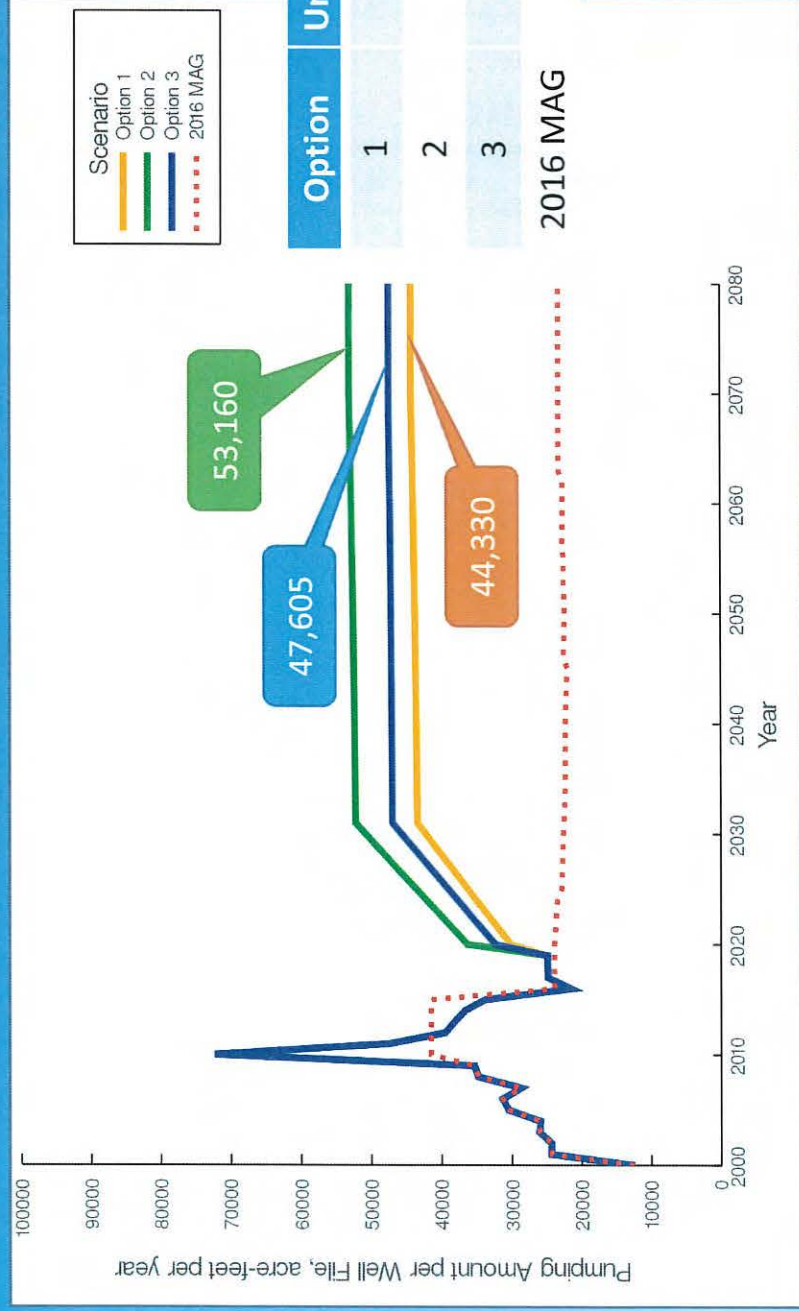


Option	Unconfined	Transition	Confined
1	120%	83%	88%
2	110%	75%	38%
3	120%	80%	85%
2016 MAG	188%	95%	101%

For Montgomery County



# RESULTS – JASPER AQUIFER

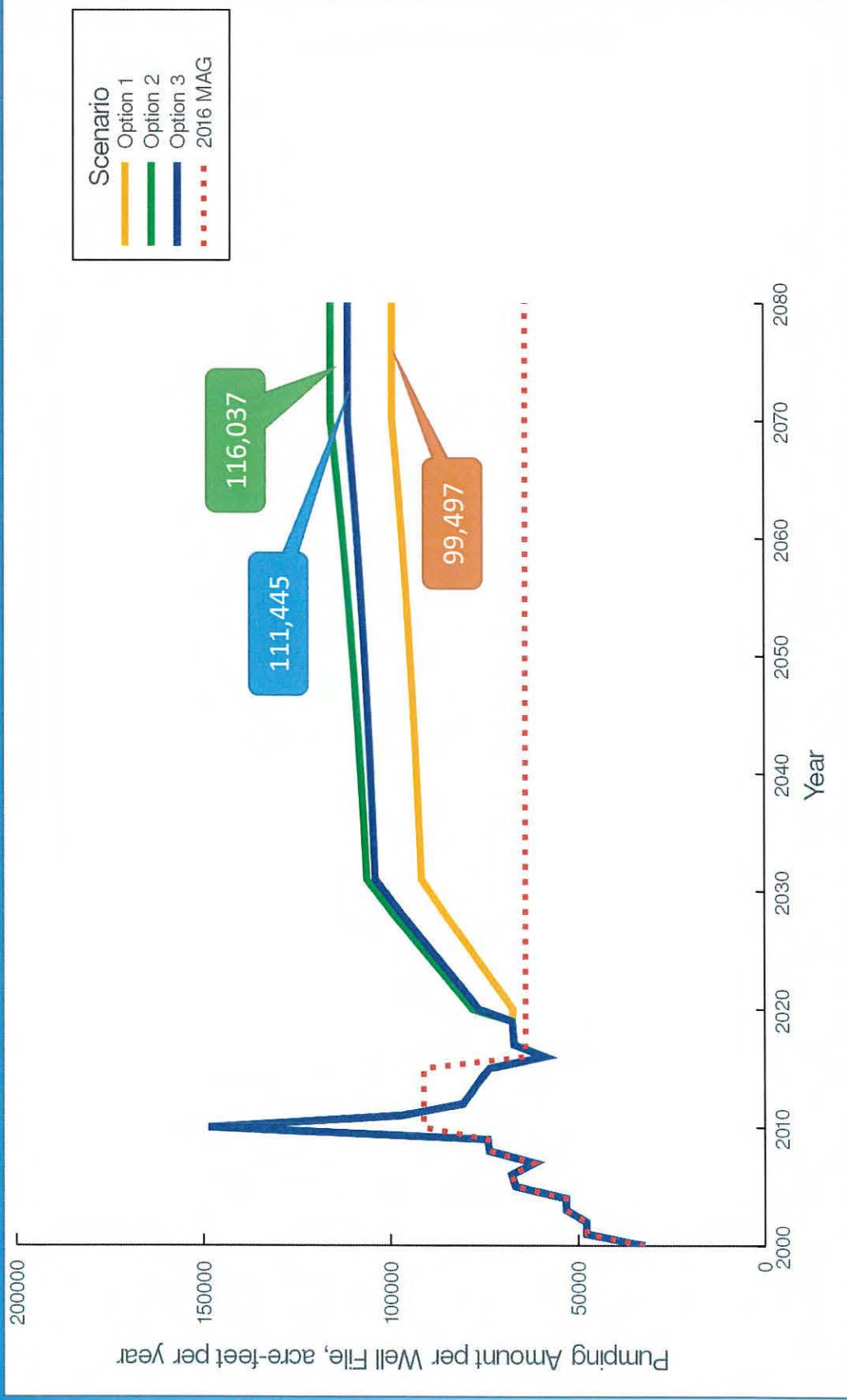


For Montgomery County





# RESULTS - GCAS



# RECENT MODELING CONCLUSIONS

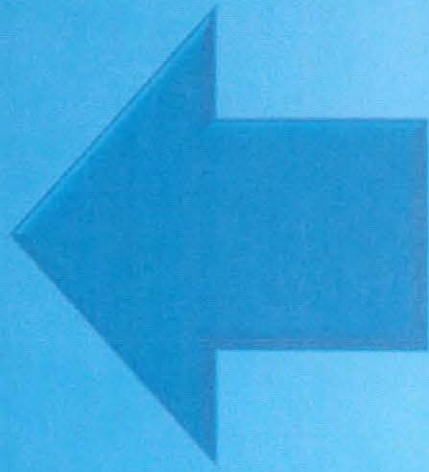
- Model assumptions affect results
- DFC statement can be simple
  - Determining the MAG can be complicated
  - Results will vary with the model and assumptions
- Will need to provide GMA 14 specific instructions to limit uncertainty

QUESTIONS ?

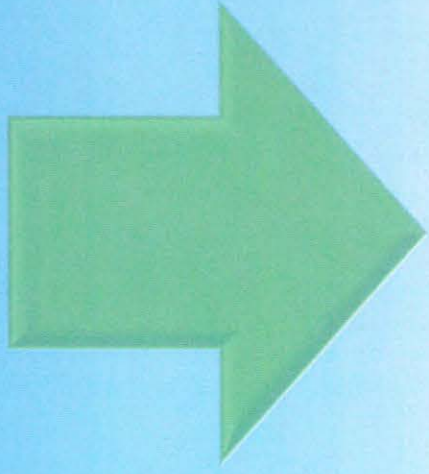
# DISCUSSION OF FACTORS AFFECTED BY THE DESIRED FUTURE CONDITIONS (DFC)

# STANDARD FOR DESIRED FUTURE CONDITIONS

## FINDING THE BALANCE



Highest Practicable Level of  
Groundwater Production



Conservation, Preservation,  
Protection, Recharging, and  
Prevention of Waste of  
Groundwater, and Control  
of Subsidence

# 9 FACTORS TO CONSIDER FOR DESIRED FUTURE CONDITIONS

Environmental  
Impacts

Subsidence  
Impacts

Hydrological  
Conditions

Aquifer Uses or  
Conditions

Supply Needs &  
Management  
Strategies

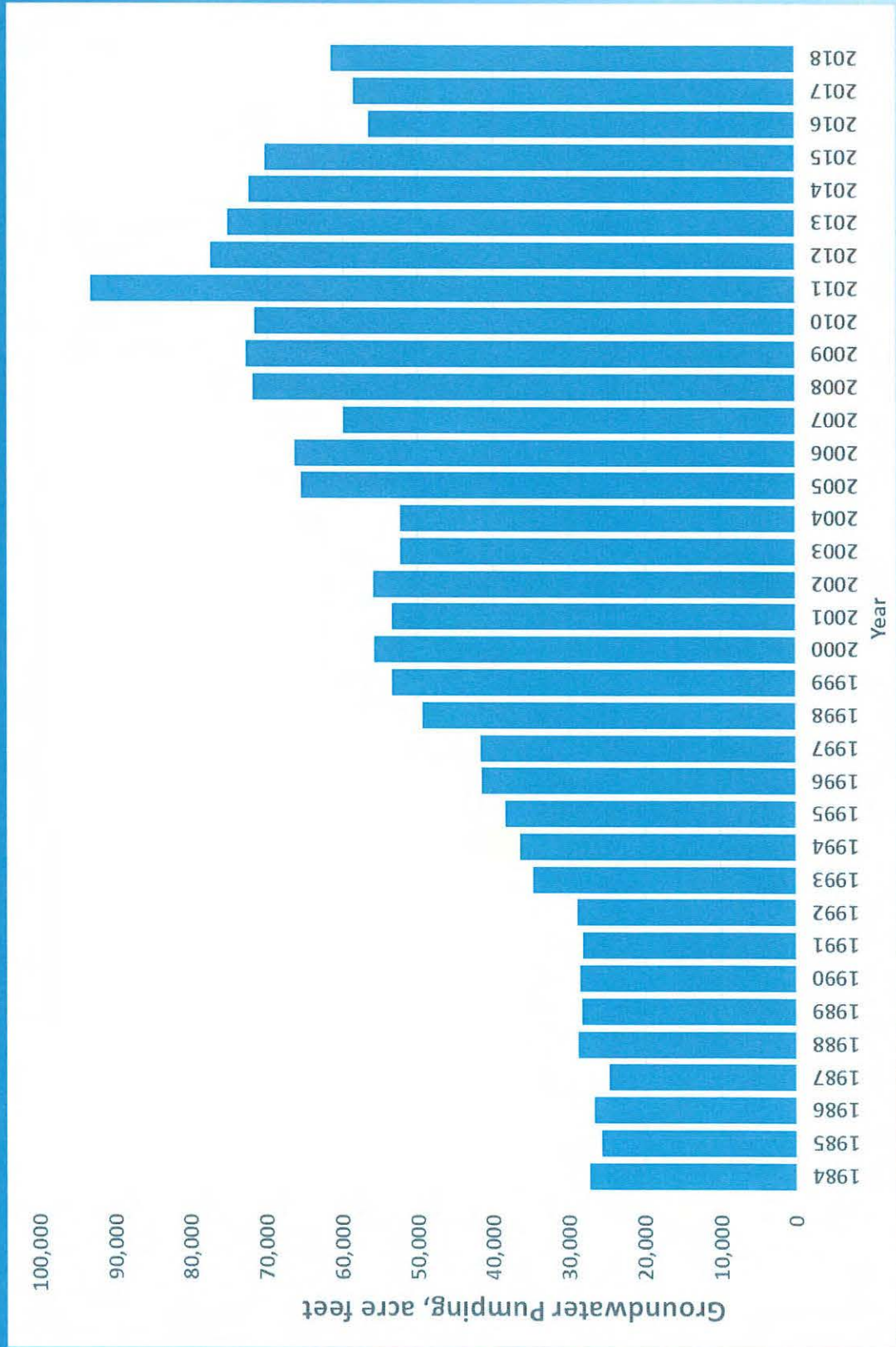
Private  
Property Rights

Socioeconomic  
Impacts

DFC Feasibility

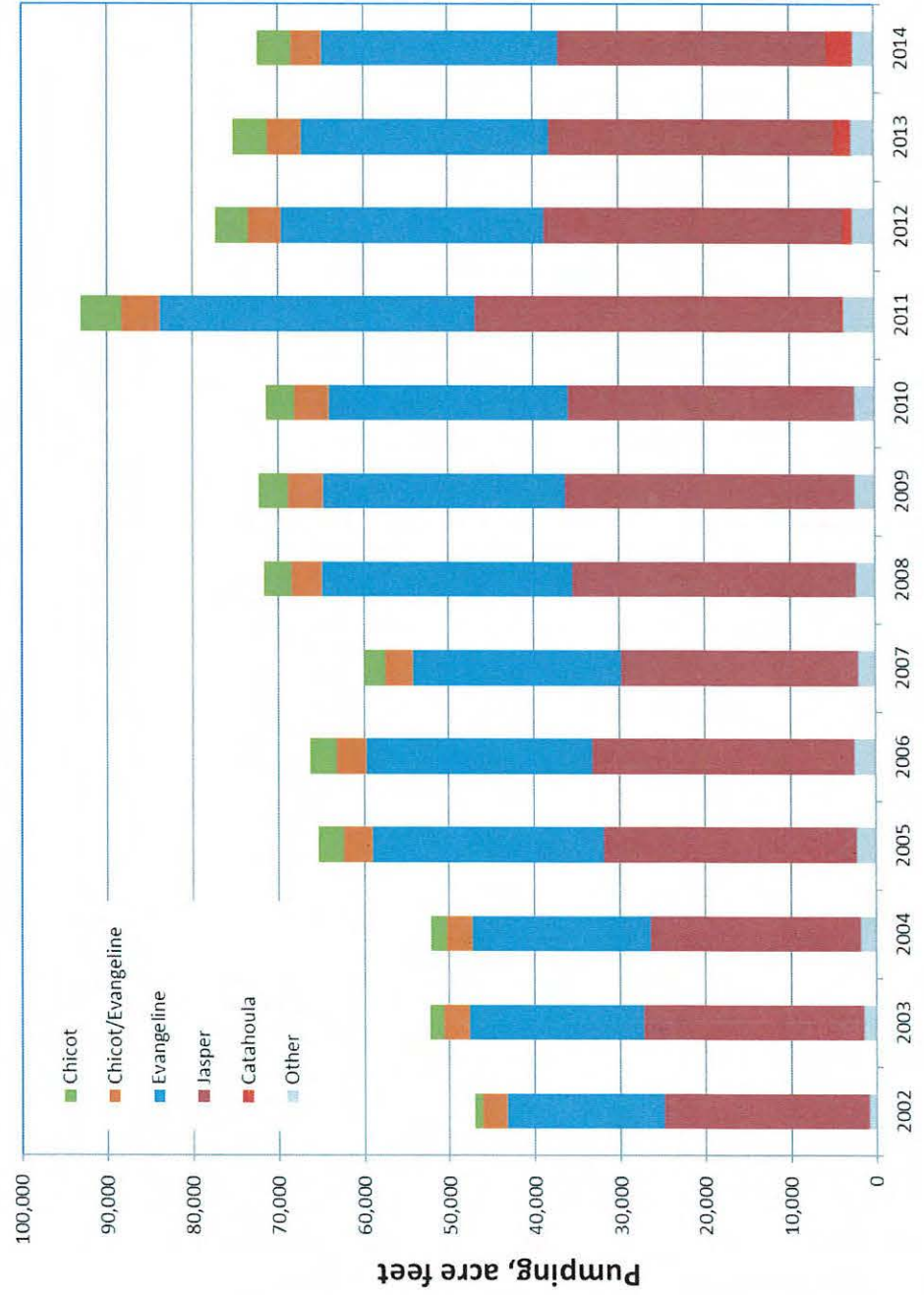
Other Relevant  
Information

# MONTGOMERY COUNTY PUMPING



# MONTGOMERY COUNTY PUMPING (BY AQUIFER)

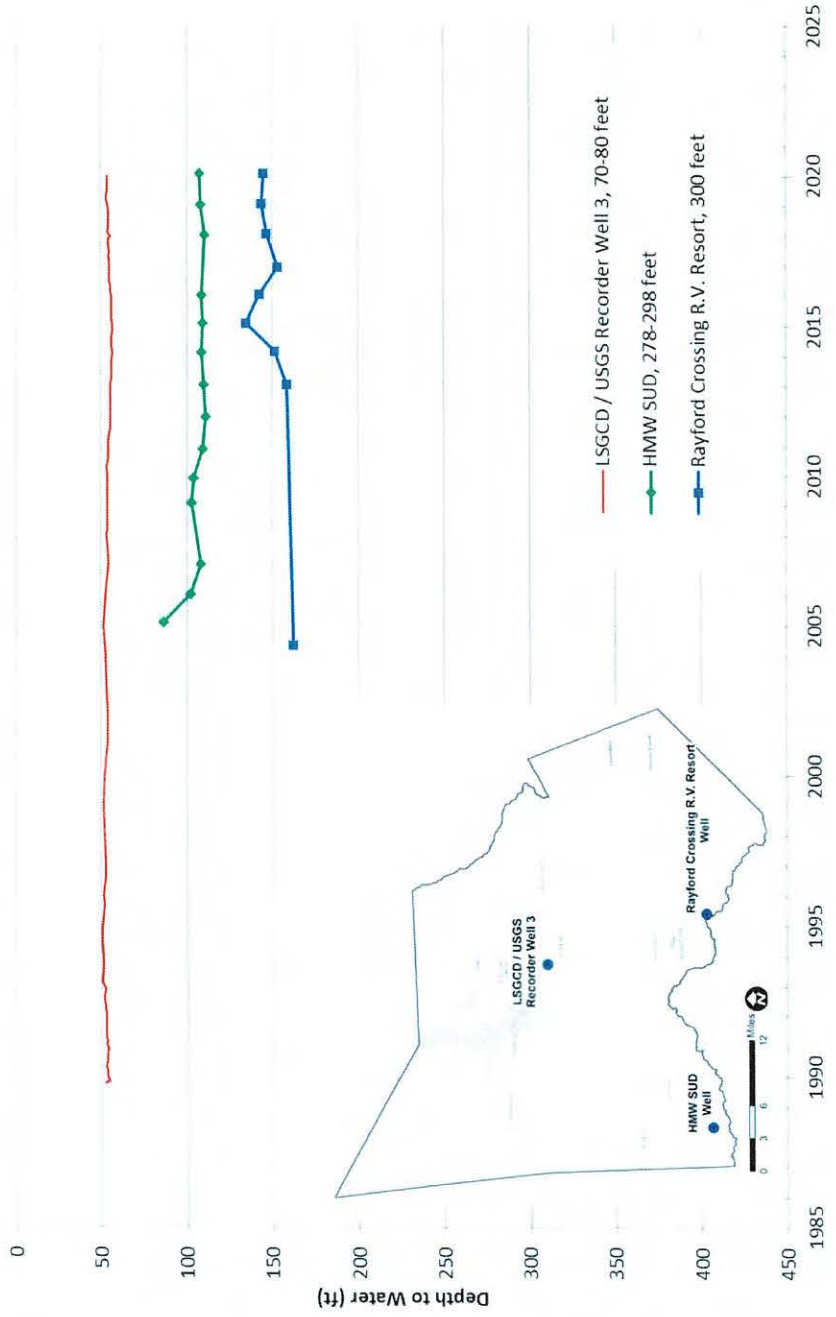
LSGCD Montgomery County Pumping by Aquifer





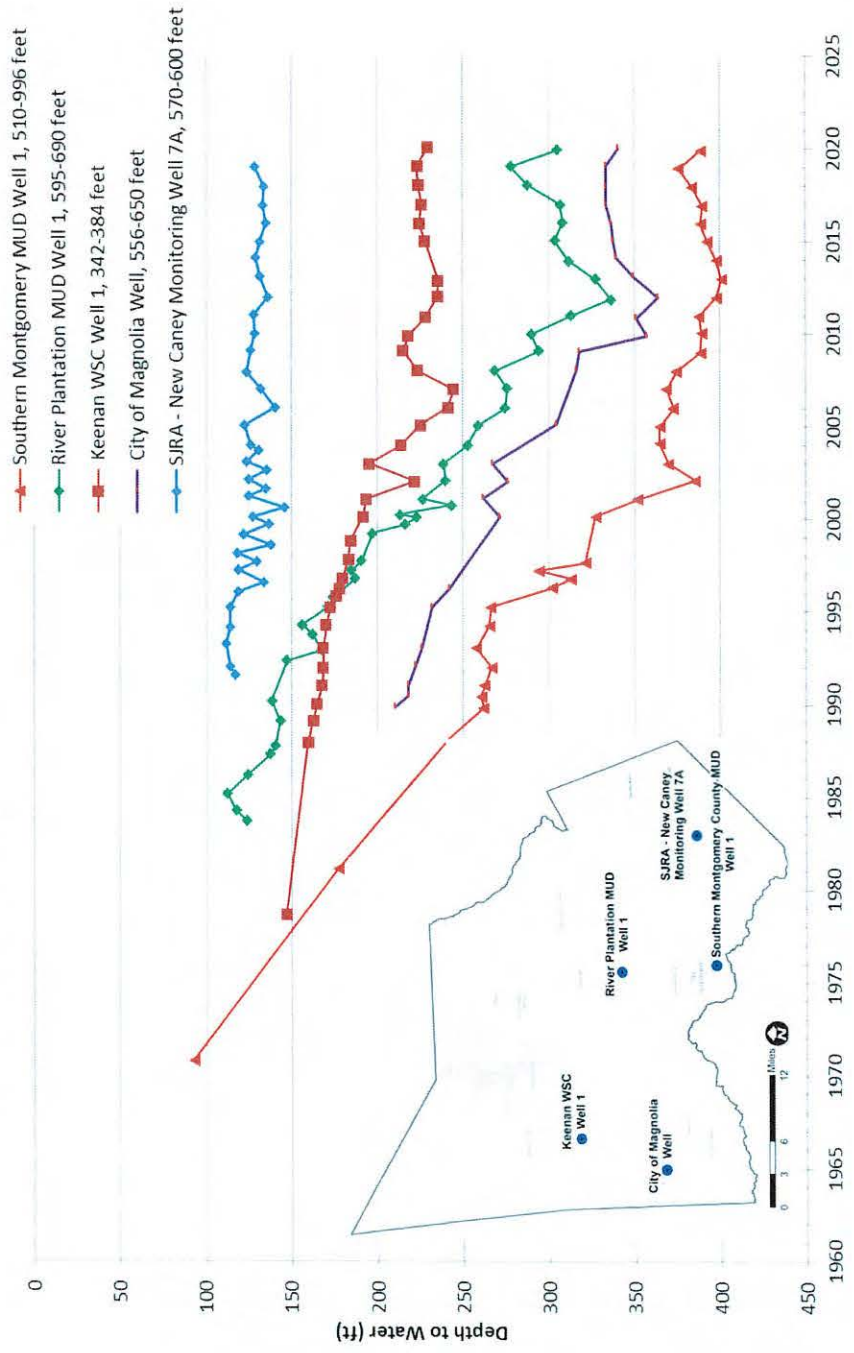
# MONTGOMERY COUNTY HYDROLOGIC CONDITIONS CHICOT AQUIFER

Montgomery County Chicot Aquifer  
Static Water Level Data



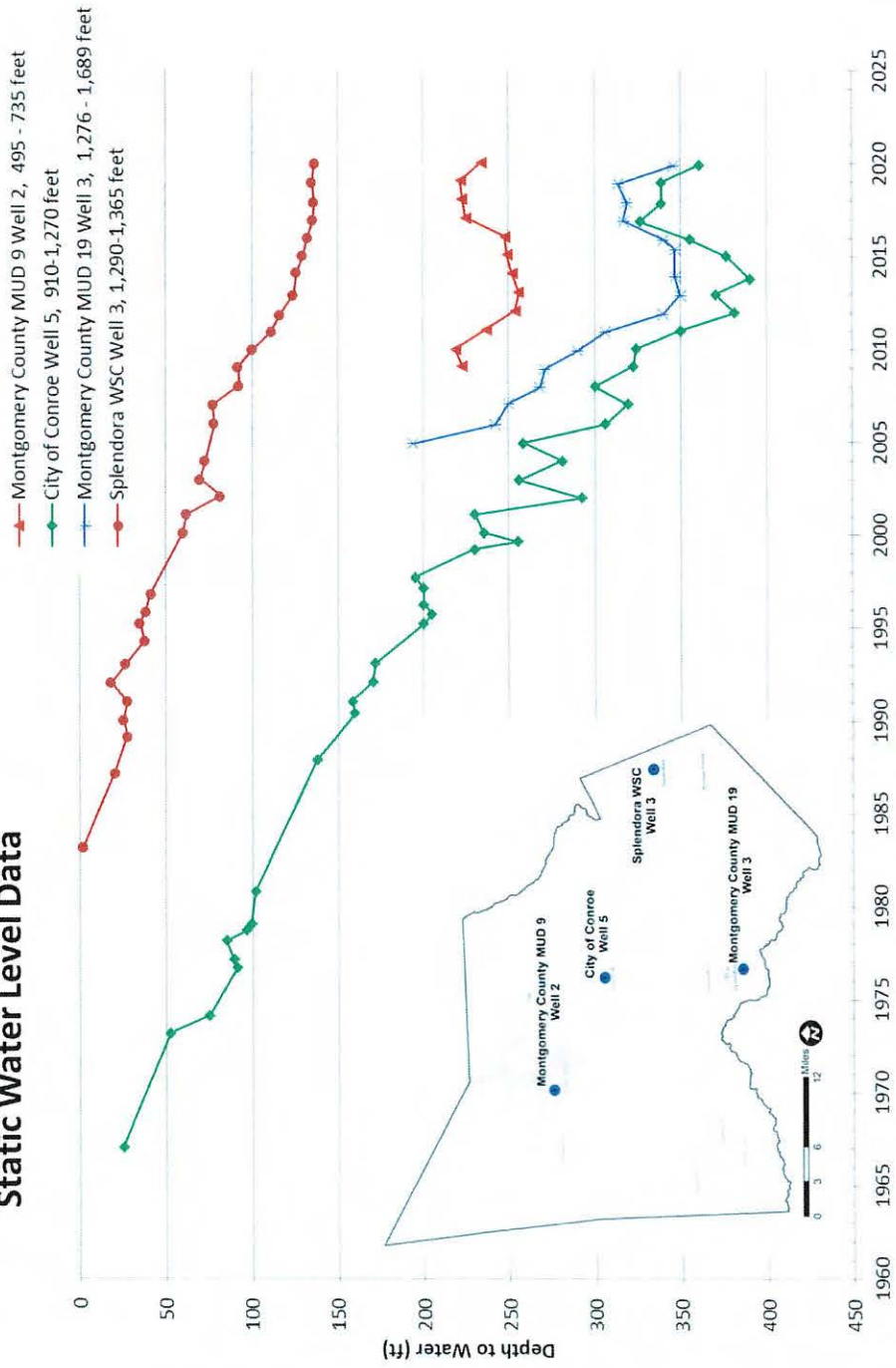
# MONTGOMERY COUNTY HYDROLOGIC CONDITIONS EVANGELINE AQUIFER

## Montgomery County Evangeline Aquifer Static Water Level Data



# MONTGOMERY COUNTY HYDROLOGIC CONDITIONS JASPER AQUIFER

**Montgomery County Jasper Aquifer  
Static Water Level Data**

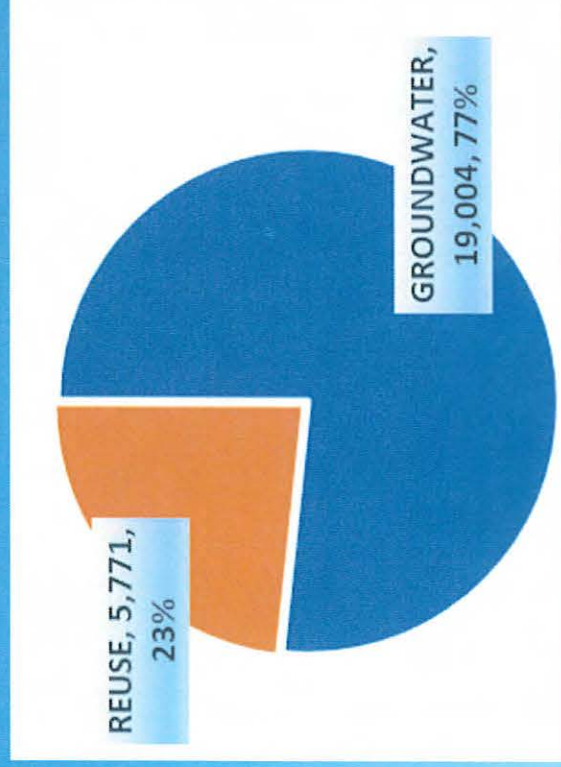


# SUPPLY NEEDS & MANAGEMENT STRATEGIES

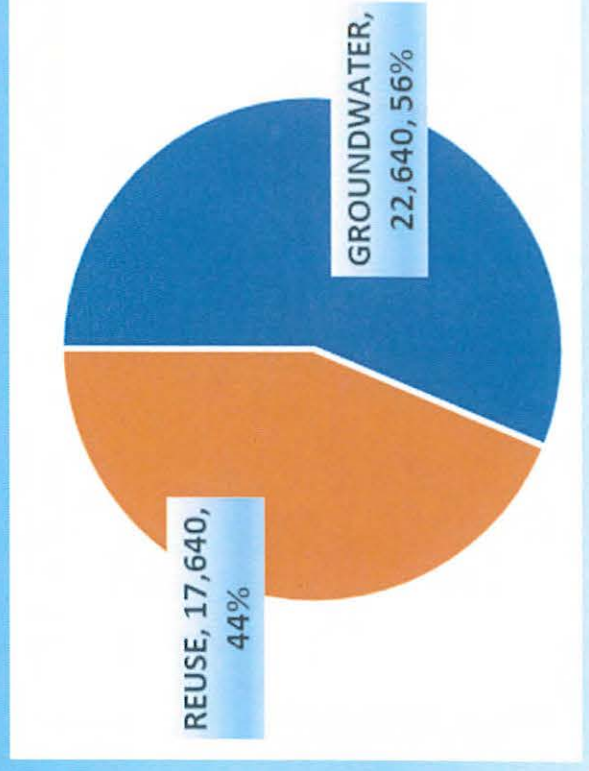
- Taken from 2017 State Water Plan
- Supply Needs
  - Need = Supply is less than Future Demand
  - Need = Current Supply - Future Demands
- Management Strategies
  - Infrastructure strategies to meet needs
  - 2020 and 2050 strategies

# WATER SOURCES FOR FUTURE STRATEGIES IN MONTGOMERY COUNTY 2017 STATE WATER PLAN

2020



2050



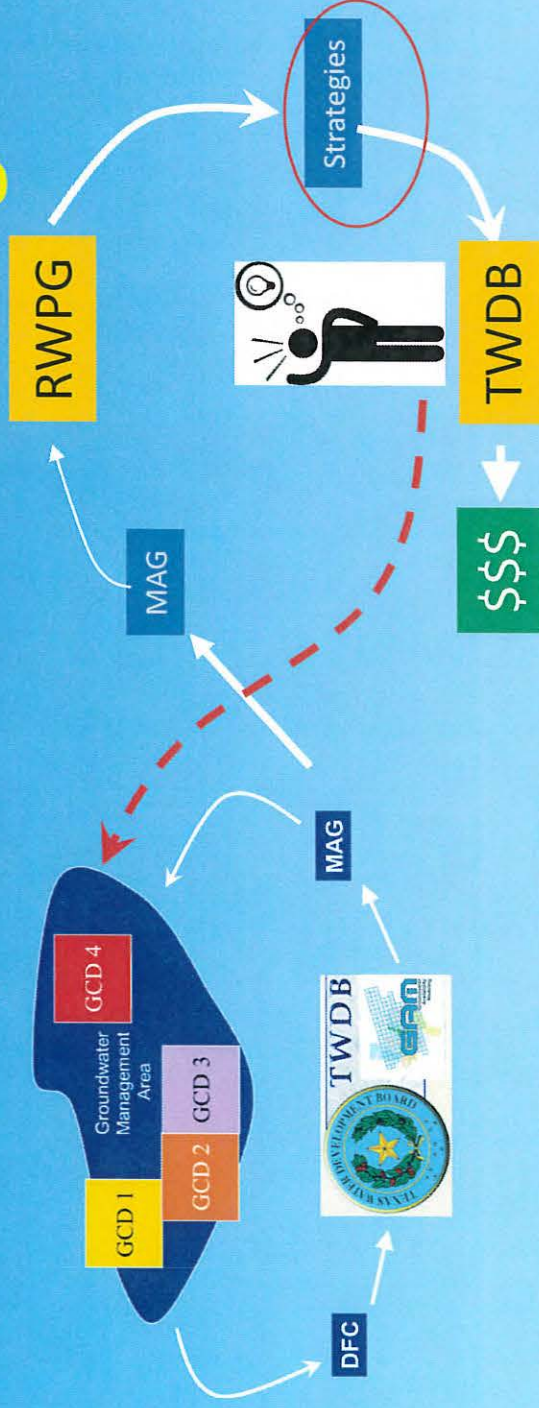
Strategy volumes represent water for new demands only, not existing uses.



# ONE REASON MAGs MATTER

## Regional Water Planning

## Joint Planning



# PRIVATE PROPERTY RIGHTS ISSUES CONSIDERED IN MANY GMAS (PARTIAL LIST)

- Per Day, one purpose of groundwater regulation is to afford each owner of water in a common, subsurface reservoir an opportunity for a fair share
- Current and projected future uses within the GCD
- Investment-backed expectations of existing users and property owners within the GCD
- Long-term viability of groundwater resources in area
- Balancing the availability of groundwater to property owners and the ability to achieve the DFC within the rules of the district
- Whether immediate pumping cutbacks would be required in setting a particular DFC or whether cutbacks, if any, would need to occur over time
- Balancing the potential economic impacts to existing groundwater users and the potential economic impacts to future groundwater users
- Joint Planning process is iterative, and science and new data allow for adaptive management.

# SOCIOECONOMIC IMPACTS

- Assess one aspect of economic impacts
- Upper portion of Jasper Aquifer is important groundwater supply in Montgomery county and northern Harris county
  - Currently used
  - Infrastructure investment
  - Current MAG does not account for current use
- Lower portion of Jasper Aquifer has not been developed in the region because it contains groundwater with poorer water quality based on evaluation of electric logs