

# STATE COORDINATING COMMITTEE ON GROUND WATER

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25 South Front Street  
Columbus, Ohio 43215

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## TO PROMOTE AND GUIDE THE IMPLEMENTATION OF A COORDINATED, COMPREHENSIVE AND EFFECTIVE GROUND WATER PROTECTION AND MANAGEMENT PROGRAM FOR THE STATE OF OHIO

March 20, 1997

Ohio Department of Natural Resources  
Assembly Center

### **ABSTRACT**

The March 20th meeting featured a presentation by Dr. Gary Rowe of the USGS on isotopic ground water dating and the Great-Little Miami Basin NAWQA study. The remainder of the meeting was devoted to agency updates and announcements. Detailed discussion of the NPS Management Plan update was rescheduled for the April SCCGW meeting. Larry Berger chaired the meeting for Bob Wulfhorst.

### **ATTENDANCE**

OEPA: Tom Allen, Michael Baker, Heather Belfi, Tim Christman, Annette deHavilland, Barb Lubberger, John Stevenson

ODNR: Dave Hanselmann, Rebecca Petty, Bob Van Horn

ODH: Scott Golden

ODA: Larry Berger

USGS: Jeff de Roche, Gary Rowe

PUCO: Sue Daly

### **FEBRUARY MEETING SUMMARY**

The February Meeting Summary was approved as written.

### **PRESENTATION**

Dr. Gary Rowe of the USGS gave a slide presentation of the isotopic ground water age-dating project conducted as part of the Dayton regional ground water modeling project. He followed up with a description of the Great and Little Miami Basin NAWQA Study.

**Isotopic Age-Dating Study.** The main objective of the isotopic dating was to help calibrate portions of the three-dimensional numerical ground water flow model that was developed for the Dayton area by USGS. Approximately 140 wells, including deep and shallow wells, were sampled for levels of tritium (an isotope of hydrogen) and its daughter product, helium-3 ( $^3\text{He}$ ). Over time, tritium decomposes to helium-3; thus, by comparing the ratios of tritium and helium-3 in a ground water sample, it is possible

to determine the age of the sample with an accuracy of a few years or less. (In this context, “age” refers to the time since the water being sampled entered the saturated ground water system.) The “age” of the water increases with depth and also with distance along the flowpath from the original recharge area. Age-dating by levels of chlorofluorocarbons (CFCs) in ground water also was conducted, to corroborate the tritium dating. However, CFCs are degraded by microbial activity in anaerobic conditions, such as those encountered throughout the Great Miami Buried Valley Aquifer, and the data obtained by CFCs analysis proved unreliable.

The tritium data were used to further calibrate the ground water flow model for Wright-Patterson Air Force Base, which is a portion of the larger regional model. The “age” of water at a certain point in its flowpath, as determined by tritium-<sup>3</sup>He dating, was compared to the age of the water at that point as determined by particle-tracking, using the ground water flow model. Where large discrepancies existed, an effort was made to recalibrate the model by modifying such parameters as hydraulic conductivity. Overall, good agreement between the two sets of data was achieved. Agreement was significantly better for wells completed in shallow parts of the aquifer than for wells completed in deeper (i.e., over 200 feet in depth) portions of the aquifer.

**Great and Little Miami Basin National Water Quality Assessment (MIAM-NAWQA) Study.** The goals of this study are to characterize the status and trends of the area’s surface and ground water; identify natural and human factors associated with observed water quality conditions; and present the information to policy-makers. This study is one of many being conducted by USGS throughout the United States. All of the NAWQA studies use consistent methods and high data quality standards. When complete, they will provide a high-quality database of water quality information covering 60-70 percent of the nation’s water use and population. The MIAM study unit includes the Great and Little Miami River basins in Ohio and the Whitewater River basin in southeast Indiana. Over the next few months, Dr. Rowe will be setting up a technical advisory committee and will be recruiting participants. The study is expected to run from 1997 to 2006.

## **AGENCY UPDATES AND ANNOUNCEMENTS**

### ***USGS, Water Resources Division, Jeff de Roche announced:***

- 1.) USGS has been involved in identifying potential wetlands at the Ravenna Arsenal for the Ohio Army National Guard. The Guard only funded identification of areas they are in charge of. The U.S. Army Industrial Operations Command has agreed to fund completion of mapping for the remainder of the Arsenal.
- 2.) The City of Warren (Trumbull County) has contracted the USGS to conduct a study at Mosquito Creek reservoir. The City is concerned about proposed gas well drilling in and around the reservoir, which is the City’s public water supply source. The USGS will be sampling surface and ground water, mapping, and doing vapor analyses of sediments and ground water, to provide baseline water quality data.
- 3.) ODA has contracted USGS to participate in a ground water vulnerability study of Ohio, which will involve GIS analysis and use of DRASTIC maps.
- 4.) USGS submitted a proposal to do a baseline study of ground water and surface water quality at sites in Hardin, Marion, and Wyandot Counties, where Agri-General is proposing to operate

three egg farms, two pullet farms, and a feed mill. Area residents are concerned about possible impacts on both surface water and ground water quantity and quality.

***OEPA, Agricultural Liaison, John Stevenson announced:***

- 1.) The Agency is reviewing proposed legislation that would:
  - a. Require Agency reviewers to examine the past compliance history of facilities before siting them; and
  - b. Transfer regulatory authority for water quality at facilities holding over 1,000 animal units from Ohio EPA to ODA. (This proposal arose because of complaints of inconsistency in the way OEPA reviewers permit these operations.)
- 2.) Congressman John Boenher hosted his annual “Farm Forum” at his home in Sydney on Saturday, March 22. In the past, this event has attracted nationally prominent figures. John passed out an agenda for the meeting, which was open to the public.

***ODNR, Division of Water, Rebecca Petty announced:***

- 1.) The State Aquifer Map project advisory committee has held two meetings, which went very well. The Division has decided to create ArcInfo coverages for boundaries, thickness, and ground water yields.
- 2.) The Division of Mines and Reclamation has received a permit application for a large (over 1,000-acre) aggregate mine in Clinton County. The Division of Water will provide technical assistance to the Division of Mines and Reclamation.
- 3.) The 1996 Water Withdrawal reports should be published by June.
- 4.) Division staff met with a contractor (LJB) about digitizing into ArcInfo the well locations for the well log database. LJB will provide a cost estimate soon.
- 5.) The Division of Water has convened a team to create a Division Web page.
- 6.) Rebecca distributed a Division report on the March 1997 flooding in the Ohio River valley.

***OEPA, Division of Drinking and Ground Waters, Michael Baker announced:***

- 1.) Legislation has been introduced into the General Assembly authorizing the creation of a State Drinking Water Revolving Fund. Low interest loans will be available to fund public drinking water systems’ construction projects.
- 2.) On April 14th, a Source Water Protection Stakeholders meeting will be held at the Holiday Inn East in Columbus, to review U.S. EPA’s draft Source Water Protection guidance.
- 3.) The Division recently issued a new county map series showing endorsed wellhead protection areas and all public water supply intake locations. This series was distributed to all county Natural Resource Conservation Service offices (to help them locate eligible sites for the Conservation Reserve Program). It was also distributed to all EMA offices.

- 4.) The upcoming issue of the Water Management Association of Ohio's newsletter includes an article that calls for volunteers to help organize WMAO's Ground Water Division.

***OEPA, DERR, Tim Christman announced:***

- 1.) DERR's draft guidance for "pollution abatement procedures" is now being reviewed by the Legal staff.
- 2.) An interdivisional Task Force has been initiated by DDAGW to review the available ground water modeling software and provide recommendations on which software is most usable.
- 3.) A group has been convened to interpret the Volunteer Action Program (VAP)'s ground water rules. Difficulties have arisen with some portions of the program, including the criteria that the Director will review concerning an application for "urban setting" classification.

***OEPA, Division of Drinking and Ground Waters, Tom Allen announced:***

- 1.) A Children's Ground Water Festival will be held in Dayton on May 7th. Three thousand children are expected to attend. The organizers need 200 volunteers. An "Ohio Ground Water" exhibit will be included. Anyone who wants to contribute to the display, was asked to contact Tom (644-2752) **by March 28th.**

***ODNR, Division of Soil and Water Conservation, Dave Hanselmann announced:***

- 1.) A land use conference titled "Growth and The Future" will be held on March 25-26 at the Athenaeum in downtown Columbus. Five hundred participants are expected.
- 2.) The House was to vote on March 21st to add \$50,000/year to funding for the Hoover Reservoir project, which involves developing Best Management Practices to reduce the seasonal levels of atrazine in the reservoir. Dave noted that this grass-roots project may serve as a model for other environmental efforts (such as the State Management Plan for Pesticides and Source Water Protection) that will depend largely on local initiative.

***ODA, Feed and Fertilizer Section, Larry Berger announced:***

- 1.) He has contacted BUSTR about sending a new delegate to SCCGW to replace Kevin Hodnett. Larry hasn't heard back from BUSTR yet.
- 2.) Sixteen Ohio counties were impacted by the Ohio River valley flooding. There is some concern over potential pesticide contamination due to flooding of agricultural wholesalers and retailers. These businesses had all of their inventory in stock in preparation for spring planting.
- 3.) His department has posted a position for a part-time employee to operate the powerful \$80,000 chipping machine, which was recently purchased for the pesticide container recycling program.

***ODNR, Division of Geologic Survey, Bob Van Horn announced:***

- 1.) The Midwest Compact for Low-Level Radioactive Waste will be funding a Geologic Survey project to map karst terrains, to be completed this year.

- 2.) The bedrock geology mapping project also should be completed this year. Mapping of geologic structure and topography are complete, and are being digitized. The Division has sent a proposal to ODOT, seeking funding to digitize the remaining maps.
- 3.) Oil and gas well location maps are being digitized by Ohio Penal Industries (OPI).
- 4.) In July 1997, the Division will begin a ten-year project to develop 3-dimensional "stack maps" of surficial materials, beginning with the Ohio portions of the Cincinnati and Falmouth 1:100,000 quadrangles. This project is partially funded by the USGS and ODOT.
- 5.) The Division will be developing a "seismic risk" map of the Cincinnati area. Mapping of the bedrock and surficial materials in that area is complete; now they will begin analyzing how these materials would react to earthquakes.
- 6.) The Division has a Web page, which can be reached at:  
**[http://www.dnr.state.oh.us/odnr/geo\\_survey/](http://www.dnr.state.oh.us/odnr/geo_survey/)**
- 7.) The Division is developing a 5-year strategic plan.
- 8.) The book *Ohio Fossils* is being reprinted and should be available in May, 1997.

***PUCO, Sue Daly announced:***

- 1.) PUCO's new commissioner, Judy Jones, will be starting April 11th. She previously has served as a council member for the City of Toledo.

***ODH, Scott Golden announced:***

- 1.) ODH's director, Dr. Peter Somani, is retiring May 1st. His successor is Bill Ryan, from the Department of Human Services, Medicare Program.
- 2.) Scott distributed copies of the Household Sewage Disposal System Program Improvement Plan.
- 3.) The Bureau of Local Services has been reorganized, effective March 1st. (Scott distributed a Table of Organization.) As a result, Scott has lost two staff, along with many time-consuming administrative tasks. He will now be able to focus on developing the Private Model Water System Plan and the Household Sewage Disposal Program.

***OEPA, Division of Solid and Infectious Waste Management, Annette deHavilland announced:***

- 1.) Over the next five years, the Division will be revisiting its rules. They will begin reviewing the siting and ground water monitoring rules in about six months.
- 2.) Closed landfills will soon be notified that the Division can accept ground water data electronically. (Active landfills were notified a year ago.) The Division is recommending submittal via GRITSTAT software.
- 3.) The Construction and Demolition (C&D) landfill program was initiated in September 1997. The first submittals of license applications are expected this month. As these come in, the Division will be able to identify the locations of these sites for the first time. Owner/operators may be required to put in a liner or conduct ground water monitoring, based on proximity to an

aquifer. Many owner/operators are requesting “exemption criteria” based on leachate characteristics.

*NOTE: The group asked if the C&D ground water-related policies or guidance being developed could be reviewed by SCCGW. Annette indicated she would follow up on this.*

## **WORKGROUP UPDATES**

### ***Well Construction***

Rebecca Petty reported that general procedures have been addressed, and the group is now working on geologic considerations.

### ***State Management Plan (SMP)***

Larry Berger reported that ODA is funding ODNR to do DRASTIC-type mapping for those counties not yet done. ODA also is funding USGS to do GIS-based mapping of vulnerable areas, based on the DRASTIC maps. This information will be used to extend and refine the ground water monitoring network for sampling of agricultural chemicals and nutrients.

## **MISCELLANEOUS**

- 1.) Due to insufficient time, the group agreed to reschedule the discussion of the NPS Management Plan for April’s SCCGW meeting (April 17th). Dave Hanselmann will develop a format for the discussion, and act as facilitator.
- 2.) Jeff deRoche stated that USGS would like to develop the capability to conduct analysis of water quality impacts on ground water by flooding, such as the recent Ohio River valley flood. They will need to establish a monitoring network for this purpose, and will be contacting other agencies (ODNR, OEPA, ODA, etc.) for permission to sample some of the wells in their monitoring networks.

## **APRIL AGENDA**

1. Agency updates and announcements
2. Discussion of the NPS Management Plan
3. Work Group updates

## **HAND-OUTS**

1. Information on NPS project application process for FY’98 grants
2. Summary of Great-Little Miami Basin NAWQA Project
3. Household Sewage Disposal System Program Improvement Plan
4. March 19, 1997 ODNR-Division of Water memo on Flooding in the Ohio River valley
5. Agenda for Congressman John Boehner’s 1997 Farm Forum
6. Table of Organization for ODH’s Bureau of Local Services

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April 17, 1997

**\*\*\*\*\*ODNR Assembly Hall\*\*\*\*\***

**Fountain Square, Building E-3**

8:30 - 8:35 am	CALL TO ORDER -Introductions
8:35 - 8:40 am	MARCH MEETING SUMMARY
8:40 - 9:30 am	AGENCY UPDATES AND ANNOUNCEMENTS -Legislation/Rules/Policies -Program Developments/Organizational Changes/New Hires -Miscellaneous
9:30 - 9:50 am	WORK GROUP UPDATES AND ANNOUNCEMENTS
9:50 - 10:00 am	BREAK
10:00 - 10:50 am	DISCUSSION OF NPS MANAGEMENT PLAN UPDATES
10:50 - 10:55 am	MISCELLANEOUS
10:55 - 11:00 am	MAY SCCGW MEETING AGENDA
11:00 am	ADJOURN