



**POTOMAC RIVER BASIN DRINKING WATER  
SOURCE PROTECTION PARTNERSHIP  
Meeting Minutes for April 28, 2009  
Location: ICPRB, Rockville, MD**

**Attendees:**

Utilities

DC WASA:  
Rich Gianì

Fairfax Water:  
Melissa Billman  
Greg Prelewicz  
Niffy Saji

Frederick County DUSWM:  
Ken Orndorff  
Mark Schweitzer

Loudoun Water:  
Tom Bonacquisti  
Beate Wright

Washington Aqueduct:  
Miranda Brown  
Shabir Choudhary  
Anne Spiesman

WSSC:  
Plato Chen  
Mohammad Habibian

State and Local Government

MDE:  
John Grace  
Steve Luckman  
Bob Summers (Chair)

DC DDOE:  
Shah Nawaz

PADEP:  
Patrick Bowling  
Joe Lee  
KR Young

VADEQ:  
Mary Ann Massie  
Bryant Thomas

WVDHHR:  
Dave Smith  
Bill Toomey

Federal and Regional Agencies

EPA Region 3:  
Vicky Binetti  
Ellen Schmitt

EPA HQ:  
Marjorie Copeland

ICPRB:  
Karin Bencala  
Curtis Dalpra  
Joe Hoffman  
Cherie Schultz

Metropolitan Washington Council of  
Governments:  
Ted Graham

Mid-Atlantic Water Program:  
Daphne Pee

USGS:  
Cherie Miller

**Reports from Workgroups:**

1. Ag Workgroup – Miranda Brown, Washington Aqueduct

The workgroup has held two conference calls this past quarter to develop an ag outreach program to address Crypto. After reviewing the EPA 319 targeted watersheds in the basin and talking with ag experts, the group has decided to focus its efforts on the Upper Monacacy. It appears that it is also in the priority area for the 2009 Farm Bill

([http://www.md.nrcs.usda.gov/news/newsreleases/2009/nrcbwi\\_09.html](http://www.md.nrcs.usda.gov/news/newsreleases/2009/nrcbwi_09.html)). There is an existing active outreach program in the basin with which the group will coordinate. The group's activities will be advised by John Roderick of the Maryland Department of Agriculture and Dr. Rob Atwill of the University of California at Davis. Miranda has gathered brochures and other education materials to serve as examples for what the group can develop. The next task is to decide on the message the Partnership would like to convey. The Reaching Out workgroup was asked to help with this effort.

The workgroup would like to plan a workshop or webinar with Dr. Atwill sometime in the next couple of months.

Numerous members of the Partnership would like to know more about the effectiveness of BMPs for addressing Crypto. See Attachment A for a list of citations.

2. Pathogens – Plato Chen, WSSC

The workgroup will support the work of the Ag Workgroup on the Crypto initiatives this year.

3. Disinfectant By-product Precursor – Mohammad Habibian, WSSC

The Water Research Foundation project to assess the relative contributions of land-based and water-based sources to DBP precursors has received approval, but is postponed until July due to funding concerns.

4. Early Warning/Emergency Response – Cherie Schultz, ICPRB

A draft letter to Colonial Pipeline regarding the location of downstream intakes was reviewed. Questions posed to the Partnership were, 1) who should sign the letter and 2) should the intake location information be sent to those cc'ed on the letter as well? It was decided that the intake locations would not be distributed, but could be requested. The final version will more prominently display confidentiality notices. Email Cherie with any comments or questions – [cschultz@icprb.org](mailto:cschultz@icprb.org).

The workgroup will organize a meeting with the state primacy agencies as part of their efforts to continue raising the issue of drinking water in the event of a spill. Members of the Partnership will be asked to help identify who should attend this meeting. It was pointed out that in many cases the local health department will make the decision of is a spill is a threat or not and that the workgroup might look into getting utilities onto their list of contacts.

The recent coal ash spill was reviewed for how agencies and utilities heard about the spill. Since the spill was determined not to be a threat by MDE, notification of the spill was not widely distributed. The utilities and ICPRB expressed an interest in know about all spills, even if they are not deemed as a threat, so they can be prepared for questions from the public and the media.

ICPRB is working to update the spill notification contact list and is developing a fact sheet on their time of travel calculation capabilities. ICPRB recently learned that the National Weather Service also provides time of travel information and are working to collaborate with them.

5. Urban Issues – Greg Prelewicz, Fairfax Water

The op-ed on road salts, "[A Little Less Salt, Please](#)," was signed by ICPRB's executive director, Joe Hoffman, and published in *The Washington Post* on Sunday, April 12, 2009.

The workgroup is now focusing on NPDES permitting language to address source water protection. A draft of suggested spill notification language was distributed and discussed. The group will solicit additional feedback and considerations from Partnership members before moving ahead with the next draft version of suggested permitting language. One of the main goals of this effort is to ensure that all states and utilities potentially affected by a spill would be notified regardless of the state in which the spill occurred.

A number of questions on how this would work were raised (see list below). These, and other issues, are still up for discussion in the workgroup. A concern about the immediate notification request was raised, given that in the middle of a spill the priority of the permit holder is to address the spill, not notifying a list of organizations. The workgroup is hoping to hold a workshop in the next couple of months to bring interested parties together.

- Would this apply to large and small dischargers?
- How should the characteristics of an intake be considered (i.e. storage capacity)?
- How much information on intake locations should be included, as the permits are public documents?
- Is there a minimum notification requirement that could be applied across the basin?
- Who should be notified and in what timeframe?
- Can MS4 permits also be addressed?
- How would changes in intake locations be addressed?
- What should permit holders be responsible for?
- What information do the utilities need?

6. Reaching Out – KR Young, PADEP

The workgroup is developing a survey to distribute to the membership to help guide future efforts. KR would be happy to receive input on future efforts, specifically on the annual report and annual meeting.

7. Emerging Contaminants – Pat Bowling, PADEP

[Comments](#) were submitted to the Drug Enforcement Administration's [request for input](#) on the disposal of controlled substances by persons not registered with the Drug Enforcement Administration in March 2009.

The PBS Frontline piece that featured the Potomac River, *Poisoned Waters*, is available online - <http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/>.

The workgroup is continuing to track a number of legislative efforts:

- H.R. 1145 - National Water Research and Development Act of 2009 would require the President to implement a National Water Research and Development Initiative for the purpose of improving the Federal government's role in designing and implementing Federal water research, development, demonstration, data collection and dissemination, education, and technology transfer activities to address changes in water use, quality, supply, and demand in the U.S., including providing additional support to increase water supply through greater efficiency, conservation, and measures to abate water quality impairment. The measure includes a call for Federal research on understanding the impacts from chemical impairments, including contaminants of emerging concern, such as EDCs and PPCPs, on water

supply and quality. Status: Passed the House 413-10 on 4/23/09 and was referred to the Senate Committee on Environment and Public Works. To access the bill: <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR01145>:

- Three bills related to drug disposal have been introduced in the House during 2009:

- \* H.R. 1191 - The Safe Drug Disposal Act of 2009 [one of the two co-sponsors is Congressman Moran (D-VA)] would amend the Controlled Substances Act to provide for disposal of controlled substances by ultimate users and care takers through state take-back disposal programs. It would also amend the Federal Food, Drug, and Cosmetic Act to prohibit recommendations on drug labels for disposal by flushing. Status: Referred to the House Subcommittee on Commercial and Administrative Law on 3/16/09. To access the bill: <http://www.thomas.gov/cgi-bin/bdquery/z?d111:h.r.01191>:

- \* H.R. 1359 - The Secure and Responsible Drug Disposal Act of 2009 would amend the Controlled Substances Act to provide for take-back disposal of controlled substances in specific instances. Status: Referred to the House Subcommittee on Crime, Terrorism, and Homeland Security on 4/27/09. To access the bill: <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:h.r.01359>:

- \* H.R. 1262 - The Water Quality Investment Act of 2009 would amend the Federal Water Pollution Control Act to authorize appropriations for State water pollution control revolving funds and includes provisions requiring Federal agencies to study the presence of PPCPs in waters of the U.S. (Section 6001), and for EPA to convene a task force to develop drug disposal recommendations for consumers and healthcare institutions (Section 7001). Status: Passed the House and was referred to the Senate Committee on Environment and Public Works on 3/16/09. To access the bill: <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR01262>:

#### **Budget update – Cherie Schultz, ICPRB**

The draft workplan for FY2010 was distributed for approval. [An updated version has since been distributed by email, contact Karin Bencala ([kbencala@icprb.org](mailto:kbencala@icprb.org), 301-984-1908 x139) for a copy.] Please submit comments to Karin or Cherie by Wednesday, May 6.

The current year's budget is showing a shortfall. ICPRB has in the past adsorbed these costs and will do so as well this year.

#### **Annual Report – Curtis Dalpra, ICPRB**

The Annual Report is complete. It will be placed on the Partnership website shortly. High resolution electronic versions will be mailed to each member to allow for the printing of copies as needed.

#### **WRF Project 4169 Update – Mohammad Habibian, WSSC**

The final contract has been received and the approval process is nearly complete.

#### **WRF Project 4261 "Building a National Utility Network to Address EDC/PPCP Issues" – Miranda Brown, Washington Aqueduct**

## Meeting Notes for DWSPP Quarterly Meeting, February 5, 2009

The goal of this project is to create a network of utilities across the country to help them address emerging contaminants. A main product of this effort will be a database to collect information from the utilities to encourage a uniform response to the issue. An initial workshop will be held to find out what the utilities have already done and to identify their needs. Fairfax Water, Washington Aqueduct, and WSSC have all been contacted and plan on being involved. In addition to responding to the proposal individually, they will draft a joint letter that highlights the regional aspect.

### **EPA Watersense program – Vicky Binetti, EPA**

Vicky invited the Partnership and its individual members to become promotional partners of the EPA's [WaterSense](#) program.

### **Mission Statement – Karin Bencala, ICPRB**

A change to the Partnership's mission statement has been proposed (see below). Highlighting the inclusion of the nation's capital within the Potomac River basin was suggested; some members felt that this may imply an increased level of importance placed on the metropolitan Washington area within the Partnership and therefore discourage potential members outside the area from joining. Comments are welcome through Wednesday, May 6.

#### Original

To serve as a cooperative and voluntary partnership working towards the goal of improved source water protection of the Potomac River in recognition of the vital role of the river in supplying drinking water to millions of people within the Potomac watershed and in support of the multi-barrier approach to safeguarding the drinking water supply for public health.

#### Proposed

To serve as a cooperative and voluntary partnership working towards the goal of improved source water protection **within the Potomac River basin** in recognition of the vital role of the river **and its tributaries** in supplying drinking water to millions of people and in support of the multi-barrier approach to safeguarding the drinking water supply for public health.

### **Shifting of annual meeting and planning year – Karin Bencala, ICPRB**

Shifting the Partnership's fiscal year to October 1 through September 30 was proposed. This would result in the coming year running 15 months from July 1, 2009 through September 30, 2010. The subsequent changes to the 2010 work plan and budget have been distributed; contact Karin Bencala ([kbencala@icprb.org](mailto:kbencala@icprb.org), 301-984-1908 x139) for a copy. Under this schedule, future annual meetings would be held in the fall as kick-off event for the year.

### **Announcements**

Marjorie Copeland from EPA's headquarters office attended the meeting as a visitor. She works with the Source Water Collaborative and is soliciting feedback on what they can do to help on the issue of source water protection.

Ellen Schmitt, EPA Region 3, suggested that at a future meeting we invite Emily Weidner, a former EPA intern, to present the land prioritization model she has developed.

Meeting Notes for DWSPP Quarterly Meeting, February 5, 2009

**Information session sponsored by the Urban Issues workgroup**

NPDES Permitting in the Potomac River Basin

Introduction – Greg Prelewicz, Fairfax Water - Presentation

Bill Toomey, West Virginia Department of Health and Human Resources – Presentation

Steve Luckman, Maryland Department of the Environment – Presentation

Bryant Thomas, Virginia Department of Environmental Quality – Presentation

Responses from Pennsylvania Department of Environmental Protection

**Upcoming Partnership meetings:**

Wednesday, July 22, 2009

Annual Meeting - Tuesday, October 20, 2009

## Attachment A. Crypto BMP citations

### *Journal of Environmental Quality*

#### **Overland and Near-Surface Transport of *Cryptosporidium parvum* from Vegetated and Nonvegetated Surfaces**

Jennifer R. Trask<sup>a</sup>, Prasanta K. Kalita<sup>\*,a</sup>, Mark S. Kuhlenschmidt<sup>b</sup>, Ronald D. Smith<sup>b</sup> and Ted L. Funk<sup>a</sup>  
PDF: <http://jeq.sciijournals.org/cgi/reprint/33/3/984>

#### **Efficacy of Vegetated Buffer Strips for Retaining *Cryptosporidium parvum***

Kenneth W. Tate<sup>a</sup>, Maria Das Gracias C. Pereira<sup>b</sup> and Edward R. Atwill<sup>b,\*</sup>  
PDF: <http://jeq.sciijournals.org/cgi/reprint/33/6/2243>

#### **Farm Factors Associated with Reducing *Cryptosporidium* Loading in Storm Runoff from Dairies**

W. A. Miller<sup>a,\*</sup>, D. J. Lewis<sup>b</sup>, M. D. G. Pereira<sup>c</sup>, M. Lennox<sup>b</sup>, P. A. Conrad<sup>a</sup>, K. W. Tate<sup>d</sup> and E. R. Atwill<sup>c</sup>  
No PDF: <http://jeq.sciijournals.org/cgi/content/abstract/37/5/1875>

#### **Survival of *Cryptosporidium parvum* Oocysts in Calf Housing Facilities in the New York City Watersheds**

PDF: <http://jeq.sciijournals.org/cgi/reprint/35/2/680>

### *Applied and Environmental Microbiology*

#### **Transport of *Cryptosporidium parvum* Oocysts through Vegetated Buffer Strips and Estimated Filtration Efficiency**

Edward R. Atwill,<sup>1\*</sup> Lingling Hou,<sup>1</sup> Betsy M. Karle,<sup>1</sup> Thomas Harter,<sup>2</sup> Kenneth W. Tate,<sup>3</sup> and Randy A. Dahlgren<sup>2</sup>  
PDF: <http://aem.asm.org/cgi/reprint/68/11/5517>

#### **Effects of Time and Watershed Characteristics on the Concentration of *Cryptosporidium* Oocysts in River Water**

JAHN S. HANSEN<sup>1</sup> AND JERRY E. ONGERTH<sup>2\*</sup>  
PDF: <http://aem.asm.org/cgi/reprint/57/10/2790>

#### **Effect of High Temperature on Infectivity of *Cryptosporidium parvum* Oocysts in Water**

RONALD FAYER<sup>\*</sup>  
PDF: <http://aem.asm.org/cgi/reprint/60/8/2732>

#### **Inactivation of *Cryptosporidium parvum* Oocysts by Ammonia**

MICHAEL B. JENKINS,<sup>1\*</sup> DWIGHT D. BOWMAN,<sup>2</sup> AND WILLIAM C. GHIORSE<sup>1</sup>  
PDF: <http://aem.asm.org/cgi/reprint/64/2/784>

#### **Use of a Sentinel System for Field Measurements of *Cryptosporidium parvum* Oocyst Inactivation in Soil and Animal Waste**

M. B. JENKINS,<sup>1\*</sup> M. J. WALKER,<sup>3</sup> D. D. BOWMAN,<sup>2</sup> L. C. ANTHONY,<sup>1</sup> AND W. C. GHIORSE<sup>1</sup>  
PDF: <http://aem.asm.org/cgi/reprint/65/5/1998>

#### **Survival of *Cryptosporidium parvum* oocysts under various environmental pressures.**

L J Robertson, A T Campbell and H V Smith

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PDF: <http://aem.asm.org/cgi/reprint/58/11/3494>

**Effects of Combined Water Potential and Temperature Stresses on *Cryptosporidium parvum* Oocysts**  
MARK WALKER,\* KATHERINE LEDDY, AND ELAINE HAGAR

PDF: <http://aem.asm.org/cgi/reprint/67/12/5526>

**Evaluation of the effect of temperature on the die-off rate for *Cryptosporidium parvum* oocysts in water, soils, and feces**

Peng X., Murphy T., Holden N.M. (2008) Applied and Environmental Microbiology, 74 (23), pp. 7101-7107.

### ***Water Resources Research***

**Source water assessment and nonpoint sources of acutely toxic contaminants: A review of research related to survival and transport of *Cryptosporidium parvum***

Walker, MJ | Montemagno, CD | Jenkins, MB

Water Resources Research [Water Resour. Res.]. Vol. 34, no. 12, pp. 3383-3392. Dec 1998.

### ***Soil Biology and Biochemistry***

**The effect of flow impedance on deposition of *Cryptosporidium parvum* oocysts with or without a vetiver buffer strip**

Janet Hussein<sup>a</sup>, Hossein Ghadiri<sup>a</sup>, Mavourneen Lutton<sup>b</sup>, Andrew Smolders<sup>b</sup> and Peter Schneider<sup>b</sup>

***Cryptosporidium parvum* oocyst inactivation in three soil types at various temperatures and water potentials**

Michael B. Jenkins, Dwight D. Bowman, Elizabeth A. Fogarty, William C. Ghiorse

PDF:

<http://www.ars.usda.gov/SP2UserFiles/Place/66120900/ManureManagementToProtectTheEnvironment/2002mbj06.pdf>

### ***Environmental Science and Technology***

**Colloid Transport and Filtration of *Cryptosporidium parvum* in Sandy Soils and Aquifer Sediments**

THOMAS HARTER \* AND SONJA WAGNER †

Department of Land, Air, and Water Resources, University of California at Davis, 9240 South Riverbend Avenue, Parlier, California 93648

EDWARD R. ATWILL

PDF: [http://groundwater.ucdavis.edu/Publications/Harter\\_208\\_es990132w.pdf](http://groundwater.ucdavis.edu/Publications/Harter_208_es990132w.pdf)

### ***Biology and Fertility of Soils***

**Movement of the protozoan pathogen *Cryptosporidium parvum* through three contrasting soil types**

J. L. Mawdsley<sup>1</sup>, A. E. Brooks<sup>1</sup> and R. J. Merry<sup>1</sup>

PDF: <http://www.springerlink.com/content/p725936035329556/fulltext.pdf>

***Science of the Total Environment***

***Cryptosporidium parvum* oocyst inactivation in field soil and its relation to soil characteristics: analyses using the geographic information systems**

Satomi Kato,<sup>\*</sup>, Michael Jenkins, Elizabeth Fogarty, Dwight Bowman

PDF:

<http://www.ars.usda.gov/SP2UserFiles/Place/66120900/ManureManagementToProtectTheEnvironment/2004mbjJ12.pdf>

***Veterinary Parasitology***

**Risk factors associated with *Cryptosporidium parvum* infection in dairy cattle in southeastern New York State**

H. O. Mohammed<sup>a</sup>, S. E. Wade<sup>b</sup> and S. Schaa<sup>f</sup>

No PDF: [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6TD7-3W59PN-1&\\_user=10&\\_rdoc=1&\\_fmt=&\\_orig=search&\\_sort=d&\\_view=c&\\_acct=C000050221&\\_version=1&\\_urlVersion=0&\\_userid=10&md5=233d4b119481cb99d27a54005871863f](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6TD7-3W59PN-1&_user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&_view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=233d4b119481cb99d27a54005871863f)

***Journal of the American Water Works Association***

**Effects of Filter Operation on *Cryptosporidium* Removal**

Huck, Peter M.; Coffey, Bradley M.; Emelko, Monica B.; Maurizio, Danielle D.; Slawson, Robin M.; Anderson, William B.; Van den Oever, John

Citation: Journal AWWA, Vol. 94 Iss. 6, June 2002

No PDF available

***Journal of the New England Water Works Association***

**Addressing emerging pathogens: Philadelphia's reflections on *Giardia* and *Cryptosporidium***

Burlingame G.A. (2008) Journal of the New England Water Works Association, 122 (2), pp. 117-129.

Philadelphia Water Department, Bureau of Laboratory Services, Philadelphia, PA

No PDF Available

**Websites**

**Rutgers**

Best Management Practices (BMPs) to Prevent Manure Pathogen Movement to Water Resources:

[http://www.extension.org/pages/Best\\_Management\\_Practices\\_\(BMPs\)\\_to\\_Prevent\\_Manure\\_Pathogen\\_Movement\\_to\\_Water\\_Resources](http://www.extension.org/pages/Best_Management_Practices_(BMPs)_to_Prevent_Manure_Pathogen_Movement_to_Water_Resources)

**Agricultural Environmental Management (AEM) - NY**

Water-Borne Pathogens – Worksheet – risk assessment

<http://www.agmkt.state.ny.us/SoilWater/aem/forms/Water-BornePathogens6-05.pdf>

Technical Tools

<http://www.agmkt.state.ny.us/SoilWater/aem/techtools.html>

**Cornell University**

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Biological factors affecting survival and transport of *Cryptosporidium parvum* oocysts in watershed environments

<http://research.cals.cornell.edu/impact/individual/vivo/BiologicalfactorsaffectingsurvivalandtransportofCryptosporidiumparvumooocysts/watershedenvironments>

**Wisconsin's Priority Watershed and Priority Lake Program**

<http://www.dnr.state.wi.us/runoff/watershed.htm>

**Watershed Agricultural Council**

<http://www.nycwatershed.org/>

- Solar Calf Housing

[http://www.nycwatershed.org/clw\\_solar.html](http://www.nycwatershed.org/clw_solar.html)

Dr. Tammo Steenhuis and Ami Collick from Cornell University are investigating solar calf housing to determine its effectiveness in reducing the transport of *Cryptosporidium parvum* oocysts off farms. Three different approaches will be attempted to analyze the effect of solar calf housing. First a comparison will be made of the number of infected animals before and after the solar calf barn was installed. Second, the survivability of *C. parvum* will be tested at three locations inside and outside of the solar calf barn. Finally, the transport of the pathogen off the farm will be studied by sampling runoff, streams and soil most likely affected by the calf housing. Initial farm sampling began in the Summer 2001.