

MSU Water Fellows Outline  
Water Quality Protection Needs  
to Joint House, Senate Committee

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Francie Todd  
432-1555, ext.168

Erin Dreelin  
517-353-7746

EAST LANSING, Mich. – As residents of the Great Lakes state, Michigan citizens place a high value on the state’s water resources, be it the surrounding Great Lakes, inland lakes and rivers, wetlands or groundwater. To protect these water resources, a report released today by Michigan State University suggests that a better job needs to be done monitoring water quality to detect pathogens and protect public health.

The report, “Waterborne Pathogens: Where Michigan Stands Now and Recommendations for Our Future,” was presented today to a joint meeting of the Michigan House Committee on Great Lakes and Environment and the Senate Committee on Natural Resources and Environment. The report summarizes the findings and recommendations of a group of Michigan water resource fellows, participants in a workshop series on waterborne pathogens offered by the MSU Center for Water Sciences.

The report recognizes the scientific advances made recently for detecting the many problems associated with pathogens in our waters and suggests that standard tests are inadequate, leaving critical questions unanswered and making remedies difficult. The report focuses on the need for more research and monitoring to learn the extent of Michigan’s waterborne pathogen problems and to find solutions and make informed decisions on where to invest limited resources.

“The Michigan water fellows tackled pathogens that may be affecting the state’s beaches, rivers, lakes, groundwaters and drinking waters,” said Joan Rose, holder of the Homer Nowlin chair in water research at MSU. “The fellows’ recommendations were formulated to move Michigan into a leadership role in the Great Lakes region and nationally, as well as to protect public health and enhance economic development. Their recommendations would move the state toward development of technology tools and programs for monitoring E. coli, source tracking markers and pathogens, as well as establishing the effectiveness of water protection and restoration programs.”

The five-workshop series, presented between February and May 2007, focused on five topics: basic information on waterborne pathogens, harmful algal blooms, microbial source tracking, transport of pathogens in the environment, and tools and techniques -- predictive models and rapid detection methods.

The water fellows program was initiated in 2005 with a seminar series on the role of science in shaping water policy. The waterborne pathogens workshops were designed to bring together nationally respected water scientists and individuals, or fellows, with a stake in the future of Michigan's water systems.

The group consisted of an executive steering committee and 35 water resource fellows selected to represent a diverse group of citizens involved in government, industry, agriculture, academia and environmental organizations, said Erin Dreelin, associate director of the Center for Water Sciences at MSU.

“Our abundant clean water resources, already important to Michigan's economy in terms of recreation, tourism, industry and community growth, will offer a tremendous competitive edge in the future,” Rose said. “The recommendations in this report offer a plan for quickly bringing the state's water monitoring up to best-in-the-nation status to protect our water resources.”

Among the group's recommendations:

- Develop a monitoring program for E. coli and pathogens. The fellows recommend an improved statewide program that would use E. coli for larger scale monitoring and then use monitoring of actual pathogens in hot spots. Hot spots are areas where E. coli concentrations are high and/or problems with pathogens have been identified. The U.S. Geological Survey National Water Quality Assessment program (<http://water.usgs.gov/nawqa/>) could be used as a model for designing an ambient microbiological monitoring program.
- Create a monitoring fund. The fund would provide assistance to hot spot areas so that communities and watershed coalitions can in a cooperative fashion investigate pathogen sources, fate, transport, predictive models and potential control technologies at the watershed level.
- Develop a technology fund. The fund would provide financial resources for developing new methods for testing pathogens and rapid detection techniques. The fellows recommend that this fund be allocated in a way that also promotes high-tech jobs in the state. The 21st Century Job Fund could serve as a model program. The fund should focus on development of new technologies, partnerships among government, industry and academia, and promotion of Michigan as a leader in high-tech jobs. Michigan can be a leader for the country in developing monitoring and control technologies for water quality.

The report and a full list of participants are available on the MSU Center for Water Sciences Web site at [www.cws.msu.edu/pathogen\\_wkshop](http://www.cws.msu.edu/pathogen_wkshop).

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