

TEXAS GROUNDWATER PROTECTION COMMITTEE
RECORD OF MEETING
Third Quarter Meeting, Fiscal Year 2000

Meeting Date: May 4, 2000
Meeting No.: 43

Place: TNRCC, Building E
Room: 201S

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MEETING ATTENDANCE

TGPC Members	Affiliation
Mary Ambrose	TNRCC
Richard Ginn	RCT
Janie Hopkins	TWDB
Wayne Jordan	TAES
Ambrose Charles (for Donnie Dippel)	TDA
Lee Parham	TDLR
Alan Dutton	BEG
Barry Miller	TAGD
Kevin Wagner	TSSWCB

TDH representative absent.

Agency Staff	Affiliation	Program
Cary Betz	TNRCC	Technical Analysis
Minor Hibbs	TNRCC	
John Meyer	TNRCC	
Frank Fuller	TNRCC	Policy and Regulatory Division
Alan Cherepon	TNRCC	Technical Analysis Division
Steve Musick	TNRCC	Technical Analysis Division
Michael Honeycutt	TNRCC	
Bruce Lesikar	TAEX	
Charlie Upchurch	TDA	
Murray Walton	SPCB	
Deborah Danford	TDA	
Jeanette O'Hare	TDA	

Interested Parties	Affiliation
Jim O'Connor	SAWS
Chris Thibodaux	BS/EACD
Ken Kramer	Sierra Club
Eric Strom	USGS
Julia Marsden	League of Women Voters
Pat Radloff	Texas Parks and Wildlife

(18 in audience)

MEETING HANDOUTS

1. Agenda
2. MTBE and Perchlorate Slides
3. Determining the Occurrence of Pesticides and VOCs in Public Water - Supply Source Waters in Texas
4. Table of Contents, *Joint Groundwater Monitoring and Contamination Report - 1999*
5. Analysis: TGPC Legislative Recommendation and Legislative Action
6. Legislative Report Subcommittee - Subcommittee Charge
7. *Activities of the Texas Groundwater Protection Committee Report to the 76th Legislature - November 1998*
8. Issue Summary for the 76th Legislature
9. *USEPA's Program to regulate the Placement of Waste Water and other Fluids Underground*
10. *Protecting Drinking Water Sources*
11. *Safe Drinking Water Act, Section 1429 Ground Water Report to Congress - October 1999*
12. *Groundwater Report to Congress - Summaries of State Ground Water Conditions (excerpt)*
13. *Source Water Quality and Quantity - Discussion Summary*

MEETING RECORD OF MAY 4, 2000

I. Call to Order and Introductions

Mary Ambrose, Designated Chairman of the Texas Groundwater Protection Committee (TGPC), called the FY2000, Third Quarter Meeting to order at 1:10 p.m. TDH was not represented.

II. Subcommittee Reports -

Agricultural Chemicals - Ms. Ambrose asked Steve Musick, TNRCC, to give a report on the Agricultural Chemical Subcommittee's (ACS) activities. Mr. Musick said that the Agricultural Chemical Subcommittee met this morning, May 4, 2000, for its third quarter meeting, at 10:15 a.m. The ACS members heard a presentation by the Texas Department of Agriculture on Facility Applicator Inspection and Enforcement Program.

An update on the contamination response effort for the cities of Dimmitt and Tulia for Atrazine detections in public water supplies informed subcommittee members that the formal investigation phase is about to be initiated and there will be on-site inspection and investigation in the areas.

There has been an addition to the monitoring network for this fiscal year, with the opportunity for coordinated sampling in the Texas Panhandle with the Texas Water Development Board. The Board will be sampling approximately 600 wells in the Panhandle, and will be collecting samples for Atrazine that will be analyzed by TNRCC

staff. There may be an additional 200 samples from wells collected by the High Plains Groundwater Conservation District, also for TNRCC staff to analyze. This should provide a monitoring baseline for Atrazine in the Panhandle area.

The last item of interest, which is included as a business item for this meeting, is an update on the status of the concurrence effort on the generic State Management Plan for the Prevention of Pesticide Contamination of Groundwater (PMP or SMP) with EPA Region VI..

Data Management - Cary Betz, TNRCC, reported that the subcommittee had not met during the previous quarter. Reorganization of this committee needs to be addressed in a future Committee meeting. Products of this subcommittee (being the state *Water Quality Inventory (305(b)) Report*, and *Joint Groundwater Monitoring and Contamination Report*) will be discussed as an action item later in this meeting for approval of the Table of Contents. The *Water Quality Inventory (305(b)) Report*, timetable for submission of the final electronic update for intra-agency review is May 31, 2000.

Non-Point Source - Kevin Wagner, new designated representative of the TSSWCB and Chair of Subcommittee, had nothing to report, as he is new to the TGPC, and was unaware of his position with the subcommittee. Mary Ambrose suggested that Mr. Wagner may wish to get together with her and others interested in agricultural and other non-point source issues to get the subcommittee back up to speed.

Abandoned Water Well Closure Task Force - Bruce Lesikar, TAEX, chair. Subcommittee has not formally met this quarter, but the video is finished and ready for distribution and use. Videos have been mailed out to county extension agents' offices, groundwater district managers, and committee members involved in putting together this video.

Activities that need to be accomplished in the next round of work includes developing additional instructional materials to go along with the presentation of the video that will assist people with an introduction to the topic, and additional information that would be used to create a presentation of about 30 minutes (including showing the video). Additionally there is the opportunity for executing some actual well plugging events to demonstrate how well plugging occurs, and working through a different project such as the one scheduled for May 17 outside of Harker Heights-Nolanville area, where both a hand dug well and drilled well will be plugged to illustrate the differences. The video targets hand dug wells, which is something landowners could do themselves, but the intent is to show why they should contract with a licensed water well driller to plug the drilled wells.

III. Presentation

Eric Strom, USGS, spoke on the groundwater component of the Source Water Assessment Program (SWAP). TNRCC and the USGS are partnering together to achieve these assessments. John Meyer is Mr. Strom's TNRCC counterpart. Amendments to the Safe

Drinking Water Act required states to identify and delineate the assessment areas for public water supply wells, to inventory the potential sources of contamination (PSOCs) for those wells and to inform the public of the results and implement the protection program. “In a nutshell, that means we need to assess 18,000 public supply wells, and the clock starts ticking after the plan is approved.” The plan has been approved giving three and one-half years for all assessment tasks to be accomplished.

There are seven major components of the groundwater SWAP. Identification and delineation are what are going to be discussed in this meeting. The 20 minor and 9 major aquifers delineated by Ashworth and Hopkins have been further subdivided into about 40 aquifers for the purposes of SWAP. The Trinity Aquifer was shown as an example, and was subdivided into seven distinct aquifers. Outcrops of these aquifers have been digitized from BEG maps, and basic data layers have been added for items like the tops of the aquifers. Aquifer base, transmissivities of aquifer, formation thicknesses, aquifer (cumulative sand) thicknesses, confining (cumulative clay) thickness, and storativity will all be available to the public by the time the program is completed. Water table maps will also be produced, where the water table is approximated using surface topography, correlated and calibrated with dense well data values.

GIS software has been developed to enter screened interval, pumping rate and location data for public supply wells, and provide in return relevant aquifer data, perform a Theis-type drawdown analysis, incorporate the drawdown data into the regional data for the well location and produce a contour line map for the well. An additional product is a time-of-travel map for the well.

Sampling for 180 shallow wells is also being conducted in aquifers of various types with differing environmental characteristics. These are raw water samples that are being analyzed for VOC's (including MTBE), soluble pesticides, tritium and nitrate.

Data will be used to develop a relationship between some explanatory variable like depth to water or soil characteristics, to the occurrence of a particular contaminant. Statewide environmental variables, maps of soils, land use, permeabilities and other statistically relevant variables are also being prepared, so that data can be extrapolated to other wells that cannot be sampled under this program.

Michael Honeycutt, TNRCC, spoke on Methyl Tertiary Butyl Ether (MTBE) and Perchlorate contamination in groundwater.

MTBE is a fuel oxygenate of the type that is required to be used in Reformulated Gasoline (RFG) by the Clean Air Act. MTBE is also an octane enhancer, which has been commonly used after lead compounds were phased out. Despite being highly useful as an oxygenate and octane enhancer, the drawbacks of MTBE have been known for some time. MTBE has a higher water solubility than other gasoline components, resulting in larger contaminant plumes from leaking petroleum storage tanks that spread faster in shallow groundwater. Treatment is expensive, and, MTBE is primarily a groundwater problem, as the compound tends to evaporate quickly in surface water. Two cycle engines are the primary culprits in

the presence of MTBE in surface water - yielding higher concentration near marinas and other areas of high boating activity.

For the 5348 Public Water Supply (PWS) systems in the TNRCC database since 1992, 26 systems have reported MTBE detects - 14 out of 349 surface water systems, and 12 out of 4334 groundwater systems. One PWS well at Dalhart was shut down due to MTBE.

Despite recent television shows where EPA officials were quoted as saying that not a lot is known about the health effects of MTBE, there is actually a great deal of information, including 3 cancer bioassays (most compounds have no cancer bioassays, and those that do typically have only one.) Health effects include being a weak animal carcinogen, being a possible human carcinogen, and having acute liver and kidney effects. There is no Maximum Contaminant Level (MCL) established by the EPA, but Texas' health based value is 240 ppb. The taste and odor threshold is only 15 ppb, with an EPA consumer Acceptability of 20-40 ppb. The aquatic life effects range is from 18-151 ppm. Plainly, taste and odor will become a problem long before the health based or aquatic effects values are reached.

EPA is working to either ban or phase out MTBE. What are the alternatives? Ethanol is a possibility, but there are formulation problems related to the increased vapor pressure from the higher volatility, and the yield of some undesirable combustion products that may have more serious health effects. Additionally there is the potential for adverse effects on bioremediation, since ethanol is an excellent food source and may be preferentially used by bioremediation bacteria, leaving BTEX plumes to spread further. Congress will need to reexamine the oxygenate requirement in the Clean Air Act, as better technology now available can allow automobile emissions to meet clean air standards without the use of an oxygenate.

Perchlorate is an inorganic oxidizing compound used in solid rocket fuel. Perchlorate problems have been found around several military installations around the state, including Naval Weapons Industrial Reserve Plant in McGregor, Longhorn Army Ammunition Plant in Karnack, Red River Army Depot in Texarkana, and Pantex near Amarillo. The McGregor site and the Texarkana site have both impacted surface water via groundwater plumes. Perchlorate is a salt that dissolves readily in water, is very persistent, and very resistant to biodegradation.

Unlike MTBE, which is primarily a taste and odor problem, Perchlorate has distinct health effects. It interferes with thyroid metabolism, and prevents the thyroid gland from taking up Iodine from a diet, decreasing the production of thyroid hormone. There is a high potential for neurodevelopmental effects. An interim value for the "safe" level of perchlorate is 22 ppb.

Fortunately, research into new bioremediation technologies looks promising. Anaerobic bacteria seem to be the best at removing Perchlorate, and an in situ permeable reactive barrier system is in place at the McGregor site, where Perchlorate is destroyed by bacteria

when contaminated groundwater moves through the barrier. There are several ion exchange systems also being tested.

IV. Business - Discussion & Possible Action

Update on CSGWPP Process: Frank Fuller, TNRCC - Policy and Regulations Division is working on completing the core assessment of the CSGWPP. Mr. Fuller reported that things were going a little more slowly than anticipated. The draft has not been completed, but is anticipated prior to the end of the fiscal year, with rough drafts for the first three strategies being completed.

PMP Concurrence Status: Steve Musick, TNRCC - As discussed during the previous quarter's ACS and TGPC meetings, EPA staff reported that the PMP review process was complete and that they were ready to proceed with concurrence. EPA staff requested a formal submittal of the PMP from TNRCC to the Regional Administrator of the EPA. Since that time staff of all the agencies have been working to obtain concurrence letters from the executives of the various participating agencies. The submittal letter from the Executive Director of the TNRCC is presently in the agency review and signature process, and is expected to be sent out early next week.

Approval, Table of Contents, Joint Groundwater Monitoring and Contamination Report - 1999: Cary Betz, TNRCC - The table of contents for the 1999 report is nearly identical to the calendar year 1998 report, with the only changes being in the TNRCC portion as required by the agency's reorganization. On the second page, the section for the Texas Alliance of Groundwater Districts contains a number of entries for different conservation districts, which will be reviewed and changes made if necessary. If the districts section contains only program descriptions, then we will again include those same descriptions in the 1999 report. Also, the contamination case descriptions for the Texas Railroad Commission and the Texas Alliance of Groundwater Districts have not been received. TNRCC staff will be contacting the Barton Springs/Edwards Aquifer Conservation District for updates, as they were the primary contributor last year, even though most of their cases were duplicates from TNRCC program areas. Staff requests that the Committee to go ahead and give its approval to complete the report in the format set forth in this Table of Contents. The report was due April 1, 2000, however it is anticipated that the report will be published before the next TGPC meeting. We have coordinated with different agency representatives on the text portions, and have requested that the members of TAGD e-mail Cary Betz with any changes.

Motion was made by to continue to the publication process based on the draft table of contents; the motion received a second, and was carried by Committee vote.

Legislative Report Subcommittee: Member Selection and Charge: Mary Ambrose, TNRCC - During the last quarterly meeting, we had asked committee members to consider who would be appointed to this subcommittee. The charge from the last Legislative Report Subcommittee, and an analysis of results of recommendations made to the 76th Legislature is included in the handout packet.

Mary Ambrose, TNRCC, will chair this subcommittee, with Frank Fuller, TNRCC, assisting. The chair does not wish to take up a great deal of time now, but if any of the TGPC members have particular issues that they wish to see included, please bring them forth now for discussion. Additionally, there is a tentative timetable for the charge. The subcommittee will need to meet in late May, again in June and present draft recommendations to the full TGPC in our August meeting. The report will then be completed and given by the subcommittee to the full TGPC for final approval in the mid-October meeting. From there it will go forward to the publication process of the TNRCC for publication and distribution to the Legislature. On the subject of the TNRCC process, what is shown in the handout is idealized, and the actual publication date will be later, due to the holidays that occur near the end of the year - an early October meeting would be beneficial. The committee will set both the August and October meeting dates as a separate item of business.

To refresh members' memories, our previous recommendations included possible funding scenarios for the PMP, exempt well recommendations, and simplification of the PGMA process.

Legislative Report Subcommittee Membership:

Dr. Wayne Jordan - TAES

Lee Parham or Steve Wiley - TDLR

Richard Ginn - RCT

Janey Hopkins - TWDB

Alan Dutton - BEG

Stovie Bolin - TAGD

TDA and TSSWCB to check with their offices.

No discussion of issues at this time.

Next meeting date: Thursday, August 24, 2000 1:00 p.m.

Following meeting Thursday, October 26, 2000 1:00 p.m., may need separate meeting to accommodate publications process.

V. Information Exchange for Groundwater Related Activities/Status Update

Joint Report: Cary Betz, TNRCC - Copies of the 1998 report available, and mailed out to all persons on mailing list. County judges and public health officials were sent reports about a month ago. We have received data from all internal TNRCC program areas and the majority of the participating agencies for the 1999 report .

Mailing List: Cary Betz, TNRCC - TGPC mailing list has been placed into a new digital database by TNRCC staff. An update list was mailed out with information for this meeting, but the mailing was done very close to this meeting date. A sheet requesting updated information was included with the mailout, and an e-mail database is being developed by TNRCC staff.

Groundwater Report to Congress: Steve Musick, TNRCC - Copies of the *Safe Drinking Water Act Section 1429 Groundwater Report to Congress - October 1999* (part one), jointly published by the Groundwater Protection Council (GWPC) and the EPA have been distributed to all committee members. A copy of the data submitted for Texas for part two is included. EPA's purpose for doing this is fulfillment of provisions of the Safe Drinking Water Act, and is somewhat repetitive of the Clean Water Act (305b) Water Quality Inventory. The report concludes that overall groundwater quality is good, with isolated problem areas.

The report does identify a couple of issues that EPA believes are important, including fragmentation of groundwater programs, at both state and federal level, as being a problem; a lack of understanding of what groundwater is, where it comes from and what its conditions and problems are (public education issue); and a problem with funding directed specifically at groundwater protection. EPA has not moved proactively to incorporate any of the recommendations in their own budget, but has passed the report on to Congress.

Other states have reported ideas such as taking this report to their management and water policy makers, state legislatures, and others as an educational tool for both groundwater and funding issues. The GWPC has posted the report on their website, and will be distributing the report to members of the U. S. Congress during upcoming legislative appropriations hearing in Washington D. C. late this month or next month.

Dr. Jordan, TAES, requested clarification of the nitrate statistics on the Ogallala and Edwards-Trinity on page 89 (Texas), and suggested that the statistics contradict the general impression that water quality is good. Mr. Musick responded that the data is good, but the report does not go far enough to state the source of the nitrate. Our experience in preparation of the 305(b) report is that we do not have the evidence to conclude that the source of the nitrate is an anthropogenic problem that can be addressed by the regulations of the state, but the evidence does suggest that additional assessment would be a good idea to determine the significance of this data. This data came from the last 305(b) report, and is derived from TWBD data from approximately 5 years ago.

EPA Class V Rule: Steve Musick, TNRCC - A couple of years ago EPA proposed rules to regulate the miscellaneous class of injection wells that are shallow injection wells. EPA has been negligent in that they should have adopted these rules in the mid-eighties, as the Underground Injection Control program was instituted in about 1982. EPA rules became effective in April. The new rule addresses two primary well types - automobile service station disposal wells and large capacity cess pools (untreated domestic wastewater). Under the rules new wells are prohibited, and existing wells can be "grandfathered" by the state if the wells are permitted and meet the specific criteria in the rule. Both of these wells are already regulated in the state of Texas, but there are some that have escaped the permitting process. Part of the "grandfathering" of high priority requires the state to identify wells that are located in source water protection areas is problematic because the timeframe of the EPA rule is shorter than the timeframe for doing the source water protection area evaluations. States are also required to identify "vulnerable" areas where these wells would be prohibited. Texas has planned to simply prohibit these wells statewide, but it appears that EPA may force the issue. The second issue that will likely come back to the committee in the future is that EPA has identified septic system drainfields serving 20

or more persons as Class V injection wells in the rule. No standards or permitting requirements have been promulgated.

These rules will require Texas to adopt rules that are just as stringent in order to maintain UIC program delegation, and EPA has efforts underway to review lower priority Class V wells, such as Air Conditioning return flow wells.

Mary Ambrose indicated that TDLR should be aware that there may be a potential conflict between on-site installers and water well drillers, as Class V wells must be installed by water well drillers.

Futures Forum: Source water quality and quantity discussion summary included in handout package from discussion on the Futures Forum. There was no discussion of action on this item.

VI. Announcements

TNRCC tracking log:

Rules to be presented at June 1 Commissioner's Agenda: Class V well rules (do not include the new EPA rule issues presented by Mr. Musick); groundwater certification requirement for subdivision platting rules. Surface water treatment rule, including components for groundwater under the influence of surface water, published in April 21, and a hearing is coming up May 12, with comment period ending May 22.

No announcements by committee members.

May 17 and 18, National Groundwater Association's Southwest Groundwater Congress focus on regional water planning and drinking water issues, co-sponsored by TWDB.

Call for papers for GWPC annual forum, September 26 and 27, Fort Walton Beach Florida.

VII. Public Comment

None

VIII. Adjourn

Chair Mary Ambrose adjourned meeting at approximately 3:00 p.m., CST.

Respectfully submitted,