

GROUNDWATER RESEARCH SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

9:00 AM, Wednesday, October 16, 2013

LOCATION:

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

PURPOSE OF MEETING:

First semi-annual regular business meeting

AGENCIES/ENTITIES REPRESENTED:

Bureau of Economic Geology [BEG]
Texas Commission on Environmental Quality [TCEQ]
Texas Department of Agriculture [TDA]
Texas Groundwater Protection Committee [TGPC]
Texas State Soil and Water Conservation Board [TSSWCB]
Texas Water Development board [TWDB]
Texas Water Resources Institute [TWRI]

ATTENDEES:

Bridget Scanlon	BEG, Co-chair of the GW Research Subcommittee
Kevin Wagner	TWRI, Co-chair of the GW Research Subcommittee
Cary Betz	TCEQ, Chairman of TGPC
Todd Caldwell	BEG
Alan Cherepon	TCEQ
Michael Hare	TDA
T. J. Helton	TSSWCB
Janie Hopkins	TWDB
Joseph L. Peters	TCEQ
Kristine Uhlman	BEG
Michael H. Young	BEG

MEETING SUMMARY:

Call to Order and Introductions

Dr. Bridget Scanlon called the meeting to order at about 9:05 AM. Dr. Kevin Wagner was present as the co-chair of the Subcommittee. Dr. Scanlon started the meeting by having everyone introduce themselves.

Discussion of Sources of Funding and Current Calls for Proposals

Dr. Wagner began by summarizing recent and current calls for proposals including the TSSWCB's Request for Proposals (RFPs) which were due October 11, 2013, and the United States Department of Agriculture (USDA) Agriculture and Food Research Initiative (AFRI) Requests for Applications (RFA), which are due sometime in December. Dr. Scanlon asked Dr. Young whether the USDA had recently shown a major interest in nitrate. Dr. Young responded in the affirmative, that nitrate, in particular from nonpoint sources, was becoming one of their focus areas. Dr. Scanlon proposed that there should be some opportunity here for some type of collaborative project.

Dr. Young also brought up the five million dollar program that the Comptroller's Office has initiated to study the effect of endangered species on the state's economy. These will be species currently listed as endangered by Fish & Wildlife. There should be a Request for Proposals out by the beginning of November to study the habitats, species diversities, and species locations, for the top species that are most at risk. Dr. Wagner asked if the studies could have any significant groundwater connection. Dr. Young responded that the study will not be just about counting species, but will be focused on habitat impacts; so there could be a considerable component involving groundwater/surface water impacts. The funding will be available to state universities which would usually involve various levels of support from state agencies. Dr. Scanlon asked if the top ten species were yet identified. Dr. Young explained that the Comptroller's Office had put together a science team, composed of members from all the participating universities, that is working on assembling the list.

Dr. Scanlon went on to ask Ms. Hopkins, about what was happening at the TWDB. Ms. Hopkins reported that water quality reports for Groundwater Management Areas (GMAs) 3, 7, 11, 12, 13, 14, 15, and 16 were in review. She said that 14, 15, and 16 are delayed till the end of 2013. There will be more groundwater availability modeling grants over these two fiscal years, but they haven't been released for bid yet. Dr. Scanlon asked where GMAs 14, 15, and 16 were. Ms. Hopkins responded that it was the Gulf Coast, and that 11, 12, and 13 were the Carrizo Aquifer. Ms. Hopkins also stated that next year the TWDB would be sampling the Carrizo as well as some of the minor aquifers. Dr. Scanlon proposed that since the TWDB would be taking samples, it might be possible for the BEG to analyze the samples for additional constituents, that perhaps there could be this type of coordination.

Dr. Scanlon then asked Mr. Betz about activities at TCEQ. He responded that because of the sequester TCEQ was still unsure that their various federal grants would be restored to their former levels.

Discussion of Ranking Criteria and Recommendations for New Clean Water Act (CWA) Section 319(h) Groundwater Projects to Address Nonpoint Source (NPS) Pollution Issues and Information Gaps

Dr. Wagner introduced this agenda item explaining that one of the recommendations of the Nonpoint Source Task Force (NPSTF) was that the Groundwater Research

Subcommittee (GWRS) develop some criteria for the evaluation of any groundwater projects that are submitted for 319 Grant funding. Mr. Helton explained that the TSSWCB currently uses three criteria for ranking 319 groundwater proposals: aquifer vulnerability ranking; the severity of impact, documented in the Integrated Report; and the groundwater resource classification, as defined in Title 30, Part 1, Chapter 350, Subchapter C, Rule §350.52. These criteria are published in the RFP that goes out. Dr. Wagner asked Mr. Betz if he had any specific information on what the NPSTF had in mind when it asked that the GWRS develop 319 groundwater project evaluation criteria. Mr. Betz replied that he had not been at the NPSTF meeting when they developed the recommendation, but had spoken with the TCEQ Non-Point Source Section staff, most of which are new to the program (Kyle Girten, Team Leader; Tim Cowton; Faith Hambleton; Arthur Talley; and Bill Carter, who is assigned to serve as their representative to the GWRS). Specifically, Mr. Betz spoke with Mr. Kyle Girten, who mentioned that of the 319 proposals the Non-Point Source Section had received only one had a groundwater connection. Dr. Wagner suggested that perhaps the next step should be to consult the minutes of the NPSTF meeting, to ascertain the reasoning behind their recommendation to the GWRS, and perhaps thus gaining more insight into what they were exactly expecting from the GWRS.

Dr. Scanlon suggested that the subcommittee should nonetheless continue with initial discussion. She started by reminding everyone that the applications ultimately go to EPA, which is primarily interested in surface water. Mr. Helton elaborated that, of the 1.0 to 1.2 million dollars in 319 money that they received for the last round of RFPs, the EPA limited the TSSWCB to granting only 10% for groundwater projects. So, at this time groundwater is not a very big priority for Region 6, EPA. They are focused on surface water, success stories, and watershed protection plans. Mr. Helton stated that the TSSWCB has managed to fund one or two groundwater projects every one or two years, the most recent one being the Texas Well Owner Network (TWON), which also has been tied to the Water Shed Planning Process. Mr. Helton also reminded everyone that the further challenge is that 319 funds cannot be used to fund research. In considering what might be the GWRS's suggestions for selection criteria for 319 funds, Dr. Wagner reiterated the existing criteria for evaluating 319 applications: aquifer vulnerability, based on the DRASTIC model which most agree needs updating; the resource classification, essentially, is it brackish, is it fresh, etc.; and the severity of impact, scored along the range from no detection of contaminants to levels well above the MCL, typically found in the Integrated Report. Dr. Wagner suggested that perhaps an added criterion that TSSWCB and TCEQ could consider would be the effect of groundwater on surface water. This would perhaps help qualify some additional groundwater related projects. Furthermore, under the category of severity of impact, perhaps population impact could be considered, especially in certain situations such as the impact on endangered species. Another thing that the GWRS could look at is the consistency of the selection criteria between the TSSWCB and the TCEQ. Dr. Scanlon suggested that it may be useful to get EPA involved with these discussions, since they will be the ones making the final decision on which projects will be approved. Mr. Helton related that Mr. Richard Egg had informed him that one of the discussions in an

earlier NPSTF meeting was the possibility of getting rid of DRASTIC entirely and replacing it with something different. Dr. Scanlon suggested that whether it is DRASTIC that is used or some other means of determining aquifer vulnerability, the important criterion is that vulnerability is considered. She gave the example of a recent nitrate presentation where she presented data showing that there was no groundwater nitrate contamination where the soil was deep or fine grained, thus showing that contamination was dependent on aquifer vulnerability. She suggested that for two thirds of the High Plains the groundwater is practically invulnerable to surface contamination. Mr. Betz spoke a little about some of the conversations at past NPSTF meetings concerning criteria for projects. The first consideration was the state's Integrated Report, referred to as the 305b report. It's a water quality inventory. There is a groundwater component to the inventory. This was the primary locus of information in assessing aquifers as to the quality of the water. This report gave a good indication of where the groundwater problems were in the state, where there was nitrate contamination, or arsenic contamination, etc., but also there were areas of low vulnerability where the groundwater was protected from surface contamination by intervening zones not conducive to the transport of contaminant. On the other hand, there are areas like the Edwards Aquifer, which is highly vulnerable to nonpoint source pollution, even though it's groundwater has managed to maintain a high quality. To qualify the Edwards for various projects necessitated the use of DRASTIC as a tool to show its high vulnerability, despite the high quality of its water. Mr. Betz went on to explain that despite the TCEQ's low regard of DRASTIC from a technical standpoint, it has proven to be a useful tool, even being referenced in some of TCEQ's rules. Nothing better has become available, so it continues to be used. Also, nothing better has been found for determining the vulnerabilities of aquifers.

Dr. Scanlon went on to ask who at EPA could be asked to take part in our evaluation criteria discussions. Mr. Helton suggested that we need to contact someone from the Project Officer's group and someone from the Ecosystems Protection Branch. These two do the technical review for 319 projects. He mentioned Mr. Brad Lamb from Region 6 as a probable contact. Dr. Scanlon asked for any opinions as to how we can present our case to EPA in convincing them that groundwater should be given a greater focus. Mr. Betz commented that stating our case certainly should be worthwhile, and that perhaps in stating our case we could use the data off TCEQ's Groundwater Awareness Week Poster, which is posted every year at the state capitol. Mr. Betz went on to state that we could even mention to EPA our pesticide monitoring activities. Even though, it has not been identified as a nonpoint source of pollution because of the low concentrations detected, well below the MCL; nevertheless, small quantities are being detected on a regular basis in the Panhandle, and occasional small isolated concentrations are periodically detected in other areas of the state. Thus, we know that there are surface applied pesticides that are making their way into the groundwater, even though the groundwater concentrations are well below any trigger level that would cause the labeling of it as a nonpoint source contamination. Mr. Betz pointed out that it was in 1998 or 1999, when EPA pulled back on the assessment component of nonpoint source and began to emphasize BMPs and results oriented projects. This was when TCEQ lost

the Groundwater Nonpoint Source Group. The funding was diverted to Total Maximum Daily Loads (TMDLs). Mr. Helton volunteered that he could call Mr. Henry Brewer and Mr. Brad Lamb at EPA to arrange for their input. It's probable that they could not make the trip down to meet with us, because travel for EPA personnel is strictly limited, but a conference call could be arranged or we could go up there and meet with them. Mr. Helton suggested that the best thing would be for us to go to Dallas to meet with them. Mr. Betz requested that he be included in any discussions or meeting with EPA concerning this matter.

Dr. Scanlon moved the discussion to the state infrastructure as concerning the drought, asking Ms. Hopkins if she could give an update. She first stated that Mr. Brenner Brown was the TWDB person that went to the weekly State of Texas Drought Preparedness Council meetings. She went on to explain that there were 35 entities that are in stages one through three water use restriction levels. Ms. Hopkins had been assigned the task of determining if these entities would be more likely to have water quality problems brought on by the effects of the drought. Some of the entities are aware of impending water quality problems and have included reverse osmosis costs in their drought planning. Ms. Hopkins mentioned how surprising it was the amount of money being loaned to small communities by the TDA to upgrade rural community water systems. These are loans to rural communities with anywhere from 27 to 7000 connections for Uvalde, one of the bigger entities asking for a loan. Except in three counties – one being Hudspeth – all of these are west of IH 35: in the Rolling Plains, in counties such as Stonewall, Baylor, Knox, Haskell; on the Cap Rock, in counties that have to worry about radioactivity, such as Brisco, Crosby, Kent, Garza; and also in the Lower Rio Grande Valley, in counties such as Willacy and Cameron. And she added that there were another ten entities that she hadn't had a chance yet to look at. In the proposals the estimated costs of installing a well ranged from \$350,000 to as high as two or three million dollars. Some of the entities are self-funded and some will be selling bonds, but for the most part they are going to the TWDB and TDA. Hudspeth County wants to drill six more wells. She stated that these are municipalities and she is not sure how these loans can be justified for TDA emergency funding – and sometimes it's not an emergency. Dr. Scanlon asked if these entities had good background information on where to put wells. Ms. Hopkins replied that in most cases, not, but she did see one entity that had a research project, which included drilling seven test holes and performing pump tests, to determine their needs. She pointed out the need for this type of testing since the data in the TWDB database is so sparse, it would not be prudent to implement any project without having a consultant come in and do these types of tests. However, she said that the TWDB water quality information is very helpful in determining the water quality in local undesignated aquifers, many of which have very poor quality groundwater. So, many of these small water suppliers are hoping to include blending in their plans of achieving a sufficient water supply of suitable quality. Ms. Hopkins commented that the Regional Plans indicate that none of these small water suppliers had any anticipation of serious drought. Dr. Scanlon asked how many of these small entities can afford projects to increase their water supply or find alternative supplies. Ms. Hopkins responded that out of the list of 35 entities in the various stages

of water restrictions, only three or four will implement self-funded projects; the rest are coming either to the TWDB or TDA for financing. Dr. Scanlon commented that significant increases in water rates will be likely and there could be some resultant loss in population.

The discussion turned to Proposition 6, to be voted on in November, a constitutional amendment providing for the creation of the State Water Implementation Fund for Texas and the State Water Implementation Revenue Fund for Texas to assist in the financing of priority projects in the state water plan to ensure the availability of adequate water resources. Ms. Hopkins explained that if the Proposition passes, the Regional Water Plans will need to develop a standard set of criteria. One of the points of contention is agricultural versus municipal use of water. Meetings to determine the criteria and rank the various water management strategies have commenced. Dr. Scanlon asked about details on the contention between agricultural and municipal. Mr. Betz responded that one development was with the Edwards Aquifer Authority (EAA). In their Habitat Conservation Plan they adopted the Voluntary Irrigation Suspension Program Option (VISPO), a voluntary program which pays irrigators not to pump. This program drew considerable criticism because in the Uvalde area there is a high value corn crop, not used for ethanol, but in the production of tortilla chips and taco shells. These growers have an exclusive contract with Jack in the Box. The concern was that the land owners, from whom many of the producers rent their land for the corn production, would opt into the program and leave the producers without irrigation water. However, this did not happen, but it seems that only the more marginal landowners signed up for the program. Dr. Scanlon mentioned that the University of Texas (UT) and TCEQ were developing software that would facilitate the trading of water, such as irrigators trading with other irrigators. She added that it could lead to irrigators trading water use with the oil industry, etc., so that the volume used may not change, but only who is using it. Dr. Scanlon also mentioned that Ms. Hopkins had provided her with all the well permits for determining the increase in drilling mostly due to the recent drought. Ms. Hopkins expressed her wish that this information would be more easily available on the TWDB website. She went on to explain that it is available there on their WIID website, but that it is so unwieldy that a much easier and efficient access is needed. Dr. Scanlon asked if the TWDB had information concerning which wells were being drilled to provide water for hydraulic fracturing. Ms. Hopkins replied that, yes, the driller is required to giving information on what the intended use of the water is. The recent requirement, within about the last year, is that the driller state specifically “fracking” rather than just stating that the water is for rig use.

Discussion of Texas Groundwater Protection Strategy Update, Particularly in Regard to Coordinating Research Efforts and How We May Need to Restructure to Meet Those Efforts

Dr. Wagner turned the discussion to the next agenda item by giving some background

information. At a recent meeting concerning an update of the *Groundwater Protection Strategy*, discussed were the recommendations from 2003, one of which was the formation of the GWRS. The role of the GWRS, according to the recommendation, is to identify interagency research needs and to provide a coordinated approach for discussion with federal agencies for funding. Discussed at the meeting was whether to continue with this *Strategy* recommendation or whether it might be updated, the possibilities being on reformatting or how the GWRS might go about coordinating research and identifying research needs. One of the possibilities discussed was a joint meeting of the GWRS with the TAGD where some of the key researchers from universities around the state, that are doing groundwater quality research, would inform the districts of some of the ongoing research efforts that were taking place. Also, there might be a possibility of having a panel to receive some feedback from the Groundwater Conservation Districts on what the groundwater quality research needs are. Dr. Wagner opined that he wasn't sure that the GWRS was achieving their mission under the current format. Ultimately, the GWRS needs to identify what the key research needs are and better coordinate ongoing research. Dr. Wagner continued by saying that perhaps a joint effort with the TAGD is not the answer to achieving the GWRS's goals, but that the GWRS needs to discuss how it can better achieve its mission of identifying groundwater research needs. Dr. Wagner's introduction was followed by some discussion revealing that TAGD's interests seem to lie mostly with groundwater quantity rather than quality. Dr. Scanlon suggested that perhaps interest can be raised by presenting groundwater quality problems through the problems arising from the drought. One example would be the need, because of the drought, of using inferior quality groundwater, and perhaps presenting this need at a TAGD meeting. Something needs to be done to get their interest, since it doesn't seem to be in their focus thus far. Dr. Wagner mentioned that Ms. Stacey Steinbach of the TAGD was at the *Strategy* meeting and indicated that the TAGD had some interest in working with the GWRS as discussed. Dr. Wagner added that it would take a lot of work and coordination on the part of the GWRS to get the right researchers – beyond just A&M and UT – to a joint meeting to talk about their ongoing groundwater quality research. And then we would need to get feedback on what the TAGD's members needs are, which might be such things as better delineation of where the brackish aquifers are, the quality of the brackish aquifers, or information on fracking. Instead of the meetings the GWRS can anticipate the TAGD's needs, but it would be better to get their feedback. Dr. Young mentioned that at the drought meeting this past weekend Dr. Jay Banner of UT discussed the idea of a report that would describe the research that is being done at the universities across the state, the idea being that this report would be a sort of water assessment for the state. Dr. Young suggested that it would be a good idea, in putting together a report like this, to talk to water planning groups. The report perhaps could be a five-year update on where we are in research that would feed into the water planning groups. The water planning groups in turn contribute to the *State Water Plan*. Perhaps there could be a section added to the *State Water Plan* that addresses research concerns. Dr. Scanlon asked which groups served on the water planning groups besides the Groundwater Conservation Districts (GCDs). Ms. Hopkins responded that not only the GCDs, but also users, and some environmentalists. Dr. Scanlon suggested that since consultants do much of the work

there might also be an opportunity to get their input. It would be useful, in addition to the planning groups, to get together with the consultants to try and identify some common issues and needs. Mr. Betz felt that one problem may be the local focus of contractors – the engineers, geologists, hydrogeologists, and water well drillers – when they are hired for a specific project, such as developing a well field for a city. They are limited in the resources that the city can provide and thus they are limited from looking beyond the development of the well field, from doing a more far reaching study. The directive from the city is to find good quality groundwater that needs limited treatment. Dr. Scanlon asked, if the water planning groups will be prioritizing water needs, etc., then is there background data or other information that the GWRS can provide that would help them in their prioritizing. Ms. Hopkins mentioned that the upper management at the TWDB has recently made some statements that the TWDB may be focusing more on groundwater in the near future, but she wasn't sure what form this focus may take. Dr. Scanlon stated that she liked the idea of the joint meetings and that the GWRS could try it for a couple of times. Perhaps only a few interested people could be invited for the first one. She went on to suggest that if there was to be a prioritization of projects, it would be nice to have some connection with the process. Coming with information to help with the process would be a good way to gain some influence over it. Ms. Hopkins warned that it may not be that easy to introduce water quality issues into the process, since even the TWDB's internal planners don't tend to talk to anyone in the groundwater group about water quality problems. It hasn't been big on their agenda; they're looking more at quantity. Mr. Betz reinforced the warning, stating that the new Chairman of the TWDB, Mr. Carlos Rubinstein, is a former city manager, and has a history of focusing on water quantity rather than quality. Dr. Scanlon recapped that we should try the joint meetings with TAGD, and then we should also pursue Dr. Young's idea about connecting with the planning groups and offering some type of resources to the planning groups. Mr. Betz suggested that meeting with the TAGD is probably the better option, since, for instance, Mr. David Van Dresar, who represents TAGD on the TGPC, and who manages the Fayette County Groundwater Conservation District (FCGCD), has a saline waterline problem in his GCD, which is definitely a water quality issue and is only one example where GCDs would have a definite interest in water quality. If this saline waterline moves because of pumping or drought, then they need to be aware of it, since this would definitely affect their plans. Mr. Betz suggested that a good line of inquiry in future groundwater research would be to look at regional scale issues – movement of contaminants, movement of bad waterlines, shifts in direction of flow that may upset an existing treatment system – things that could potentially affect groundwater quality. Dr. Scanlon and Dr. Wagner agreed that we therefore should follow-up with an initial meeting with some TAGD representatives, specifically Mr. Van Dresar, and Ms. Stacey Steinbach, possibly in conjunction with the next TAGD annual meeting. It was pointed out that they had just recently met, but it was also agreed that it might take about a year to work out such a meeting. Mr. Betz mentioned that, at the main TGPC meeting in the afternoon, he was planning on talking about the National Groundwater Monitoring Network and their new framework document, and how frustrating it is to see how low a priority groundwater quality is, nationally, and possibly why this is so.

Public Comment

Ms. Kristine Uhlman announced that the BEG was developing a new water quality Google map that, once it's up on the web, should bring attention to groundwater quality.

Mr. Cherepon announced that he had recently attended a Climate Conference at the UT LBJ School of Public Affairs, specifically aimed at the subjects of resilience and adaptation. At the conference some UT attendees pointed out that recently the UT Jackson School of Geosciences had hired a new faculty member, a well-known professor from Cornell, for their Center for Integrated Earth System Science (CIESS). Mr. Cherepon suggested that we could invite someone from that group to give us a presentation on potential research needs and potential funding sources. Dr. Scanlon added that she knew a couple of people from that group that could possibly be asked to come.

Adjournment

The meeting adjourned at 10:11 AM.

Minutes prepared by Dr. Joseph L. Peters, January 6, 2014

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