Wisconsin Groundwater Coordinating Council
Minutes from meeting held August 21st , 2009
Waukesha Room, Hill Farms State Transportation Building
4802 Sheboygan Ave, Madison.

Members Present: Todd Ambs (DNR); James Robertson (WGNHS); Henry Anderson (DHS); Anders Andren (UW-System); Dan Scudder (DOT); Kathy Pielsticker (DATCP).

Others Present: Joel Pedersen and Sam Sibley (UW-Madison); Jeremy Olstadt (WSLH); Kevin Masarik (UW-SP); Jim Vanden Brook (DATCP); Mike Lemcke and Jeff Helmuth (DNR);

1) **Introductions and General Business** – The meeting began at 10:00 AM. Jamie Robertson chaired the meeting until Todd Ambs arrived at 10:30. Introductions were made. The May meeting minutes were approved.

2) **Technical Presentation: Fecal Source Tracking with Mammalian Viruses: Promising Markers for the Discrimination of Human and Livestock Contamination** – Sam Sibley presented his work with Joel Pedersen Sharon Kluender and Trina McMahon on new technology they are using to determine the source (human or livestock) of viruses in surface- and groundwaters. Current indicators i.e. fecal & total coliforms, E. coli, Enterococcus spp., have a poor correlation with pathogen concentrations in water, may proliferate in the environment and do not identify the source of the contamination. The goal of the two DNR and UW-supported consecutive projects was to use Adnenoviruses (AdV) to determine sources and track transport. They developed an approach consisting of concentrating viruses in large water samples, developing PCR (polymerase chain reaction) methods for AdV, and optimizing and apply methods to "problem wells" for fecal source identification. Sam described their work comparing various filtration systems and finally optimizing a hollow tube ultrafiltration method to provide ~58% recovery. A novel PCR method was developed by designing and evaluating a new set of primers to amplify human vs. bovine AdV. This project was funded by DNR from 7/06-6/08.

   A follow-up project, funded by UWS in FY 10, plans to implement assays for Polymovirus (PyV) detection/quantification, optimize HFUF concentration of PyV and larger volumes (e.g., 500-L samples) of AdV and continue source sample exploration. A targeted field component of the project will repeatedly sample private wells with long-term records of demonstrated or suspected contamination and investigate the value of AdV and PyV as source tracking agents relative to traditional fecal indicators. State and local agency staff will aid in private well selection. These projects show great promise in addressing manure contamination issues, especially in areas with karst potential and/or nearby concentrated animal feeding operations.

3) **Technical Presentation: Molecular Detection of *Rhodococcus coprophilus* in Wisconsin Waters** – Jeremy Olstadt presented results of the project done with Jamie Stietz and Sharon Long (WSLH) designed to improve lab methods to determine if fecal contamination in water is from bovine sources. Previous microbial source tracking (MST) methodology relied on a culture-based enumeration method of a reliable indicator organism (*R.. coprophilus)* that took three to four weeks to complete. A faster method was desired for more prompt response to manure contamination incidents. The research team successfully developed and validated two polymerase chain reaction (PCR) methods: 1) standard PCR provides a presence/absence result and a low detection level; and 2) quantitative PCR (qPCR) provides a quantitative result but a higher level of detection. Jeremy elicited helpful discussion on the costs and benefits of each.

Todd Ambs noted that a bovine vs. non-bovine distinction is very useful and suggested that being able to distinguish between CAFO and non-CAFO would be very useful as well. Sam Sibley thought that it would be possible and referenced similar work by Sandra McClellan.

4) **Consideration of Draft FY 09 Report to the Legislature** – Jeff Helmuth presented proposed changes made to the August 6, "Final Draft" of the report. Substantive changes were made to DATCP's Nutrient Management section as a result of dialogue between DATCP staff, George Kraft and John Norman. Other changes were minor. The report was unanimously approved as revised. Jeff Helmuth noted that the distribution of the report would be the same as last year – paper copies to GCC members and libraries and electronic copies to the Legislature and subcommittee members. Some discussion occurred on how to provide relevant information to upcoming Legislative meetings on groundwater quantity. Todd asked for a pdf file of the Executive Summary for this purpose.

5) **Education Subcommittee report** – Kevin Masarik reported that the subcommittee is starting to look at agency brochures relating to nitrate in groundwater for consistency with the newly agreed upon advisory language for private well owners with samples >10 ppm nitrate. The group has also been continuing to provide input to Carolyn Betz on the WRI Groundwater Quantity and Pathogen fact sheets. Kevin and others have also been active in a project to better present groundwater and drinking water information on the Internet. Kevin has prepared a Water Reuse Fact Sheet that should be completed this fall. The fact sheet is targeted at plumbers and homeowners.

6) **Agency Updates**

DOT – Dan Scudder reported that his agency was providing access to a Highway 12 well for the groundwater observation network.

DATCP – Kathy Pielsticker reported:

- Two new studies are on the DATCP web page
  - Final Report on the DATCP Study of Water Quality at Infiltration Basins in Residential Subdivisions (http://datcp.state.wi.us/arm/agriculture/land-water/environ_quality/pdf/StudyofPesticidesatInfiltrationBasins.pdf)
  - Surface Water Sampling Project: Impact of pesticides on streams in smaller Wisconsin watersheds (http://datcp.state.wi.us/arm/agriculture/land-water/environ_quality/pdf/SurfaceWaterSamplingJuly09.pdf)
- The Clean Sweep program has been reinstituted by the Legislature. (more info at: http://datcp.state.wi.us/arm/agriculture/pest-fert/pesticides/clean-sweep/index.jsp)
- The Endangered Species program has been eliminated.
- Jim VandenBrook added that Wisconsin Manure Advisory System tools are now available on-line to help farmers and nutrient management planners protect water resources when land applying manure and fertilizer. The website includes: 1) nutrient and manure application restriction maps that show where, when, and how much manure can be applied within the 2005 Wisconsin NRCS 590 Nutrient Management Practice Standard; and 2) a risk assessment model to alert farmers to the likelihood of runoff events occurring based on weather and landscape, and, ultimately, local soil and field conditions (http://www.manureadvisorysystem.wi.gov/).

UWS Anders Andren reported:

- Contracts had been written for the 5 UW projects funded in FY 10.
- Both the Senate and House recommended increasing federal WRI funding in FY 11.
- The WRI has obtained a NOAA grant to train outreach agents. Jim Hurley is developing a short course.

Commerce – Eric Scott reported:

- The Safety and Building Division eliminated 15 positions due to budget concerns
- Funding is available to remove abandoned tanks but there are difficulties in gaining access.
- American Recovery and Reinvestment Act funds for Leaking Underground Storage Tank remediations will be distributed by DNR.

DHS – Henry Anderson reported:

- The CDC Environmental Health Tracking grant work is focusing on providing information to the public through the Internet.
- Sandra McLellan of UW-Milwaukee has received a grant to use weather modeling to predict risk to communities from high water.

WGNHS – Jamie Robertson reported:

- WGNHS has submitted a proposal to US EPA for more virus work
- Have requested National Science Foundation stimulus dollars for downhole logging.
- Geologic mapping continues in Grant, Sheboygan and Fond du Lac Counties
- The website is being updated and revamped.
- Jamie also emphasized the importance of understanding the thickness and characteristics of the overburden when using the terms karst or karst potential

DNR – Todd Ambs reported:

- Legislative discussions on new groundwater quantity legislation have focused on how to proceed. Areas of large drawdowns and areas of surface water impacts are both important issues to be addressed. Minnesota has addressed them with an expensive regulatory solution ($10 million/year, 85 staff) but that is not likely in Wisconsin. It looks like the scope of the environmental impact assessment will expand. Groundwater Management Areas remain the biggest challenge.
- New shoreline zoning regulations (NR 115 revisions) will include groundwater recharge implications by having a limit on impervious surfaces. This issue is contentious as usual.
- The Great Lakes Restoration Initiative includes $400 million for Great Lakes Protection in FY 10 including non-point, habitat protection, groundwater quantity, and wetland restoration. Todd would like to see a grant for a watershed project rather than for a particular program.
- The Water Use Section has received approval to fill two new positions doing Great Lakes Compact work [Note: those positions have been filled as of 11/9/09 by Kristy Rogers and Dino Tsoris].
- Mike Lemcke added that another round of NR 140 Groundwater Standards had been prepared including 15 new standards and 15 revised standards.

7) Adjourn and Next Meeting – The meeting was adjourned at 12:10. The next meeting will be held at 10:00 on November 13 at the Department of Agriculture, Trace and Consumer Protection, 2811 Agriculture Drive, Madison.

Respectfully submitted by Jeff Helmuth