



## ScienceWise

March-April 2010

### ANNOUNCEMENTS

- ✂ Four new members joined the RSC for 2010. They are Bill Brandon (OSRR), Leah O'Neil (OEP), Rick Suggat (OSRR), and Meridith Timony (OEP). The RSC wishes to thank our outgoing members for their service: Marcel Belaval (OEP), and Hilary Snook (OEME). (Julien 1782)
- ✂ 2010 Senior Leadership Team: Raymond Putnam (OES) has been named Vice Chair for 2010 and Rhona Julien (OEP) has assumed the position of Chair. (Julien 1782)
- ✂ The RSC's Annual Planning Retreat was held on Jan 28 in the Kennebec Room at the EPA NE Lab. The purpose of the retreat was to assess last year's efforts and to chart our course for 2010. Curt Spaulding attended the RSC Retreat and urged the Council to continue to feed the scientific mind and make it more robust. As the lead catalyst for environmental stewardship, Curt emphasized the need for EPA to continue to 'think outside the box' and broaden our networks. His charge to the Council was to support EPA's efforts to continue to be a dynamic working environment that encourages learning and innovation. (Julien 1782, Putnam 1523).

#### Upcoming RSC Seminars

**Topic:** Climate Change 201 Seminar Series: COP15 Copenhagen Climate Talks  
**Speaker:** Adil Najam  
**Date:** March 2

**Topic:** Green Chemistry: Principles and Application  
**Speaker:** Amy Cannon  
**Date:** March 16

**Topic:** Health Benefits and Risks of Fish Consumption  
**Speakers:** Dariush Mozaffarian, Rita Schoeny, Gary Ginsberg  
**Date:** April 14

### KEY RSC ACTIVITIES & ACTION ITEMS

- ✂ The RSC is hosting a Field Monitoring and Measurement Forum on March 10<sup>th</sup> in Court Room 6, POCH. This half-day forum is designed to share new or newly applied field measurement and monitoring techniques currently being used or currently available in our Region. Participants will rotate through learning/demonstration stations ranging from water quality, modeling, and criminal enforcement techniques. (Gaito 1297)

### SCIENCE FUNDING: OPEN OPPORTUNITIES & RECENT AWARDS

- ✂ The ORD-Regional Research Partnership Program (R2P2) announcement is out for anyone in the Region interested in doing a 2-4 month detail to an EPA Office of Research and Development Laboratory. The deadline for submission is March 22, 2010.
- ✂ EPA's FY2010 Global Earth Observation System of Systems (GEOSS) and Advanced Monitoring Initiative Solicitation for proposals closed on February 16, 2010. There were 6 pre-proposals submitted from our Region. Authors include: Marcel Belaval, Bill Brandon, Tim Gleason, Greg Hellyer, Matt Liebman, Margherita Pryor, Robert Koethe, and Tom Giffen.

**FY2010 Regional Applied Research Effort (RARE): The RA and DRA accepted the RSC's recommendations to fund the following proposals:**

**Robert Koethe (OES) and Bart Hoskins (OEME)** will collaborate with Dr. Jason Grear from EPA's ORD National Health and Environmental Effects Research Laboratory (NHEERL) Atlantic Ecology Division to evaluate the performance and effectiveness of utilizing four poster permethrin treated deer feeding stations for the control of Lyme disease vector *Ixodes scapularis* on Cape Cod and the Islands (see write-up on page 3).

**Ralph Abele (OEP)** will collaborate with Dr. Naomi Detenbeck from EPA's ORD NHEERL Atlantic Ecology Division to evaluate methods to help determine the effectiveness of existing stormwater Best Management Practices to predict the performance of proposed stormwater management plans in protecting habitat and the biotic integrity of streams in New England.

**Katrina Kipp (OEME)** will collaborate with Dr. James Lazorchak from EPA's Office of Research and Development (ORD) National Risk Management Research Laboratory (NRMRL) on their RARE project to address contamination of waterbodies with pharmaceuticals and personal care products (PPCPs) which has become a critical concern in New England. (Hillger 8660)

## **NATIONAL UPDATE**

✂ EPA has a new ORD Assistant Administrator with strong ties to New England. In December, the Senate confirmed Paul Anastas, Ph.D. Dr. Anastas is widely known as the "Father of Green Chemistry" for his research on the design, manufacture and use of minimally-toxic, environmentally-friendly chemicals. He has been a leading writer on the subjects of sustainability, green chemistry and green engineering, and most recently led Yale University's Center for Green Chemistry and Green Engineering. Dr. Anastas earned his B.S. from the University of Massachusetts at Boston and his M.A. and Ph.D. in chemistry from Brandeis University (Lovely 1240)

## **UPCOMING EVENTS**

March 7-10, 2010- Water Environment Federation (WEF) Specialty Conferences Cities of the Future 2010 & Urban River Restoration 2010 Location: Boston, MA

March 9-11, 2010- Center for Watershed Protection Conference. Location: Staunton, VA

March 17-19 – Valerie Zartarian and Rhona Julien are participants at the upcoming EPA symposium titled "Strengthening Environmental Justice Research and Decision Making: A Symposium on the Science of Disproportionate Environmental Health Impacts." The Conference will be held at the Walter E. Washington Convention Center, Washington, DC.

March 21, 2010 - American Chemical Society (ACS) Spring 2010 National Meeting. Location: San Francisco, CA

March 22-26, 2010- Chemistry for Environmental Professionals - Fundamentals (2-day course). Contact Brent England (x81279) or Sarah Levinson (x81390) for more information. Location: POCH

March 22-26, 2010 - Chemistry for Environmental Professionals - Applied (1.5-day course). Contact Brent England (x81279) or Sarah Levinson (x81390) for more information. Location: POCH

April 11 - 15, 2010 - Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP) Location: Keystone, CO



## EPA NE SCIENCE HIGHLIGHTS

### Investigating alternatives to broad-scale pesticide spraying for control of Lyme disease risk

More than 20,000 cases of Lyme disease are reported annually in the US. Here in the Northeast, the geographic range of the disease and infection rates continue to increase. Beginning this summer, scientists from EPA Region 1 (Robert Koethe, Bart Hoskins) and ORD (Jason Gear) will be collaborating with the Cape Cod Cooperative Extension in a RARE-supported study of Lyme disease risk management techniques.

Lyme disease is transmitted by a small arthropod known as the black-legged tick. This fact, along with greater awareness of Lyme disease has led to increased use of chemical and biological pesticides for tick control. In many cases, these pesticide uses are non-specific to ticks and will impact vast numbers of beneficial organisms that serve essential above and below ground functions in the environment. New pesticides, fungal pathogens, and new application methods for existing materials attempt to address this problem. One such method is the “Deer 4-Poster,” which is used to apply tick-killing topical pesticides like those used by pet owners. Deer are attracted to corn-filled troughs at these 4-



posters, where their necks make contact with treated applicators. The intended result is reduction in the abundance of Lyme-carrying black-legged ticks via precise host-targeted pesticide application.

Results from other studies of 4-poster effects on tick



abundance suggest they are a promising

alternative to current management tactics such as broad-scale pesticide spraying. However, 4-posters sometimes conflict with other environmental protection and wildlife management objectives. Thus, through controlled field experiments, this RARE project focuses on precise estimation of 4-poster efficacy to inform permitting decisions and evaluate an additional tool that could be incorporated into an integrated pest management strategy for managing

Lyme disease risk. The Regional Science Council has recognized the environmental implications of Lyme disease and associated risk management activities through its recent co-sponsorship of a ground-breaking workshop on Landscape/Biodiversity Change and Lyme Disease (September 2009, Chelmsford, MA) and by supporting this work through a RARE award.

