

Action in the Mystic

Mystic Watershed Collaborative:

A Partnership between Tufts University and the Mystic River Watershed Association

MyRWA Wins CZM Grant to Enhance Monitoring of Bacteria Pollution

By Jenny Birnbaum, MyRWA Water Quality Monitoring Director

The Mystic River Watershed Association (MyRWA) runs a monthly “hotspot” monitoring program to locate and track the source of sewage pollution throughout the watershed. Currently, the Region 1 EPA laboratory in Chelmsford donates analysis of 25 bacterial samples a month. This program is invaluable, as it allows MyRWA to engage in source-tracking efforts, coordinate work with municipalities, and sample in parts of the watershed that have not been monitored in the past. However, the program does have limitations- monitoring is constrained to a pre-determined date each month, and it typically takes a month to get results back. Follow-up sampling may therefore occur several months after initial sampling.

To add greater flexibility to our sampling and provide for faster follow-up, MyRWA recently applied for a grant from the state’s Coastal Zone Management (CZM) program and was awarded the maximum available grant of \$12,000. The funds will be used to purchase a new Colilert system to process samples for bacteria. MyRWA has been encouraged to use this system as it is easy to use, relatively inexpensive, and allows quantification of total coliform and *E. coli* concentrations within 24 hours. The same equipment can be used to quantify Enterococcus concentrations as well. These bacteria are used for monitoring in marine/brackish waters.

High bacteria levels can indicate sewage pollution, which is a problem throughout urban areas like the Mystic watershed, especially during wet weather. Tracking the sources of sewage contamination is a challenge in this region, because it comes from diverse non-point sources as well as specific sewer pipes. The State has proposed revisions to the water quality standards that will make *E. coli* the new standard organism for freshwaters. Watershed associations like MyRWA are key players in monitoring waters to assess their compliance with the water quality standards.

MyRWA’s use of the Colilert system will allow us to assess compliance with the new *E.coli* standard more frequently and at more locations. This equipment will give MyRWA more flexibility in the timing of monitoring, will permit sampling during a wider range of wet and dry weather events, and will allow expansion of monitoring as staffing permits. The new system will also be used to support MyRWA’s new “Find It and Fix It” program, which focuses on non-point source pollution.

MyRWA is working with Tufts’ Department of Civil and Environmental Engineering on a collaboration to house the new equipment in a Tufts laboratory. Tufts will also provide use of some ancillary equipment. In return, Tufts researchers who are trained by MyRWA personnel will be able to use the Colilert equipment. In addition, MyRWA personnel will provide demonstrations once or twice a semester to Tufts undergraduate classes, allowing students to gain valuable knowledge of laboratory techniques used in state and federal agency labs. “This collaboration is an excellent example of the ways in which academia and community groups can join forces to protect the local environment,” says Nancy Hammett, MyRWA’s Executive Director, “and offers another productive arena for the Mystic Watershed Collaborative partnership.”

To find out more about MyRWA’s plans for Colilert, or to get involved in one of MyRWA’s monitoring programs, please contact Jenny Birnbaum at jenny@mysticriver.org.



Jenny Birnbaum, and volunteer monitor, Maria Holmboe, conduct hotspot monitoring on the Malden River with Officer Patrick Johnston of the Everett Police Marine Unit.

**Mystic Watershed Forum 2006:
Knowledge Exchange and Implications for Action
Saturday, April 29, 2006
12:00-5:00pm**

**Tufts Student Team works with Friends of the Fells
on Management Initiative**

By Sean Sylver

“Something like five miles northerly from Boston lies a great tract of country, all stony hills and table-lands, almost uninhabited, and of wonderful picturesqueness, and wild rugged beauty.” This 1879 description of The Middlesex Fells Reservation, written by Sylvester Baxter, exemplifies the unique importance of The Fells to the people and ecology of our region.

For many of those living in a world of paved homogeneity and constant bustle, The Fells offers a multitude of opportunities to escape the city and enjoy the outdoors. It is also host to a wide range of native and non-native species of plants and animals, as well as a crucial water resource. However, with the absence of a comprehensive management plan to protect these resources and facilitate responsible public use of However, with the absence of a comprehensive management plan to protect these resources and facilitate responsible public use of the Fells, and lack of regulations enforcement, conflicts have arisen between user groups and the future direction of the Reservation has become quite cloudy.

In the coming months, Vanessa Bittermann, Ryan Christenberry, Sean Sylver, and Abby Yenco, students from the Tufts Urban and Environmental Policy and Planning program’s Field Projects class, will collaborate with the Friends of the Middlesex Fells Reservation to identify the types of sound management practices that will ensure the preservation of the area’s precious resources while maximizing public use benefits.

To do this, the group must gauge public opinion and seek input from the many groups who consider themselves stewards of the Fells, in some way.

A set of specific research areas have also already been defined. The Field Projects team will look to link the Fells to comparable sites as well as emphasize its uniqueness among all properties supervised by the Department of Conservation and Recreation, the state agency of oversight, which can use this information to compile a future Resource Management Plan. With these goals in mind, the students will strive to lay the foundation for a plan that will make the Fells a safe, user-friendly resource of lasting beauty that reflects a historical vision and suits 21st century interests.



Vanessa Bittermann, Abby Yenco,
Mike Arnott (FoF), and Sean Sylver.

Editor: Rachel Szyman, Americorps VISTA Associate

Lincoln Filene Center for Community Partnerships
University College of Citizenship and Public Service, Tufts University
Medford, MA 02155

Website: <http://www.tufts.edu/tie/mwc/>
Email: rachel.szyman@tufts.edu
Phone: (617)627-2811
Fax: (617)627-4142

TUFTS | University College
of Citizenship and Public Service

