AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:
10:30 AM, November 10, 2005

LOCATION:
TCEQ, Park 35, Building F, Room 2210, Austin, Texas

PURPOSE OF MEETING:
The FY06 First Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee.

ATTENDEES:

AGENCIES

Texas Department of Agriculture [TDA]
Texas Commission on Environmental Quality [TCEQ]
Texas Water Development Board [TWDB]
Texas Cooperative Extension [TCE]
Texas Agricultural Experiment Station [TAES]
Texas State Soil & Water Conservation Board [TSSWCB]
Texas Structural Pest Control Board [TSPCB]
Texas Alliance of Groundwater Districts [TAGD]

REPRESENTATIVES

Steve Musick	Chair, Member, TCEQ, Austin
Ambrose Charles	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Bruce Lesikar	Member, TCE, College Station
C. Allen Jones	Member, TAES, College Station
Richard Egg	Member, TSSWCB, Temple
Jeff Isler	Member, TSPCB, Austin
Barry Miller	Member, TAGD, Gonzales

AGENCY STAFF

Mary Ambrose	TCEQ, Austin
Alan Cherepon	TCEQ, Austin
Joseph L. Peters	TCEQ, Austin
Lynne Fahlquist	USGS, Austin
Barbara Mahler	USGS, Austin
Montey Dozier	TCE, College Station

INTERESTED PARTIES

Ed Baker	Syngenta Crop Protection, Mineola
George Caldwell	Texas Farm Bureau

MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Mr. Steve Musick (TCEQ), called the meeting to order. He welcomed everyone to the meeting. He had the Subcommittee members introduce themselves. All Subcommittee members were present. Mr. Musick proceeded immediately to the Task Force Reports.

II Task Force Reports

Site Selection Task Force: Janie Hopkins (TWDB), the Task Force Chair, provided a map of well locations that were sampled in 2005 as a handout (695 samples), and a brief summary of work the TWDB will be performing through the 2006 fiscal year (a table of proposed well totals in each aquifer was sent electronically the week after the meeting). The TWDB has a new laboratory contract with a lab in Casper, Wyoming, and no longer has arrangements with LCRA. The TWDB primarily collected water well samples in the Gulf Coast and Yegua aquifers in 2005. They had sparse coverage in the hurricane impacted area of East Texas this year, and will try to get samples there during 2006. Alan Cherepon (TCEQ) provided a summary of groundwater monitoring activities by the TCEQ team and presented a draft of the FY06 monitoring plan later in the meeting.

Education Task Force: The Task Force Chair Dr. Bruce Lesikar (TCE), reported on several educational events that have, or will be taking place. Dana Porter will provide the BMP training in April 2006 in the north region, probably in Lubbock, and a workshop on irrigation and chemigation at the Beltwide Cotton Conference in San Antonio. Training for County Agricultural Agents will be held in 2006 in Corpus Christi in April, Lubbock in June, and Ft. Stockton in October, which will include pesticide water quality issues in Texas. An additional watershed management/general water training opportunity will take place during the week of 11/14/05, in Ft. Worth.

State Monitoring Plan Task Force: The State Monitoring Plan Task Force Chair, Ambrose Charles (TDA), spoke briefly on the EPA/SOS settlement agreement to address the effect of pesticides on the Barton Creek salamander. TDA received a conference call from EPA Region 6

in Dallas. They are conducting a data/fact-finding effort, and TDA will be sending them pesticide use data and will get the land-use coverage for the area. Steve Musick offered to provide help in getting the USGS land-use data.

No other Task Forces had anything new to present.

III. Barton Springs-Edwards Aquifer Water Quality Study Update (focus on pesticides)

Barbara Mahler (USGS) presented an overview and summary of the findings from an ongoing water quality study conducted under a contract with TCEQ. The oral report provided some overview of the project, while focusing on the pesticide monitoring data. She had recently given a similar presentation to TDA.

The general water quality study encompasses the Edwards aquifer area specific to Barton Springs and the various recharge and contributing zones for this feature. Ms. Mahler contrasted the karst characteristics of the Edwards aquifer to other aquifers, and how little filtering occurs, and the greater speed of water movement. 85% of the recharge occurs trough the creek beds that cross the recharge and contributing zones. She next addressed the importance of land cover, pointing out how the study area has urban land cover increasing from south to north and from west to east (the closer in to the city of Austin). Five creeks and four springs were monitored in the study, as were the effects of storm flow during rainfall events versus baseflow during periods of sparse rainfall. Since there was higher than normal rainfall during this phase of the study, baseflow conditions really couldn't be determined, and would need to be addressed during a drier period in future studies.

A number of findings were next presented. Higher pesticide concentrations and more pesticides were detected following a rain event, in the more urban areas. Certain compounds were persistent in surface water and in the springs over time and in both urban and non-urban land. Others showed up one time and were not detected again. Some, like diazinon, were detected in the surface water but not in the springs, while one of the newer pesticides, fipronil, was just beginning to be detected. Atrazine was always present in the Upper Barton Spring, but in low concentrations, and had a more exaggerated response to rainfall. The three most common pesticides detected were atrazine (the most and highest concentrations), followed by simazine and prometon (less, and in lower concentrations, often near the method reporting limit).

Tracer studies give an idea of the speed water travels through the routes from the various creeks to the springs. Specific conductivity was one of the best tracer/indicators for water source (fresh versus stagnant) and for breakthrough curves to show different sources for the different springs. Considerably more data and findings were made from the study, but there was not sufficient time to present it all, and the focus for the audience was pesticides. A short summary was made of what is still unknown or unclear; A baseflow study should still be conducted; why certain pesticides were present in the creeks but not in the springs. There are numerous other pesticides and analytes that might be present, but for which the samples are not being analyzed due to

budgetary constraints. It is difficult to determine whether concentrations are increasing from one or two years of data. Much depends upon which aspect of the environment is being studied, such as water versus organisms that live in that water, sediment, land-use, etc.

During the Q & A time, Ambrose Charles commented that there is presently no data on the affects of pesticides on the salamander, only one or two studies on frogs elsewhere. How will this be assessed, and what do these low concentrations really mean in the overall scheme of things? Also, were other chemicals present, and how would thy determine whether the effects on the salamanders was from these or the pesticides. He also asked if any analyses were done for other chemicals. Ms. Mahler answered that the samples were also analyzed for dissolved metals, VOCs, and a limited suite of pharmaceuticals. The metals analysis was cut early on in the study, since there was little or no indication of metals being present in appreciable amounts. TCE was ubiquitous in all springs except the Upper Spring. Specific VOC concentrations, such as Halogenated Methanes and chloroform, could potentially be used as an indicator of "treated" sources, such as wells that have been sanitized with bleach or treated city water versus untreated natural sources. Caffeine was the most widespread pharmaceutical detected, and few petroleum products were detected, with MTBE being noticeably absent. The final question was whether this data was shared with the EPA. It was, and the 2004 data is also available on the USGS website.

IV. Business Items for Discussion and Possible Action

Draft FY06 Groundwater Monitoring Plan

Alan Cherepon (TCEQ) provided a handout of the draft FY06 Groundwater Monitoring Plan. There are no major changes from the previous year's plan. It had been sent out for review by the SSTF the week before, with no comments offered at that time, so it was suggested everyone take a few minutes to review it. The primary tasks remain: continued cooperative monitoring and on-going monitoring of the PWS systems in the Panhandle that have had previous detections. Other potential tasks include sampling of wells in systems that have yet to be monitored for confirmation, possibly adding metabolite analysis by a lab, and the adding of one immunoassay test kit for alachlor.

Mr. Musick asked for the subcommittee to walk through the plan to address any questions and make sure everyone understood it. He asked if there was an estimate for the cooperative monitoring samples. Ms. Hopkins said she would provide those figures to TCEQ in the near future. He next asked if there were any new sites or sites yet to be adequately investigated for Task 2 (on-going monitoring). The answer was no. Mr. Musick said that the alachlor immunoassay kit would be purchased if sufficient funding could be allocated or used from the existing budget, and that TCEQ should seek input from the SSTF as to where best to sample for Alachlor and prometon. Mr. Cherepon thought the southern or central Panhandle would be the most likely place, and that this same area is where the TCEQ would be sampling for the primary pesticides. The Bexar Metro PWS wells with suspected or known atrazine detects would also be

sampled this year, under item 3, due to the number of wells and concentrations in prior samples, as well as the nearness/convenience of doing so in a day trip. Mr. Musick noted a typo/oversight in that Task V should be re-numbered Task IV. Barry Miller (TAGD) said that the East Texas portion of the Carrizo-Wilcox aquifer is not well represented by groundwater districts, but that if the TWDB needed help getting samples in the region. He said that he could probably help in getting some people lined up to assist with this. Mr. Musick asked the subcommittee to consider approving the plan with the few minor changes/clarifications as indicated, which would be presented and voted on at the next meeting of the ACS.

IV. Information Exchange

a. FY05 Groundwater Monitoring Summary Report

Mr. Cherepon provided a handout report summarizing groundwater monitoring activities during the 2005 fiscal year. He added that most of this material was already presented at the previous meeting. The only additions included a map showing the complete locations of wells sampled for the year, and the identification of a limited amount of data that would not be useable. Due to several problems, certain immunoassay analyses were not acceptable. Also, due to adding prometon to the suite of analytes late in the year, a mis-communication resulted in insufficient sample volume being collected for prometon analysis. This last item resulted in a low bias, or lower concentrations of prometon being detected than maybe was present. Even though there were no prometon detects, he is reserving assessment of the presence or absence of prometon until proper analyses are conducted during the coming monitoring year. The samples to be collected in FY06 will have the required volume.

b. Atrazine iRED Surface Water Monitoring Update

Ed Baker (Syngenta) provided a summary of the atrazine iRED monitoring program over the past two years. Eight surface water sites were sampled, with six of these having atrazine concentrations that remained fairly constant. The eight reservoirs sampled include Aquilla, Corsicana (Navarro Mills), Ennis, Marlin, Cooper, Waxahachie, and Midlothian (although not mentioned, the eighth reservoir is Granger Lake). The data presented was for atrazine and not total chlorinated triazines (TCT).

Corsicana had the highest concentrations of atrazine, with detects in both 1/19/05 and 2/23/04 that were above the MCL at 3.14 and 3.78 ppb respectively. The annual average was actually lower for this same locality. Atrazine average concentrations increased in both Marlin and Cooper, to 1.63 and 1.8 ppb respectively for 2005. It should be noted that the iRED trigger concentration is 37.5 ppb TCTs as a 90-day rolling average. One question was raised as to why the highest detects in Corsicana came in the winter. The person who asked wondered if this was due to small grain growers, but Mr. Baker said it had been very dry prior to this, and perhaps the results were due to lack of dilution from rain. There could even have been possible applications in the fall, but this is sheer speculation. The increase in Cooper was due to a discontinuation of a program initiated in 2004 which paid growers not to use atrazine (from 319 funds). Since the

program didn't continue in 2005, the growers were back to applying atrazine. Mr. Baker said they would do better to educate growers on the proper use of the pesticides rather than paying them not to use them.

The analytical methods used were Liquid Chromatography (LC) instead of Gas Chromatography (GC), and a special immunoassay method developed for the program. These methods are different from the ones used by TCEQ and most other sampling entities. The LC method is being used because of the ease of the method, and since samples need to be shipped to a lab in Florida, it is a sampling and monetary advantage that this method requires smaller sample volumes.

It was decided that item IV c would be postponed until next meeting, in consideration of time.

V. Public Comment

Ed Baker said that he had used several graphics slides from the BMP guidance for a program in Oklahoma, and that TCE may soon be getting some requests for this material.

Lynne Fahlquist (USGS) mentioned several groundwater monitoring tasks that the USGS accomplished this year;

- 30 monitoring wells were sampled in the Barton Springs segment of the Edwards aquifer recharge zone in March and April.
- 39 PWS wells were also sampled in the Bexar Metro system in the San Antonio segment of the Edwards aquifer.
- USGS conducted joint monitoring with the TWDB in the Trinity River watershed in the vicinity of Houston.
- The USGS plans on conducting Carrizo-Wilcox aquifer monitoring around the College Station area in 2007.

VI. Announcements

The USDA-CSREES National Water Conference will be in San Antonio from February 5-9, 2006, and will address BMP implementation related to pesticide use.

In their afternoon meeting, the decision was made by the Texas Groundwater Protection Committee that the FY06 second quarter meeting of the Agricultural Chemicals Subcommittee will take place on 2/2/06 at 10:30 a.m., in TCEQ Building F, Conference Room 2210.

VI. Adjournment

Recorded and transcribed by Alan Cherepon.

Attachments

TWDB Groundwater Monitoring Location Map FY05

Draft FY06 Groundwater Monitoring Plan

FY05 Groundwater Pesticide Monitoring Summary