

GROUNDWATER RESEARCH SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

9:00 AM, Wednesday January 20, 2010

LOCATION:

Texas Commission on Environmental Quality Campus Building F, Room 2210, 12100 Park 35 Circle, Austin, TX 78753

PURPOSE OF MEETING:

Second quarter regular business meeting

AGENCIES/ENTITIES REPRESENTED:

Bureau of Economic Geology (BEG)
Texas AgriLife Research
Texas Commission on Environmental Quality [TCEQ]
Texas Department of Agriculture [TDA]
Texas State Soil and Water Conservation Board [TSSWCB]
Texas Water Development board [TWDB]

ATTENDEES:

B.L. Harris	Texas AgriLife Research, Co-chair of the GW Research Subcommittee of the TGPC
Bridget Scanlon	BEG, Co-chair of the GW Research Subcommittee of the TGPC
Cary Betz	TCEQ, Chairman of TGPC
Lauren Bilbe	TCEQ
Radu Boghici	TWDB
Alan Cherepon	TCEQ
Richard Eyster	TDA
Donna Long	TSSWCB
Kerry Niemann	TCEQ
Joseph L. Peters	TCEQ
David Villarreal	TDA

MEETING SUMMARY:

Call to Order and Introductions

Dr. Scanlon called the meeting to order at about 9:04 AM. Her first order of business was to have everyone introduce themselves.

Discussion of Sources of Funding and Current Calls for Proposals

Dr. Scanlon had invited Ms. Lauren Bilbe and Mr. Kerry Niemann from the Nonpoint Source Program of TCEQ to talk about their program. Dr. Scanlon stated that her impression was that

the Nonpoint Program's groundwater support was primarily focused on groundwater contamination as derived from surface sources, using the DRASTIC to determine aquifer vulnerability. However, it seems that quite often the issues with groundwater are with nitrates, arsenic, and fluorides. Therefore, there probably should be a broader strategy in the Nonpoint Source Program that would consider more than surface water sources of contamination.

Dr. Scanlon asked Dr. Harris to repeat the concerns that he expressed at the last couple of meetings about rural populations on water wells that may have water quality problems. Since they are not considered to be a community water system, there is no means of addressing their problems through the federal programs designed for community water systems. He expressed the belief that EPA made a big mistake when they defined community water systems but did not include rural communities where individual households each have their own well. It does not make sense to exclude communities because they do not receive their water from a distribution system supplied by a community owned well or wells. The aquifer into which everyone's well is completed should be considered the community system. The definition of a community system should be changed to include these circumstances, or a separate program should be set up to cover these situations. Dr. Harris also expressed his opinion that there should be more detailed monitoring through the NPA program in certain priority areas to come up with recommendations for residents regarding their water systems, whether they have individual water well systems or community water systems.

Dr. Scanlon informed us that the Public Water System Program now provides point-of-use treatment in households. One place that is taking advantage of this program is the City of Andrews. So the question is: why can a community water system – one with public water supply wells and a water distribution system – obtain aid in implementing point-of-use treatment, but a rural community with individual wells not be eligible to do so.

Dr. Harris said that the TWRI had been contacted by a couple of rural area county judges wanting to know how they can provide water to rural residences because of local arsenic issues. They were interested in building a pipeline to provide water in the area, but the bottom line is that it's too expensive to build a pipeline for a diverse rural community. Point-of-use treatment is the only logical course to pursue in these situations. So, the concern is that for these rural communities we don't have a good program to provide: (1.) testing to determine where and what the water quality problems are, (2.) professional advice to determine an optimal course of action, and (3.) financial assistance to implement and maintain a course of action such as a point-of-use treatment system.

Dr. Scanlon explained that with the public water system program the BEG had done a number of studies to determine source and mobilization of contaminants -- arsenic, fluorides, and others. And then, knowing the regional distribution, working with the treatment experts to set up pilot studies to determine what point-of-treatment would be the most effective, the effective life of the system, and the cost of operation. Rural communities could benefit from these studies with perhaps some additional studies where necessary. Dr. Scanlon observed that the [*Joint Groundwater Monitoring and Contamination Report - 2008*](#) indicated that, in the High Plains, fifty percent of the wells exceeded the nitrate MCL, seventeen percent exceeded the arsenic MCL, and eleven percent the fluoride MCL. The recent TWDB data also showed that in the Seymour Aquifer sixty-four percent of the wells exceeded the nitrate MCL. There were also some fluoride exceedances in the Edwards.

Ms. Bilbe, in describing some of the things that can be funded through the Nonpoint Source Program, stated that generally they fund projects aimed at Nonpoint sources that are the result of human activity. This means that they probably would not fund an arsenic project if the arsenic was naturally present in the aquifer. Nitrate contamination can be funded, but since it usually related to agricultural activity, the funding would be through the TSSWCB. At this point Mr. Niemann handed out a sheet that showed the 319 Grant Planning and Prioritization Chart and the TCEQ Nonpoint Source Program Funding Structure.

The discussion returned to the City of Andrews point-of-use treatment project. Mr. Eyster asked Dr. Scanlon how much the treatment units would cost. She responded that costs were still being investigated as well as the expected operating life of the units. The treatment units employ reverse osmosis as the mechanism of treatment. The numbers will probably be available by the end of this fiscal year.

At this point Mr. Niemann went on to describe the handout he had passed out to everyone. On one side was a schematic showing the funding structure which he went on to explain first. TCEQ receives \$6,700,000 per year from EPA. It uses this money for urban nonpoint source projects. The TSSWCB also receives \$6,700,000 which it uses for agricultural and silvicultural nonpoint source projects. For TCEQ, half of its \$6,700,000 goes to Base Funded Projects and the other half to Incremental Funded Projects. The Incremental Funds are dedicated to 303(d) listed (impaired) surface water bodies. Base Funds are used for a range of activities specified in the Texas NPS Management Program. The biggest portion, about \$2,400,000, goes to Performance Partnership Grant (PPG) activities. Thus, about \$950,000 is then available for activities listed in the Texas NPS Management Program.

Mr. Niemann then directed us to the reverse side of the sheet which exhibited a flow diagram illustrating the step by step process of a new strategy that the program is undertaking to be much more proactive in getting potential projects developed. It starts out with a prioritization and planning process. This is a three to five month process whereby TCEQ determines which watersheds will receive priority for the next funding period. This is followed by specifically informing those within these prioritized watersheds that funding for nonpoint source projects will be available. Contractors are employed to perform workshops within the selected watersheds. These provide a setting for people in the watershed to get a sense of what's going on in the watershed as a whole. This serves as a mechanism for working with applicants and getting them to work together on projects. This enables TCEQ to go out and influence the quality of planned projects before solicitation actually happens. TCEQ staff work with applicants to fill out a good application making sure that it references all the requirements on the Texas NPS Management Program and verifying that the planned project is indeed sound and justified, and of a high quality. EPA evaluates our projects based on the NPS Management Program. After applications are received at TCEQ it goes through a ranking and evaluation procedure. Then scopes of work are prepared, followed by the preparation of a work plan, which then goes all the way up the chain of command. After upper management approval the work plan is submitted to EPA. EPA takes about 90 days to evaluate the work plan, which includes a lot of negotiation between EPA and TCEQ. After the award the next phase starts, which includes putting together the contracts, putting together a scope of work and a schedule of deliverables, and running these up the chain of command again. After approval the contracts are initiated.

This is the new and improved process. Mr. Niemann reiterated that they in the Nonpoint Source Program want to work with the members of the Groundwater Research Subcommittee, and any others intending to apply for project support.

Dr. Harris commented that he believes that the type of project that conforms most closely to the requirements of the Texas NPS Management Program and the type of project suggested here in the past by the Groundwater Research Subcommittee would be one that involves the monitoring of groundwater to determine the effects of anthropogenic activity such as land application of effluents, sludges, manures, fertilizers, and pesticides -- activities associated with municipalities, industrial sites, agricultural activity, and CAFOs. We now have a good record of application site monitoring and it would be a good time to look at different age sites, different loading rates, etc. just to assure the public that groundwater is being properly protected. Such a project should reveal whether standards need to be tweaked in terms of application rates, etc. and it would provide a scientific basis for any needed changes. Such a project could become an ongoing part of the monitoring programs that we already have in place.

Ms. Long agreed that this type of investigative project would be good but that it would require that it be paired with BMP tasks, educational outreach, cooperation with underground districts, etc. to make it eligible for support with a 319 grant. This pairing would make it more holistic and more of what EPA has in mind for the type of projects that should be supported through 319.

There was a discussion of how groundwater can be qualified for projects. Mr. Betz pointed out that groundwater does not have an impaired list like surface water – the 303(d) list. There is no provision in the state of Texas to list groundwater in the same way, and doing so could lead to some unintended consequences. What has been done in the past was to identify aquifers on the basis of vulnerability based on DRASTIC. This is how aquifers are ranked for the Nonpoint source Program.

Mr. Betz pointed out further that we are competing for the \$950,000 in the Base Categorical Grant portion of the Nonpoint Source Program. Since there are usually applications every year that total to about twenty million dollars, it was suggested that perhaps the whole venture is futile. Mr. Niemann suggested that the situation wasn't futile, but that with a really good application, put together with the Nonpoint Source Group's help, a good project could be funded.

Mr. Betz suggested that a large scale project, such as one that would involve the whole High Plains Aquifer system, probably would not get funded. For one thing it's hard to show improvement, which is very important to EPA. It would take a long time to show any improvement in the High Plains Aquifer. He suggested that we should probably refocus on smaller local projects. Dr. Harris responded that that's what he had in mind with his suggestion for studying the anthropogenic affects on the High Plains Aquifer. He suggested that it be more like a pilot project to evaluate current standards on their efficacy in protecting groundwater. We have required of the municipalities, industries, producers, CAFOs, etc. that they put into place certain BMPs when they apply wastes or chemicals to land or crops. The pilot project would require the choosing a relatively small site to study, so as to determine if existing operating practices have been adequate to prevent the contamination of groundwater.

Dr. Scanlon asked about the continued dependency on DRASTIC, since the *Groundwater Protection Strategy* is being revised. There needs to be at least the possibility of using other

methods for determining the vulnerability of an aquifer. Ms. Long offered that it also may be possible to look at groundwater as a constituent of a Watershed Protection Plan because of groundwater-surface water interactions.

Mr. Boghici informed us that the National Groundwater Monitoring Network, which is in the process of being put together, will be making use of a concept of stressed aquifers. And if something similar can be put together regarding water quality, once everything is evaluated, ranked and approved by EPA, it could serve as a 303(d) list for groundwater. But it was agreed that the focus should be on individual sites for projects rather than whole aquifers. Dr. Harris reiterated that important sites would be those where potentially polluting substances are being added to the soil.

Mr. Betz informed us that the Edwards Aquifer Authority (EAA) was having to develop Habitat Conservation Plans for endangered species and suggested that they would be very interested to obtain the same kind of information that Mr. Niemann and Ms. Bilbe were sharing with us. Mr. Betz also mentioned that in Guadalupe County there was an impaired surface water body that has a spring flow contribution that is high in nitrates. Thus far there has not been any application for an NPS Project to study this situation, but this serves as an example of the type of project where there is a groundwater contribution to the TMDL. This is the kind of local project where there is a groundwater influence on surface water and would be more likely to get funding, as we have been discussing. He concluded that perhaps this type of local project is the way to go, and not depend so much on DRASTIC, but depend more on the groundwater-surface water interactions to justify projects. And for bigger problems, where we have fluoride, arsenic, nitrate, etc. contamination, we need to go after Clean Water Act (CWA), Section 106 funds. With 106 money, the source of the contamination doesn't matter, whether its point source or nonpoint source, naturally occurring or anthropogenic.

Dr. Scanlon stated that one problem is that EPA's strategy hardly mentions groundwater but concentrates on surface water. Mr. Betz added that the USGS was trying to inform the federal government of the importance of groundwater. Dr. Harris mentioned that politics may be one of the things that creates this dichotomy between support for surface water and groundwater issues. While surface water is usually publicly owned, no one wants the federal government meddling with their groundwater.

Ms. Bilbe reiterated that the easiest approach to get money through their 319 surface water program was to rely on a tie between surface water and groundwater, because the real emphasis is surface water. She also suggested that it would probably be useful to meet again on this subject on a less formal basis.

Mr. Betz asked if there was any list of impaired water bodies that have a groundwater contribution that could be used to plan nonpoint source projects to help determine the cause of the contribution and how to fix it. The answer was that there isn't a list that shows known connection of contamination between groundwater and surface water, but perhaps known groundwater contamination could be matched with known surface water contamination to get a list of possible cross contribution. Then when watershed protection plans are drawn up specific tasks can be added to investigate these areas of possible connection. Dr. Scanlon asked if anyone has looked at this in the past. Dr. Harris responded that the TWRI was involved with a number of activities that relate to groundwater contamination of surface water. Much of it has to do with

saline seeps. One situation is nitrates seeping from the Seymour into surface water. Mr. Cherepon commented that often a groundwater contribution to surface water can improve the quality of the surface water.

Dr. Scanlon commented that most of the impaired water bodies are classified as impaired because of pathogens and oxygen rather than because of nutrients. Ms. Bilbe responded that we don't have standards yet for nutrients. The standards for nutrients for lakes are just now going through for approval and then there will be nutrient standards for rivers and streams in the next round of standards. She then mentioned a couple of projects that were in progress related to groundwater and watershed planning: the Upper Cibolo Creek Watershed Protection Plan in the Bourne area and the Concho Watershed Protection Plan which is almost finished. Both of these have a groundwater component related to recharge through the alluvium.

There was some discussion as to what amount of the NPS Programs money can be spent on groundwater projects. The answer is that it is EPA's rule that up to 10% can be spent on groundwater.

Dr. Harris asked if there were any other Watershed Protection Plans that had a groundwater component. Ms. Bilbe responded that the Cypress Creek Watershed Protection Plan (near Wimberley) was one that had a major groundwater component. Texas State University is heading that project. Jacobs well is a large spring that contributes in a major way to the base flow of Cypress Creek.

Mr. Niemann suggested that making sure that groundwater components are included in Watershed Protection Plans when they are being written would be a good strategy. EPA strongly considers what's in the Protection Plan in deciding what projects get approved and funded.

Mr. Niemann reiterated that they are eager to work with anyone by giving guidance and direction in putting together a good application for a project. Solicitations for the next grant period open up in June. After solicitations open up they will no longer be able to work with anyone. Ms. Long added that the TSSWCB's opening date for receiving NPS project applications is later than TCEQ's, a little later than June. For TSSWCB the process is called Requests for Proposals (RFPs).

The meeting adjourned at 10:22 AM.

Minutes prepared by Joseph L. Peters, March 30, 2010

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