

**TEXAS GROUNDWATER PROTECTION COMMITTEE
RECORD OF MEETING**

Third Quarterly Meeting, Fiscal Year 2019

Meeting Date: April 17, 2019
Meeting No.: 126

Place: TCEQ Campus, Bldg F
Room: 2210

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MEETING ATTENDANCE

Committee Members

Cary L. Betz

Bryan Anderson

Leslie Bruce

Evelyn G. Reátegui-Zirena

David Villarreal

Thomas Helton

David A. Van Dresar

John Tracy

Bridget Scanlon

David Gunn

Affiliation

Texas Commission on Environmental Quality (TCEQ)

Texas Water Development Board (TWDB)

Railroad Commission of Texas (RRC)

Texas Department of State Health Services (DSHS)

Texas Department of Agriculture (TDA)

Texas State Soil and Water Conservation Board (TSSWCB)

Texas Alliance of Groundwater Districts (TAGD)

Texas A&M AgriLife Research (AgriLife Research)

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

Texas Department of Licensing and Regulation (TDLR)

Agency Staff

Leah Martinsson

Abiy Berehe

Leon Byrd

Alan Cherepon

Lorrie Council

Deba Dutta

Cindy Hooper

Peggy Hunka

Kathy McCormack

L. Scott Underwood

Affiliation

Program

TAGD

TCEQ Water Availability Division

TCEQ Water Availability Division

TCEQ Water Availability Division

TCEQ Radioactive Materials Division

Texas Department of Transportation (TxDOT)

TCEQ Water Availability Division

TCEQ Water Availability Division

TCEQ Water Availability Division

TCEQ Water Availability Division

Interested Parties

Peter George

Julie Range

Affiliation

Collier Consulting, Inc.

MEETING HANDOUTS

1. Agenda for Texas Groundwater Protection Committee meeting on April 17, 2019
2. Record for Texas Groundwater Protection Committee meeting on January 16, 2019
3. Summary of Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Meeting, March 6, 2019
4. Summary of Texas Groundwater Protection Committee (TGPC) Public Outreach and Education (POE) Subcommittee Meeting, March 2019
5. *Managing Nonpoint Source Pollution in Texas: 2018 Annual Report*, TCEQ publication SFR-066/18,
https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/066-18.pdf
6. Drought 2019 – U.S. Drought Monitor, Texas, April 9, 2019; Public Water Supply Systems Affected, April 10, 2019; TCEQ List of Texas PWSs Limiting Water Use to Avoid Shortages, April 10, 2019; U.S. Seasonal Drought Outlook, March 21 – June 30, 2019
7. TCEQ Rules Update, 04/17/2019
8. Southern Region Water Conference flyer
9. 2019 Water-related Conferences in Texas, April 2019

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

1. TGPC Public Information Act Policy
2. *Priority Groundwater Management Areas and Groundwater Conservation Districts: Report to the 86th Legislature*, TCEQ publication SFR-053/17,
https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/066-18.pdf

MEETING RECORD OF APRIL 17, 2019

1. CALL TO ORDER AND INTRODUCTIONS

Cary Betz (TCEQ), Designated Chairman of the Texas Groundwater Protection Committee (TGPC), called the meeting to order at approximately 1:08 PM CDT. TGPC members then introduced themselves, and David Van Dresar (TAGD) introduced Leah Martinsson as the new Executive Director of TAGD.

2. SUBCOMMITTEE REPORTS

Groundwater Issues

Kathy McCormack (TCEQ) reported that the TGPC GWI Subcommittee last met on March 6, 2019 and 11 state and federal agencies and organizations were represented.

The current Agricultural Chemicals Task Force Status Report (available on the TGPC GWI Subcommittee webpage, <https://tgpc.texas.gov/tgpc-subcommittees/tgpc-groundwater-issues-subcommittee/>, under the “Additional Resources” heading) was reviewed with the following highlights:

- Cooperative monitoring was not scheduled to begin until April 2019, and TCEQ sampling in the Northern Panhandle was planned for late May or early June 2019.
- The update and quality assurance and control activities on the Interagency Pesticide Database (IPD), including Fiscal Year 2019 pesticide water monitoring data from other TCEQ programs and the United States Geological Survey (USGS), was planned for August and September 2019.
- TCEQ staff would provide:
 - A table display and personnel at the Texas Capitol for the annual National Groundwater Awareness Week on March 13, 2019;
 - A TGPC poster exhibit at the Texas Capitol for the annual National Groundwater Awareness Week on March 18 – 22, 2019; and,
 - A desk display and personnel for the TCEQ annual Environmental Trade Fair on May 14 – 15, 2019.
- Alan Cherepon (TCEQ) would attend the biannual U.S. Environmental Protection Agency (EPA)/States/Tribes pesticide meeting in Little Rock, Arkansas on May 14 – 16, 2019, sharing Texas groundwater protection activities with other Region 6 states and the U.S. EPA.

The current TGPC Publications Status Report (also available on the TGPC GWI Subcommittee webpage) was reviewed with the following highlight:

- *Joint Groundwater Monitoring and Contamination Report – 2018* (“*Joint Report*”, SFR-056):
 - Staff were working on the 2018 *Joint Report* and it would be completed before June 2019.

The following current groundwater issues were briefly discussed:

- Water Supply Enhancement Program;
- Emerging Contaminants;
- Saline Groundwater Trends and Impacts in Texas;
- Abandoned Water Wells; and,
- Others (i.e., coal ash from power plants).

The following draft white papers were reviewed and final versions would be provided at the next meeting:

- *How is Groundwater Quality Affected by Per- and Polyfluoroalkyl Substances (PFAS) ?*; and,
- *Transboundary Groundwater Resources along the Texas-Mexico Border.*

A draft *TGPC GWI Subcommittee Fiscal Year 2020 – 2021 Activity Plan* was reviewed and a final draft would be presented at the next meeting.

The next TGPC GWI Subcommittee meeting was scheduled for June 12, 2019.

Public Outreach and Education

Peggy Hunka (TCEQ) reported that the TGPC POE Subcommittee last met on March 6, 2019 and seven state and federal agencies and organizations were represented.

The current Outreach Events Status Report (available on the POE Subcommittee webpage, <https://tgpc.texas.gov/tgpc-subcommittees/tgpc-public-outreach-and-education-subcommittee/>, under the “Additional Resources” heading) was reviewed:

- Texas A&M AgriLife Extension Service (AgriLife Extension) Water Well Screening Events
 - Nine future events
- TGPC Exhibit Booth
 - None since the previous POE Subcommittee meeting

Diane Boellstorff (AgriLife Extension) reviewed the Texas Well Owners Network (TWON) schedule of completed, confirmed, obligated, and suggested water well one-day training events and workshops which showed that there had been over 8,976 samples or attendees at TWON events since April 2011.

The Google Analytics activity report on the TGPC website for January 16 – March 4, 2019 was reviewed.

Bridget Scanlan (UTBEG) gave a presentation titled *Update on Groundwater Arsenic Contamination in Texas*.

Diane Boellstorff (AgriLife Extension) and Michael Hare (TDA) would work on updating the AgriLife Extension fact sheet titled *Drinking Water Problems: Arsenic*.

TCEQ would lead the update of the *Landowner's Guide to Plugging Abandoned Water Wells* (TCEQ publication RG-347, https://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg-347.pdf).

Leslie Bruce (RRC) led a discussion on the draft proposed Frequently Asked Question (FAQ) titled *What Should I Know About My Water Well and Why ?*

The next TGPC POE Subcommittee meeting was scheduled for June 12, 2019.

3. PRESENTATION

Bridget Scanlon (UTBEG) gave a presentation titled *Spatial and Temporal Variability in Produced Water in Texas: Implications for Management* which provided information on the following questions:

- How much water is used for hydraulic fracturing (source and quality of water) ?
 - 20 % of the water in the Permian Basin and Eagle Ford plays, increasing volumes being used, stabilizing recently;
 - Fresh and brackish groundwater; and,
 - No reports on reuse/recycling.
- How much water is produced with oil and gas and how is it managed ?
 - Permian Basin: 14 bbl water/bbl oil (conventional), approximately 3 bbl water/bbl oil (unconventional); and,
 - Mostly managed using Enhanced Oil Recovery Injection (EORI) for conventional reservoirs and Salt Water Disposal (SWD) for unconventional reservoirs.
- What is the quality of produced water ?
 - Variable: Permian Basin highest salinity in shallow zone near salt deposits, higher quality at depth.
- Can we reuse produced water for hydraulic fracturing ?
 - Yes, in most plays; and,
 - Delaware Basin and some others produce more water than is required for hydraulic fracturing.
- Can we treat produced water for use in other sectors ?
 - Yes, high salinity will require thermal distillation; and,
 - Lots of salt generated.

Bryan Anderson (TWDB) left at approximately 1:25 PM CDT, returned at approximately 1:27 PM CDT, and was present for the remainder of the meeting.

4. BUSINESS DISCUSSION AND POSSIBLE ACTION

TGPC Publications Subcommittee Creation

David Villarreal (TDA) had previously suggested that the Legislative Report Subcommittee (which meets biannually) be changed to a Publications Subcommittee (which would meet quarterly) that would work on all of the TGPC's publications. This would reduce the amount of time discussing publications during the TGPC quarterly

meetings and allow a Publications Subcommittee to spend quality time on each of the TGPC's six publications. Cary Betz (TCEQ) indicated that TCEQ staff would develop a draft Publications Subcommittee Charge and this would be reviewed in comparison to the Groundwater Issues Subcommittee and Public Outreach and Education Subcommittee Charges at the next TGPC meeting.

Current Groundwater Issues

Bryan Anderson (TWDB) reported that they had received funding through the USGS National Ground-Water Monitoring Network to mitigate the oil influence (e.g., from leaking old turbine pumps) on some of their groundwater monitoring wells (i.e., unused irrigation and Public Water Supply (PWS) wells) in the Texas Panhandle, west Texas, and other areas across the state.

David Villarreal (TDA) reported that there were some recent concerns about Zebra Mussels spreading in groundwater.

Set Future Meeting Date

The next TGPC quarterly meeting was scheduled for July 10, 2019 at 1:00 PM CDT.

5. INFORMATION EXCHANGE FOR GROUNDWATER-RELATED ACTIVITIES – STATUS UPDATE

Groundwater Contamination Notice Coordination (Texas Water Code §26.408)

Peggy Hunka (TCEQ) reported that their Impact Evaluation Team (IET) had met four times in the last quarter. Seven groundwater contamination cases were reviewed and 106 notification letters were mailed to private water well owners.

Groundwater Management Areas

David Van Dresar (TAGD) reported that the Groundwater Management Areas (GMAs) were in the middle of their Desired Future Conditions (DFCs) planning process.

Regional Water Planning

Bryan Anderson (TWDB) reported that:

- Their Executive Administrator had approved the use of a Modeled Available Groundwater (MAG) peak factor for Region H;
- Regional Water Planning Groups (RWPGs) had scoped their strategy evaluations and were working on that task;
- They had added a Groundwater Conservation District (GCD) layer to the Texas Water Service Boundary Viewer (<http://www.twdb.texas.gov/mapping/index.asp>); and,
- They were working on some boundary changes for some of the GCDs.

Groundwater Availability Modeling

Bryan Anderson (TWDB) reported that, for their external Groundwater Availability Model (GAM) contracts:

- Groundwater Management Area (GMA) 13 mapping project contract with UTBEG – the final deliverables would be available soon;
- Update of the northern portion of the Carrizo-Wilcox, Queen City, and Sparta Aquifers model with GSI – in progress, with a draft final deliverable due in June 2019;
- Conceptual model of the Trinity Aquifer with Southwest Research – the contract was closed and TWDB would be uploading all files to a geodatabase before distribution;
- Conceptual model of the Cross Timbers Aquifer with Daniel B. Stephens – the TWDB Contracts group was finalizing the contract; and,
- Updated model of the southern portion of the Carrizo-Wilcox, Queen City, and Sparta Aquifers with GSI – the TWDB Contracts group was finalizing the contract.

In addition, for TWDB staff modeling projects:

- Blossom Aquifer GAM – TWDB was wrapping up the project, the conceptual model report was under review, and staff were working on the model report;
- Northern Segment of the Edwards (Balcones Fault Zone) Aquifer GAM – the conceptual model was under internal review; and,
- Gulf Coast Aquifer System (GMAs 15 and 16) – in progress, and the conceptual model report was almost complete.

Nonpoint Source Pollution

T.J. Helton (TSSWCB) announced the recent publication of *Managing Nonpoint Source Pollution in Texas: 2018 Annual Report* (TCEQ publication SFR-066/18, https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/066-18.pdf).

David Villarreal (TDA) reported that, in their work related to the Food Safety Modernization Act (FSMA), they had been looking at bacteria counts in water that would be used for washing produce, and he wondered why the number of reported recreation impairments in the state due to bacteria had decreased between 2012 and 2014. T.J. Helton (TSSWCB) responded that a number of factors were included in the seven-year rolling average used for this parameter. David Villarreal added that the current Farm Bill in Congress included \$7 million to address feral hogs (in order to study and improve surface water quality).

National Groundwater Initiatives

Abiy Berehe (TCEQ) reported on the 11th National Monitoring Conference that was sponsored by the National Water Quality Monitoring Council and held on March 25 – 29, 2019 in Denver, Colorado with the following highlights:

- Better coordination and communication were needed among the federal agencies and with the public;

- Case studies on water level changes in the White Sands area of New Mexico, surface water and groundwater conditions in the Arctic, and water balance and hydrological conditions in Alaska;
- A USGS presentation about their Hydrograph Separation model that can determine whether a stream is gaining or losing, and depending on the Base Flow Index (BFI), would generate values that could determine the direction of the groundwater flow;
- Machine Learning applications for predicting groundwater quality and trends was one of the hot topics, with case studies on predicting arsenic and manganese in drinking water in Minnesota; water quality in a glacial aquifer system; nitrates, Total Dissolved Solids (TDS), and manganese in the Central Valley of California; characterizing the salinity content of alluvium aquifers; predicting pH and dissolved oxygen values in the Northern Atlantic Coastal Plain Aquifer Systems; and predicting arsenic levels in domestic water wells in the continental United States (the model showed that more than 2.1 million people who rely on domestic water wells were exposed to arsenic levels of 10 microgram per liter); and,
- PFAS in groundwater was another hot topic, with presentations by the U.S. EPA and USGS, and case studies from New York, Minnesota, and Massachusetts.

Cary Betz (TCEQ) reported that the membership of the federal Advisory Committee on Water Information (ACWI) had not been established, and so while the membership of ACWI's Subcommittee on Ground Water (SOGW) had been approved, SOGW was still waiting for membership approval for its subcommittees so that they could move forward on four initiatives.

Bryan Anderson (TWDB) reported that, in addition to receiving USGS funding for water well mitigation, they were also sharing water level and water quality data from over 800 Texas water wells through the USGS National Ground-Water Monitoring Network data portal, and they would be adding data from all Ogallala Aquifer monitoring wells this year, bringing the total to 1,400 – 1,500 wells.

Drought Status

Cary Betz (TCEQ) referred TGPC members to the most recent U.S. Drought Monitor and TCEQ drought-affected Public Water Systems (PWSs) maps, as well as the TCEQ List of PWSs Limiting Water Use to Avoid Shortages (aka, the "180-day list"). As of April 9, 2019, 39 % of the state was classified as D0 through D1, up from 7 % at the last TGPC meeting, with a U.S. Seasonal Drought Outlook forecast of improving or removal of drought conditions in south Texas through June 30, 2019. As of April 10, 2019, of the 4,642 active community water systems in Texas, 1,075 were affected by drought (either voluntary or mandatory), and 754 of those used groundwater (either partially or exclusively). As of April 10, 2019, three PWSs in the state could be out of water in 180 days or less (the same number as at the last TGPC meeting).

David Villarreal (TDA) added that the state meteorologist had recently indicated that El Niño (i.e., wet) conditions should continue in Texas through the fall.

6. ANNOUNCEMENTS

Rules Update

Cary Betz (TCEQ) reported on current TCEQ rulemaking that was of interest to the TGPC:

- 2019-022-279-OW – Rule Review of Chapter 279;
- 2019-021-311-OW – Rule Review of Chapter 311;
- 2019-011-334-WS – Rule Review of Chapter 334;
- 2019-010-327-CE – Rule Review of Chapter 327;
- 2019-009-342-OW – Rule Review of Chapter 342;
- 2019-008-318-OW – Rule Review of Chapter 318;
- 2019-007-222-OW – Rule Review of Chapter 222;
- 2019-001-329-WS – Rule Review of Chapter 329;
- 2018-052-218-OW – Rule Review of Chapter 218;
- 2018-051-205-OW – Rule Review of Chapter 205;
- 2018-045-326-WS – Rule Review of Chapter 326; and,
- 2018-042-298-OW – Rule Review of Chapter 298.

Additional information on a specific TCEQ rule can be found at <https://www.tceq.texas.gov/rules/whatsnew.html>.

New Publications

Cary Betz (TCEQ) again referred TGPC members to the *Managing Nonpoint Source Pollution in Texas: 2018 Annual Report* (TCEQ publication SFR-066/18, https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/066-18.pdf) that was in the handout package, as well as the *Priority Groundwater Management Areas and Groundwater Conservation Districts: Report to the 86th Legislature* (TCEQ publication SFR-053/17, https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/066-18.pdf) that was on display on the handout table.

Bridget Scanlon (UTBEG) announced the publication of their *How Much Water Can Be Captured from Flood Flows to Store in Depleted Aquifers for Mitigating Floods and Droughts ? A case study from Texas, U.S.* (<https://iopscience.iop.org/article/10.1088/1748-9326/ab148e/meta>).

Upcoming Conferences

Cary Betz (TCEQ) referred TGPC members to the conferences listed in the “2019 Water-related Conferences in Texas” handout – the current version of this handout is always available on the TGPC’s POE Subcommittee webpage at <https://tGPC.texas.gov/tGPC-subcommittees/tGPC-public-outreach-and-education-subcommittee/> under the “Additional Resources” heading. Cary Betz noted that the annual TCEQ Public Drinking Water (PDW) Conference would be in a new, larger venue this year.

John Tracy (AgriLife Research) announced that next year's Annual Meeting of the Ogallala Aquifer Program would be in March or April in Amarillo.

7. PUBLIC COMMENT

Deba Dutta (TxDOT) reported that one of their highway rest stop water wells recently had high levels of nitrates, and he asked about possible sources and treatment. Cary Betz (TCEQ) offered TCEQ assistance, and John Tracy (AgriLife Research) offered to connect him with Anish Jantrania (AgriLife Extension), one of their On-Site Sewage Facility (OSSF) experts.

Scott Underwood (TCEQ) reported that he had noticed a lack of water level information on some recent Delaware Basin water well reports, and he asked whether the drillers should be entering this data. David Gunn (TDLR) responded that this was not a required field, and Cary Betz (TCEQ) added that this is a national concern. Bryan Anderson (TWDB) agreed that there was a lot of questionable water level data on these reports, and that they hope to add new groundwater monitoring wells in that area in the future.

8. ADJOURN

Cary Betz (TCEQ) adjourned the meeting at approximately 3:11 PM CDT.