

GROUNDWATER ISSUES SUBCOMMITTEE
 OF THE
 TEXAS GROUNDWATER PROTECTION COMMITTEE
 RECORD OF MEETING
 First Quarter Meeting, Fiscal Year 2018

Meeting Date: September 13, 2017
 Meeting No.: 11

Place: TCEQ Campus, Bldg B
 Room: 201A

TABLE OF CONTENTS

MEETING ATTENDANCE 2

MEETING HANDOUTS 3

MEETING RECORD OF SEPTEMBER 13, 2017..... 4

1. CALL TO ORDER AND INTRODUCTIONS4

2. STATUS REPORTS4

Agricultural Chemicals Task Force4

TGPC Publications.....5

Texas Groundwater Protection Strategy Update Task Force5

3. SET FUTURE MEETING DATE.....5

4. PRESENTATION.....5

5. DISCUSS CURRENT GROUNDWATER ISSUES6

Water Supply Enhancement Program.....6

Hydraulic Fracturing.....6

Emerging Contaminants.....6

Saline Groundwater Trends and Impacts in Texas7

Agricultural Chemicals7

Border Groundwater7

Aquifer Storage and Recovery.....7

Abandoned Water Wells7

Failing Septic Systems7

Others8

6. BUSINESS DISCUSSION AND POSSIBLE ACTION.....8

Draft *Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Fiscal Year 2017 Annual Report*8

Draft *Texas Groundwater Protection Strategy Update*8

7. ANNOUNCEMENTS.....9

8. PUBLIC COMMENT9

9. ADJOURN.....9

MEETING ATTENDANCE

Subcommittee Members

Kathy McCormack (Co-Chair)

Peter Pope (Co-Chair)

Janie Hopkins

Deba Dutta

David T. Villarreal

Thomas Helton

David Van Dresar

Bridget Scanlon

Adam Foster

Lynne Fahlquist

Anish Jantrania

Ken Rainwater

Affiliation

Texas Commission on Environmental Quality (TCEQ)

Railroad Commission of Texas (RRC)

Texas Water Development Board (TWDB)

Texas Department of State Health Service (DSHS)

Texas Department of Agriculture (TDA)

Texas State Soil and Water Conservation Board
(TSSWCB)

Texas Alliance of Groundwater Districts (TAGD)

Bureau of Economic Geology of The University of Texas
at Austin (UTBEG)

Texas Department of Licensing and Regulation (TDLR)

United States Geological Survey (USGS)

Texas A&M AgriLife Extension Service (AgriLife
Extension)

Texas Tech University (TTU)

Agency Staff

Abiy Berehe

Cary Betz

Leon Byrd

Tim Cawthon

Cindy Hooper

Lauren Pulliam

L. Scott Underwood

Affiliation

TCEQ

TCEQ

TCEQ

TCEQ

TCEQ

TCEQ

TCEQ

Program

Water Availability Division

Water Availability Division

Water Availability Division

Water Quality Planning Division

Water Availability Division

Water Quality Planning Division

Water Availability Division

Interested Parties

Brian Buchner

Beth Hood

Brent Olsen

Active Water Solutions (AWS)

TAGD

AWS

MEETING HANDOUTS

1. Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Meeting Agenda, September 13, 2017
2. TGPC GWI Subcommittee Meeting Record, June 7, 2017
3. TGPC Agricultural Chemicals (AgChem) Task Force (TF) Status Report, September 13, 2017
4. TGPC Publications Status Report, September 13, 2017
5. TGPC *Texas Groundwater Protection Strategy* (“*Strategy*”) Update Task Force (TF) Status Report, September 13, 2017
6. *Water Issues Related to Transitioning from Conventional to Unconventional Oil Production in the Permian Basin*, Bridget R. Scanlon, Robert C. Reedy, Frank Male, and Mark Walsh, *Environmental Science & Technology* **2017** 51 (18), 10903-10912, DOI: 10.1021/acs.est.7b02185, <http://pubs.acs.org/doi/full/10.1021/acs.est.7b02185>
7. Texas Section Society for Range Management, Position Statement Number 2, *Rangeland Watershed Management: The Potential of Brush Management to Enhance Water Yield from Rangelands*, July 7, 2017
8. Kansas State University, “Loss of 350 miles of Great Plains streams causing changes in aquatic food web”, ScienceDaily, August 2, 2017, www.sciencedaily.com/releases/2017/08/170802102803.htm
9. Draft *Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Annual Report*, September 13, 2017
10. Draft *Texas Groundwater Protection Strategy* update

The following items were also on display on the handout table:

1. *Joint Groundwater Monitoring and Contamination Report – 2016* (“*Joint Report*”, TCEQ publication SFR-056, https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/056-16.pdf)
2. TGPC Public Information Act Policy

MEETING RECORD OF SEPTEMBER 13, 2017

1. CALL TO ORDER AND INTRODUCTIONS

Peter Pope (RRC), Co-Chair of the TGPC GWI Subcommittee, called the meeting to order at approximately 9:37 AM CDT. GWI Subcommittee members were introduced. The representative from Texas A&M AgriLife Research was not present at the meeting. There was a question with the minutes from the previous meeting regarding attendance; after the meeting, it was confirmed that the attendance list in the minutes was correct.

2. STATUS REPORTS

Agricultural Chemicals Task Force

David Villarreal (TDA) reported on the Agricultural Chemicals Task Force:

- There had been one Agricultural Chemicals Task Force meeting (via email, phone, or in person) since the last GWI Subcommittee meeting;
- Fiscal Year 2017 results:
 - Cooperative monitoring immunoassay (IA) screening: 74 wells, 28 QA samples = 102 total samples in the Gulf Coastal Plain aquifers
 - 102 Atrazine, no detects
 - TCEQ on-going monitoring: 21 samples from 19 wells and 2 QA samples from Public Water Supply wells in the Panhandle that had previous high atrazine detections
 - All 21 samples analyzed for triazines as atrazine by IA, with five non-detects, and a high of 0.41 parts per billion (ppb)
 - 12 samples analyzed at DSHS laboratory by Methods 525.2 and 515.4; the only detect was for picloram (0.4 ppb in Kress #3 well)
- 2017 cooperative and on-going monitoring results had been entered into the TCEQ Interagency Pesticide Database (IPD) and would be sent to U.S. Environmental Protection Agency (EPA) and Region 6 EPA;
- Alan Cherepon (TCEQ) had participated in the annual TCEQ Public Drinking Water conference on August 8 – 9, 2017 in Austin, assisting with public outreach and education at the TGPC exhibit booth, and he had attended and provided a presentation on the Texas Pesticides Of Interest Tracking System (POINTS) at the Pesticides Regulatory Education Program (PREP) Water Quality course in Saint Paul, Minnesota on May 16 – 19, 2017; and,
- The revised Quality Assurance Project Plan (QAPP) was undergoing internal review and would be sent to Region 6 EPA prior to the expiration date of October 24, 2017.

David Villarreal (TDA) added that last year's monitoring data showed very little pesticide issues, atrazine had little to no detects, and the amount of next year's monitoring program depended on EPA funding.

TGPC Publications

Abiy Berehe (TCEQ) reported on the following TGPC publications:

- Groundwater Assessment for the *2018 Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d)* (“*Texas Integrated Report*”):
 - The 2018 report preparation would be initiated in the first quarter of Fiscal Year 2018.
- *Joint Groundwater Monitoring and Contamination Report – 2016* (“*Joint Report*”, TCEQ publication SFR-056):
 - TCEQ staff completed the 2016 *Joint Report*, publication notices were sent to county judges, county health officials, and Groundwater Conservation Districts (GCDs), and a link to the publication was also posted on the TGPC website.
- *Texas Groundwater Protection Strategy* (“*Strategy*”, AS-188):
 - Two Task Force meetings on the *Strategy* update had taken place since the last GWI Subcommittee meeting.

Texas Groundwater Protection Strategy Update Task Force

Peter Pope (RRC) reported on the *Strategy* Update Task Force:

- There had been two *Strategy* Update Task Force meetings (via email, phone, or in person) since the last GWI Subcommittee meeting;
- Examples of strategic and program plans and summaries were obtained from TGPC members and other sources after the first meeting on June 29, 2017; and,
- An initial draft *Strategy* update was prepared and subsequently revised based on discussion during the second meeting on September 5, 2017.

3. SET FUTURE MEETING DATE

The next TGPC GWI Subcommittee meeting was scheduled for Wednesday, December 13, 2017, at 9:30 AM CST, in TCEQ’s Building F, Conference Room 2210.

4. PRESENTATION

Bridget Scanlon (UTBEG) gave GWI Subcommittee members a presentation on “Water Budget of the Permian Basin: Implications for Groundwater Quality” based on a recently published paper in *Environmental Science & Technology*

(<http://pubs.acs.org/doi/full/10.1021/acs.est.7b02185>). Information was provided on the amount of water produced from conventional and unconventional oil and gas wells, how that water was managed, the amount of water used for hydraulic fracturing, how water management could impact aquifers, what could be done to reduce adverse impacts on groundwater, and data gaps.

Bridget Scanlon reported that:

- Most (90 %) of produced water was from conventional wells and was recycled for Enhanced Oil Recovery (EOR);
- Unconventional wells accounted for 10 % of produced water, but this cannot be reinjected into low permeability shales;
- The large water demand for hydraulic fracturing had been increasing by about a factor of 10 over time and with proppant loading;

- Most of the produced water from unconventional wells was disposed in shallow intervals;
- Reuse of produced water could reduce potential impacts on overlying aquifers but could increase surface spills and leaks; and,
- Reuse/recycling of produced water could partially resolve both the produced water and hydraulic fracturing water issues by reducing aquifer over-pressuring and potential seismicity, and oil and gas industry infrastructure was expanding in an effort to support this.

Cary Betz (TCEQ), Designated Chairman of the TGPC, left at approximately 11:25 AM CDT and was absent for the remainder of the meeting.

The GWI Subcommittee took a meeting break at approximately 10:25 – 10:38 AM CDT. A quorum of designated TGPC representatives/alternates was present at the meeting and they were reminded not to discuss TGPC business during the break.

5. DISCUSS CURRENT GROUNDWATER ISSUES

Water Supply Enhancement Program

Ken Rainwater (TTU) presented the Texas Section of the Society for Range Management's Position Statement Number 2, *Rangeland Watershed Management: The Potential of Brush Management to Enhance Water Yield from Rangelands*. The budget for TSSWCB's Water Supply Enhancement Program (WSEP) was recently impacted by the governor and its current and future form was under negotiation.

David Villarreal (TDA) reported that Bayer Corporation had approached TDA about one of their pesticides, aminocyclopyrachlor, which may be used to control Huisache (*Vachellia farnesiana*), and which also showed some activity against Giant Cane (*Arundo donax*). TDA directed Bayer Corporation to TSSWCB and USGS in order to discuss the possibility of doing some experimental work in Texas.

Thomas Helton (TSSWCB) reported that some recent legislation approved \$3 million for *Arundo donax* control on the Texas-Mexico border, and that they would be looking at priority areas along the Rio Grande River as a new program at their agency in Fiscal Year 2018. There was also a current Justice Assistance Grant (JAG) in place with the U.S. Department of Justice through the Governor's office for *Arundo donax* control.

Hydraulic Fracturing

There was no discussion of this topic at the meeting.

Emerging Contaminants

Deba Dutta (DSHS) reported that Emily Hall (DSHS) was working on a draft Per- and Polyfluoroalkyl Substances (PFAS) white paper for the GWI Subcommittee.

David Villarreal (TDA) added that there was a lot of recent activity in regards to the mandatory U.S. Food Safety Modernization Act (FSMA) initiatives. Sampling would be done in 2018 for microbial contaminants (e.g., *Cyclospora cayetanensis* parasites, spores, and cysts) in surface water and groundwater used for irrigating agricultural areas.

Saline Groundwater Trends and Impacts in Texas

There was no discussion of this topic at the meeting.

Agricultural Chemicals

There was no discussion of this topic at the meeting.

Border Groundwater

Lynne Fahlquist (USGS) announced that they had recently published a report on the area that includes the Hueco-Mesilla Boson Aquifer:

- *Geophysics- and geochemistry-based assessment of the geochemical characteristics and groundwater-flow system of the U.S. part of the Mesilla Basin/Conejos-Médanos aquifer system in Doña Ana County, New Mexico, and El Paso County, Texas, 2010–12*, Scientific Investigations Report 2017-5028, <https://pubs.er.usgs.gov/publication/sir20175028>.

Aquifer Storage and Recovery

Bridget Scanlon (UTBEG) reported that they would have more to discuss at the next meeting regarding their draft white paper on Aquifer Storage and Recovery (ASR) water quality and compatibility.

Abandoned Water Wells

There was no discussion of this topic at the meeting.

Failing Septic Systems

Kathy McCormack (TCEQ) reported that she would be working with Anish Jantrania (AgriLife Extension) on a draft white paper regarding On-site Sewage Facilities (OSSFs) in the state for the next meeting.

Tim Cawthon (TCEQ) added that their Nonpoint Source (NPS) team currently had a project related to OSSFs along the Texas coast, and that they would be willing to share their project's Geographic Information System (GIS) database.

David Villarreal (TDA) noted that when they find a pathogen in one of their FSMA samples, they hope that they will have the funding to do molecular/genetic trace-backs (based on work done by TSSWCB and the Texas Water Resources Institute) in order to identify the source of the contamination.

Others

Kathy McCormack (TCEQ) referred GWI Subcommittee members to the article in their handout package regarding groundwater declines in the Great Plains and associated reductions in fish populations (www.sciencedaily.com/releases/2017/08/170802102803.htm).

Since Regional Water Planning Groups (RWPGs) should identify and account for environmental flow requirements in their plans, David Van Dresar (TAGD) suggested that this paper be forwarded to all of them. Janie Hopkins (TWDB) offered to provide RWPG contact information.

Lynne Fahlquist (USGS) thought that Cindy Loeffler (Texas Parks and Wildlife Department) would be interested in this paper, as well.

Ken Rainwater (TTU) said that he was a member of the Region O Water Planning Group and that reduced fish populations was an inter-regional issue for the Canadian and Brazos river basins after the 2011 drought.

Ken Rainwater (TTU) also asked David Van Dresar (TAGD) about GCDs and production water for oil and gas activities. David Van Dresar indicated that each GCD had its own policies and rules in this area. Ken Rainwater felt that it would be good to share the information from the meeting's earlier presentation with the state's GCDs.

6. BUSINESS DISCUSSION AND POSSIBLE ACTION

Draft Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Fiscal Year 2017 Annual Report

Peter Pope (RRC) presented the draft of the *Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Fiscal Year 2017 Annual Report* ("Annual Report"). David Van Dresar (TAGD) proposed, Deba Dutta (DSHS) seconded, and all remaining GWI Subcommittee members approved the *Annual Report*. The *Annual Report* would be presented to the TGPC for approval at their October 18, 2017 meeting.

Draft Texas Groundwater Protection Strategy Update

Peter Pope (RRC) presented the draft of the *Strategy* update. David Villarreal (TDA) suggested adding the TGPC's email/text subscription service to the list of accomplishments. Additional comments included some formatting changes, adding agency logos, changing the title of the document, adding clarifying sentences in a few places, and correcting a typo. After extensive discussion, GWI Subcommittee members agreed that the *Strategy* Update Task Force should meet again, incorporate all of the feedback received at the meeting, and bring an updated version to the next meeting.

Deba Dutta (DSHS) left at approximately 11:36 AM CDT, returned at approximately 11:39 AM CDT, and was present for the remainder of the meeting.

7. ANNOUNCEMENTS

Lynne Fahlquist (USGS) announced:

- Their upcoming webinar on September 15, 2017 concerning the Ogallala and Edwards-Trinity Aquifers in Gaines, Yoakum, and Terry Counties, and another webinar on September 19, 2017 concerning groundwater availability of the Coastal Lowlands Aquifer System;
- Their new GeoLog Locator, a web-based map view and retrieval tool for accessing digital geophysical logs, was available at <https://www.usgs.gov/news/borehole-geophysical-logs-now-easily-accessible-through-new-usgs-onlinemap> and,
- Ernie Baker, a long-time USGS researcher, had recently died.

Deba Dutta (DSHS) asked whether any adverse impacts on groundwater from the recent Hurricane Harvey should be shared with the public. Kathy McCormack (TCEQ) reported that three hot links to information that would be helpful to homeowners and landowners with flooded water wells had been added to the TGPC homepage. David Van Dresar (TAGD) indicated that his GCD had put similar links on their website. Anish Jantrania (AgriLife Extension) reported that the Texas Well Owner Network (TWON) had recently collected approximately 40 samples from private water well owners affected by Hurricane Harvey and sent them to Virginia Polytechnic Institute and State University (Virginia Tech) for free analyses (due to grant funding).

Beth Hood (TAGD) announced that their online database, Groundwater Conservation District Index (GCDI, <https://texasgroundwater.org/resources/gcd-index/>), would be updated in the next few weeks and that they would welcome any suggestions for improvement or additional parameters.

8. PUBLIC COMMENT

There was no public comment at the meeting.

9. ADJOURN

Peter Pope (RRC) adjourned the meeting at approximately 12:04 PM CDT.