

GROUNDWATER ISSUES SUBCOMMITTEE
 OF THE
 TEXAS GROUNDWATER PROTECTION COMMITTEE
 RECORD OF MEETING
 Third Quarter Meeting, Fiscal Year 2024

Meeting Date: March 20, 2024
 Meeting No.: 37

Place: videoconference
 Room: N/A

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MEETING ATTENDANCE

Subcommittee Members

Kathy McCormack (Co-Chair)
James Harcourt (Co-Chair)
Rebecca Storms
Eric Lawrence
David Villarreal
Jana Lloyd

David Van Dresar
Rosario Sanchez
Justin Thompson

David Gunn
Ken Rainwater
Carly Rotzler
Margaret Willis

Affiliation

Texas Commission on Environmental Quality (TCEQ)
Railroad Commission of Texas (RRC)
Texas Water Development Board (TWDB)
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)
Texas Tech University (TTU)
Texas Parks and Wildlife Department (TPWD)
Southwest Center for Pediatric Environmental Health (SWCPEH)

Agency Staff

Alan Barraza
Abiy Berehe
Katie Brice
Alan Cherepon
Kristin DeBone
Stephanie Escobar
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Scott Underwood
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Affiliation

Program

TCEQ Water Quality Division
TCEQ Water Availability Division
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TCEQ Water Quality Planning Division
TCEQ Water Availability Division
TCEQ Water Availability Division
TCEQ Water Availability Division
TCEQ Radioactive Materials Division
TCEQ Water Availability Division
TWDB

Interested Parties

Lorrie Council
Reyna Loosmore

Martha Pskowski

Affiliation

Ground Water Protection Council (GWPC)
Sam Houston State University (SHSU) Institute for Homeland Security
Inside Climate News

MEETING HANDOUTS

1. Texas Groundwater Protection Committee (TGPC) Groundwater Issues (GWI) Subcommittee Meeting Agenda, March 20, 2024
2. TGPC GWI Subcommittee Meeting Record, December 13, 2023
3. TGPC Agricultural Chemicals (AgChem) Task Force (TF) Status Report, March 20, 2024
4. TGPC Publications Status Report, March 20, 2024
5. Produced Water Recycling Pilot Studies, <https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/pilot-projects/>
6. *Oil Report: Water Conference spotlights produced water treatment pilot efforts* news article, <https://www.mrt.com/business/oil/article/produced-water-consortiums-18711386.php>
7. GWPC PFAS Workgroup Charter, https://mcusercontent.com/e4d95ec7676fac6a01f324ddd/files/f89bca0d-1d99-5952-ba66-3283f1146c4b/GWPC_PFAS_Workgroup_Charter_Final.pdf
8. *PFAS and Private Well Owners: What You Need to Know* fact sheet, https://www.ngwa.org/docs/default-source/default-document-library/pfas/pfas-for-private-well-owners_final.pdf?sfvrsn=9eb2123c_2
9. *Biden-Harris Administration Announces New Steps to Protect Communities from PFAS and Other Emerging Chemicals of Concern* press release, <https://www.epa.gov/newsreleases/biden-harris-administration-announces-new-steps-protect-communities-pfas-and-other>
10. *Researchers use electron beams to eradicate forever chemicals in water* news article, <https://phys.org/news/2024-02-electron-eradicate-chemicals.html>
11. Texas Water Fund Issues for Consideration and Request for Feedback, <https://www.twdb.texas.gov/financial/programs/TWF/doc/TWF-Issues-Stakeholder-Input.pdf>
12. *Technical Overview of the TexMesonet – A Network of Networks for Improved Water Management and Prediction in Texas* journal article, <https://journals.ametsoc.org/view/journals/atot/40/11/JTECH-D-23-0036.1.xml>
13. Revisiting Gunnar Brune’s “Major and Historical Springs of Texas”, <https://www.meadowscenter.txst.edu/research/environmental-flows/revisiting-major-historical-springs.html>
14. *Water-level and recoverable water in storage changes, High Plains Aquifer, predevelopment to 2019 and 2017 to 2019* report, <https://www.usgs.gov/publications/water-level-and-recoverable-water-storage-changes-high-plains-aquifer-predevelopment-1>

MEETING RECORD OF MARCH 20, 2024

1. PRE-MEETING REMINDERS

Before the meeting started, Kathy McCormack (TCEQ) provided the attendees with some tips that would facilitate a productive videoconference.

2. CALL TO ORDER AND INTRODUCTIONS

The TGPC approves all Subcommittee products and designated TGPC members attending this Subcommittee meeting participated as an employee or representative of their agency or organization, not as a designated TGPC member. Therefore, this Subcommittee meeting was not subject to the Open Meetings Act and it was held 100% virtually. The public was also able to attend this meeting via videoconference or teleconference at no cost.

Kathy McCormack (TCEQ), Co-Chair of the GWI Subcommittee, called the meeting to order at approximately 9:34 AM CDT and then called the roll of GWI Subcommittee members. The representatives from the Texas A&M AgriLife Extension Service (AgriLife Extension) and United States Geological Survey (USGS) were not present at the meeting.

3. STATUS REPORTS

Agricultural Chemicals Task Force

Alan Cherepon (TCEQ) reported on the Agricultural Chemicals Task Force:

- The revised FY2024 TCEQ Quality Management Plan (QMP) was approved by U.S. Environmental Protection Agency (EPA) Region 6 on December 7, 2023;
- In December 2023, the Pesticides of INterest Tracking System (POINTS) Pesticide Assessment Database was updated for Texas for FY2023 and uploaded to the U.S. EPA Central Data Exchange-FIFRA Grant Database (CDX-FGD); and,
- A U.S. EPA Federal Insecticide, Fungicide, and Rodenticide (FIFRA) End-Of-Year grant meeting for FY2023 was held at TCEQ in Austin on January 9, 2024, with Amy Camacho (new U.S. EPA Region 6 Director), Robert Snowbarger (new U.S. EPA Region 6 Coordinator), Eric Nystrom (U.S. EPA Region 6 Grant Liaison), and Alan Cherepon (TCEQ).

TGPC Publications

Cindy Hooper (TCEQ) reported on the following TGPC publications:

- *Joint Groundwater Monitoring and Contamination Report – 2023* (“*Joint Report*”, TCEQ publication SFR-56)
 - Work on the 2023 *Joint Report* was in progress and the report was expected to be published by June 1, 2024.
- *Activities and Recommendations of the Texas Groundwater Protection Committee: Report to the 89th Legislature* (“*Legislative Report*”, TCEQ publication SFR-47)

- The TGPC Legislative Report Subcommittee was reactivated during the Second Quarter FY2024 TGPC meeting. They were meeting on March 20, 2024, to begin work on the *Legislative Report* for the 89th Legislature.
- The *Legislative Report* for the 89th Legislature was expected to be published and distributed to the Texas Legislature by December 31, 2024.

Cindy Hooper (TCEQ) also reported on the following groundwater-related TCEQ publications:

- Groundwater Assessment (TCEQ publication AS-465) for the *2024 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)* (“*Texas Integrated Report*”)
 - The Groundwater Assessment was being prepared and would be published before June 1, 2024; and,
 - The published report would be provided to TCEQ’s Water Quality Planning Division for inclusion in the *2024 Texas Integrated Report* submittal to the U.S. EPA.
- *Priority Groundwater Management Areas and Groundwater Conservation Districts, Report to the 89th Texas Legislature* (“*PGMA/GCD Legislative Report*”, TCEQ publication SFR-53)
 - Work on the next edition of the *PGMA/GCD Legislative Report* would be initiated in the summer of 2024.

4. SET FUTURE MEETING DATE

The next TGPC GWI Subcommittee meeting was scheduled for Wednesday, June 5, 2024, at 9:30 AM CDT and it was planned as a videoconference.

5. DISCUSS CURRENT GROUNDWATER ISSUES

Oil and Gas Produced Water

In January 2024, RRC announced that they would be conducting one-year pilot studies on the beneficial reuse of produced water (<https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/pilot-projects/>). Their “Pilot Study Framework” (<https://www.rrc.texas.gov/media/nznn2wsj/240108-produced-water-framework-final.pdf>) indicated that a regulatory concern would arise if the chemical constituents of produced water caused pollution of surface or subsurface water, or harmed natural resources, the environment, personal and community safety, or the economic vitality of Texas. For the purposes of a pilot study, the analysis of produced water would be considered to assess the potential long-term risks posed by the activity and to monitor the soil conditions in the application area.

James Harcourt (RRC) added that their team was investing a significant amount of talent and commitment on this effort, and that the successful beneficial reuse of produced water could also potentially result in less injection of produced water and an associated reduction in induced seismicity effects.

A recent news article about pilot efforts for produced water treatment (<https://www.mrt.com/business/oil/article/produced-water-consortiums-18711386.php>) was also discussed. At the 2024 Permian Basin Water in Energy Conference held on March 6 – 7, 2024,

in Midland, four companies discussed their pilot projects. Treatment technologies included membranes, evaporators, crystallizers, desalination, and distillation. One of these companies, Texas Pacific Water Resources, had a field-scale program starting next month along the Pecos River that would be studying the impact of produced water on native vegetation and soils. They had also applied for land use pilot application permits on two 2,000-square-foot plots in the Midland Basin where they would seed, irrigate, and harvest alfalfa, and they had submitted an application to TCEQ for a permit to discharge treated produced water into the upper Pecos River at up to 20,000 barrels per day in mid-2025, increasing to 100,000 barrels per day in later years.

Ken Rainwater (TTU) added that the level of Total Dissolved Solids (TDS) in some reaches of the Pecos River can be as high as 5,000 parts per million, and that alfalfa in the area was being irrigated with water from the river and high-TDS groundwater.

James Harcourt (RRC) noted that they have permitted P-13 water wells with 4,000 – 6,000 TDS because the definition of useable quality water includes that which is used for a legal economic purpose or benefit.

Emerging Chemical and Biological Contaminants

Four items related to Per- and polyfluoroalkyl Substances (PFAS) were discussed:

- In October 2023, the Ground Water Protection Council (GWPC) established a PFAS Workgroup (https://mcusercontent.com/e4d95ec7676fac6a01f324ddd/files/f89bca0d-1d99-5952-ba66-3283f1146c4b/GWPC_PFAS_Workgroup_Charter_Final.pdf) which would initially focus on Underground Injection Control (UIC) Class V injection wells. Their kickoff meeting was held at the GWPC's annual UIC Conference on February 26 – 28, 2024, in Oklahoma City, OK.
 - Lorrie Council (GWPC) added that this group was just getting started and were mostly concerned with commercial-type operations. Their next meeting would be held in conjunction with their Annual Forum in September 2024 in Nashville, TN.
- The National Ground Water Association (NGWA) PFAS Task Force recently updated its two-page fact sheet, *PFAS and Private Well Owners: What You Need to Know* (https://www.ngwa.org/docs/default-source/default-document-library/pfas/pfas-for-private-well-owners_final.pdf?sfvrsn=9eb2123c_2). It explained what PFAS are, how to test water wells for PFAS, and treatment options.
- On February 1, 2024, the U.S. EPA announced that it was proposing to modify the definition of hazardous waste as it applied to cleanups at permitted hazardous waste facilities and amend its Resource Conservation and Recovery Act (RCRA) regulations to add multiple PFAS compounds as hazardous constituents (<https://www.epa.gov/newsreleases/biden-harris-administration-announces-new-steps-protect-communities-pfas-and-other>).
- Researchers at the U.S. Department of Energy's Fermi National Accelerator Laboratory, in collaboration with 3M, had successfully demonstrated that an electron beam accelerator could destroy the two most common types of PFAS in water – PFOA and PFOS (<https://phys.org/news/2024-02-electron-eradicate-chemicals.html>). What's more, this technology might be able to break down high concentrations of PFAS in large volumes of water.

Aquifer Storage and Recovery (ASR)

There was no discussion of this topic at the meeting.

Abandoned Water Wells

There was no discussion of this topic at the meeting.

Environmental Justice and Groundwater Access and Quality

TWDB was working to implement the Texas Water Fund (TWF) and seeking input on how they administered programs to which they could transfer those funds. The TWF had multiple components to it, and feedback could be provided on the portion of the fund that could be used for various existing funding programs, the portion that supported the New Water Supply for Texas Fund (e.g., ASR, desalination, and produced water projects), and for the Statewide Water Public Awareness Program. Responses to their three online surveys were requested by April 30, 2024. Additional information and details on upcoming stakeholder meetings were available at (<https://www.twdb.texas.gov/financial/programs/TWF/doc/TWF-Issues-Stakeholder-Input.pdf>) and their website (<https://www.twdb.texas.gov/financial/programs/twf/index.asp>).

Justin Thompson (UTBEG) indicated that they had submitted a response to the survey about the Statewide Water Public Awareness Program, and Kathy McCormack (TCEQ) added that the TGPC had submitted a response to this survey, as well. Justin Thompson (UTBEG) also noted that a hybrid stakeholder meeting was being held that afternoon.

Groundwater Quality Monitoring

Rebecca Storms (TWDB) reported that their monitoring season would kick off in April 2024 and the Ogallala and Dockum aquifers would be their primary aquifers of interest in FY 2024.

Brackish Groundwater

There was no discussion of this topic at the meeting.

Evapotranspiration Networks

A November 2023 journal article about the TexMesonet (<https://journals.ametsoc.org/view/journals/atot/40/11/JTECH-D-23-0036.1.xml>) was discussed. This technical overview described the various networks included in the TexMesonet, the measurement types collected by each network, and the planned and potential uses and applications of its data. Special attention was paid to monitoring sites installed and managed by TWDB, including their instrumentation, site layout, quality control procedures, and maintenance protocols. It also provided a case study exemplifying how TexMesonet data might be used and gave recommendations for future data applications.

David Villarreal (TDA) reported that the TexMesonet Advisory Committee would be meeting soon because the Water Conservation Advisory Council (WCAC) had requested their input regarding additional evapotranspiration (ET) network legislative recommendations. Rebecca Storms (TWDB) added that the WCAC had requested an update from TWDB on the TexMesonet and the potential for providing statewide ET data because WCAC was considering a legislative recommendation about statewide ET data similar to what the TGPC had submitted in their previous report.

Others

A new report from The Meadows Center for Water and the Environment titled *Revisiting Gunnar Brune's "Major and Historical Springs of Texas" with an Analysis of the Fractal Character of Springflow* (Meadows Report 24-001, <https://www.meadowscenter.txst.edu/research/environmental-flows/revisiting-major-historical-springs.html>) was discussed. Brune published a 1975 report titled *Major and Historical Springs of Texas*, followed by a book in 1981 titled *The Springs of Texas, Volume 1*. This recent analysis showed that, while 11 percent of springs had gone dry by 1981, 30 percent of them were dry today, and also that springflow volumes followed a power-law – or fractal – distribution, and they estimated that the total springflow in the state was currently 2.1 million acre-feet per year.

Carly Rotzler (TPWD) reported that they were revisiting and sampling the biology of some of the springs in the Hill Country to compare to a similar study performed 10 years earlier. Rebecca Storms (TWDB) added that they had a springs monitoring program with approximately 20 sites and they would be discussing an expansion of this effort with TPWD and USGS; they were also considering a possible update to the Brune report, as well as enhancing their database to accept discharge data. Alan Cherepon (TCEQ) noted that Helen Besse (Texas A&M University) had produced an update of Brune's report a number of years ago.

Alan Cherepon (TCEQ) reported that the recent wildfires in the Texas panhandle had the potential to impact groundwater quality (e.g., from pesticides) and TCEQ had a guidance document (*Managing Debris from Texas Wildfires*, <https://www.tceq.texas.gov/downloads/response/drought/managing-wildfire-debris.pdf>) and more information about this subject on their website (<https://www.tceq.texas.gov/response/wildfires>).

6. BUSINESS DISCUSSION AND POSSIBLE ACTION

Draft *Children's Health and Groundwater Quality at Child Care Operations Using Private Water Wells* White Paper

Margaret Willis (SWCPEH) reported that a Recommendations section had been generated, but feedback on the initial draft of the *Children's Health and Groundwater Quality at Child Care Operations Using Private Water Wells* white paper was still needed from TCEQ and DSHS. An updated draft of the white paper was planned for the next meeting.

Draft *Groundwater Quality Protection Through Monitoring* White Paper

TCEQ and TWDB were still working on the initial draft of the *Groundwater Quality Protection Through Monitoring* white paper and planned to have it available at the next meeting. Kathy McCormack (TCEQ) requested that members provide any updates on the Continuing Research Needs which were generated from some earlier brainstorming sessions.

Discussion of White Papers Under Development

There was no discussion of this topic at the meeting.

7. ANNOUNCEMENTS

The USGS recently published a report detailing water-level changes, and the change in recoverable water in storage, in the High Plains Aquifer from predevelopment to 2019, and again from 2017 to 2019 (<https://www.usgs.gov/publications/water-level-and-recoverable-water-storage-changes-high-plains-aquifer-predevelopment-1>). The High Plains Aquifer, which includes the Ogallala Aquifer, underlies parts of eight states. In Texas, the area-weighted, average water-level in 600 wells declined by 44 feet from about 1950 to 2019, but by less than a foot in over 2,200 wells when 2017 was compared to 2019. This equates to a loss of almost 170 million acre-feet of groundwater from predevelopment to 2019, with almost three million acre-feet of recoverable water in storage lost from 2017 to 2019.

8. PUBLIC COMMENT

There was no public comment at the meeting.

9. ADJOURN

Kathy McCormack (TCEQ) adjourned the meeting at approximately 10:32 AM CDT.