

# Waterworks

Kentucky Water Resources Research Institute at the University of Kentucky

Vol. 9, No. 1, 2003

## Watershed Roundtable Highlights Different Views, Cooperation

Some 200 individuals representing widely varied groups and interests came together on August 19<sup>th</sup> and 20<sup>th</sup> for the first annual Kentucky Watershed Roundtable. Building bridges between governmental, conservancy, research, business, industry, and agricultural entities was integral to the conference, which was held at Lexington's Holiday Inn North.



*Opening panel participants, including (l-r) Judith Peterson (Kentucky Waterways Alliance), Mayor Shirley Yassney of Russellville, Larry Thomas (Kentucky Farm Bureau), and Mary Jane Warner (Eastern Kentucky Power), kicked off the event*

The Roundtable's focus, *Solving the Watershed Puzzle*, was designed "to make our communities and our state a great place to live and to locate a business while protecting and restoring our wonderful water resources." The event began with individuals from several fields discussing their goals for the roundtable. Subsequent sessions centered on such topics as watershed planning, impacts on water sources from construction/

*Johnny Gonzalez (DOW) (l) and Chad McCormick (FMSM Engineers) (r) conducted informational sessions*



development and agriculture, and case studies in wastewater management.

In addition, breakout basin discussions attempted to identify specific regional challenges and develop potential solutions.

These brainstorming sessions culminated in a panel discussion featuring EPA Region IV Workshop Coordinator Marjan Peltier, League of Cities Director of Governmental Affairs Jerry Deaton, Kentucky Infrastructure Authority Executive Director Roger Recktenwald, Public Health Commissioner Rice Leach,

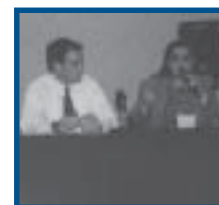


*Roundtable participants attended a wide variety of meetings, ranging from watershed planning to case studies*



*Karen Schaffer (J.E. Edinger & Assoc. Inc.) facilitated the Kentucky River Basin Watershed Discussion*

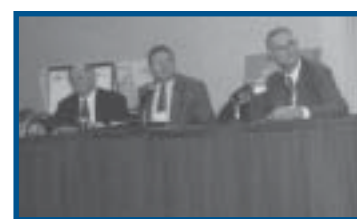
Natural Resources Department Commissioner Hugh Archer, Chamber of Commerce representative Lloyd Cress, and Environ-



*Jerry Deaton (League of Cities) and Marjan Peltier (EPA) addressed Roundtable attendees*

mental Protection Department Commissioner Bob Logan. The panelists addressed accessibility, communication, and enforcement issues suggested by the basin discussion groups.

An executive summary on the proceedings will be sent to conference participants in early 2004 and will be available at that time via the Kentucky Waterways Alliance website at [www.KWAlliance.org](http://www.KWAlliance.org).



*(l-r) Lloyd Cress (Chamber of Commerce), Commissioner Hugh Archer (Department for Natural Resources), and Commissioner Rice Leach (Department for Public Health) served on the closing panel*

### Inside...

Watershed Roundtable...	1
Meet the Researcher: Mark Steven Coyne, Ph.D.	2-3
Meet the Staff: Malissa McAlister	3
Important Links	4
Meet the Staff: Anna Goodman Hoover	4
Call for Proposals	5
Media Matters	5
From the Director	6

## Meet the Researcher: Mark Steven Coyne, Ph.D.



### **Mark Steven Coyne, Ph.D.**

Associate Professor of Agronomy  
University of Kentucky

### **Education**

Ph.D., Soil Microbiology, Michigan  
State University, 1989

M.S., Soil & Environmental Science,  
University of California, Riverside,  
1984

B.S., Agronomy and International  
Agriculture, Iowa State University,  
1982

### **Current Research**

*Does Straight Pipes Removal  
Improve Water Quality in Eastern  
Kentucky?*

"If one thinks about the responsibility of the faculty at a land grant school," Dr. Coyne says, "then trying to combine environmental microbiology and water quality research with public health is a natural union." With his current project, *Does Straight Pipes Removal Improve Water Quality in Eastern Kentucky*, the

University of Kentucky associate professor of agronomy tackles this combination of fields. A background of studying fecal bacteria contamination of surface and groundwater led Dr. Coyne to choose this project "to satisfy my interests in public health, conduct research that would benefit Kentuckians, and utilize my training in soil microbiology and ecology."

Straight pipes are an on-site wastewater disposal method common in regions where population distribution and/or topographic and soil considerations make sewerage unavailable. In straight pipe disposal, raw domestic sewage is transported directly to surface waters without prior treatment. Raw sewage potentially contains numerous human pathogens that can contaminate surface and shallow groundwater supplies and be transported by animal and insect vectors to susceptible human populations. As Dr. Coyne asks, "What more obvious connection between water quality and public health could you get than the potential exposure of Kentucky's residents to fecal wastes because of straight pipes?"

Dr. Coyne's project examines the presence of pathogenic microorganisms, reactive organic carbon, and readily available nutrients in streams prior to and following replacement of straight pipe and other failing onsite systems. Specifically, samples are being analyzed for fecal coliforms and fecal streptococci, as well as BOD and

total N and P by standard methods for wastewater analysis.

The study has three primary objectives:

1. identification of streams affected by straight pipes and other failing on-site systems, along with characterization of the number and composition of fecal bacteria and other water quality parameters;
2. following changes in water quality parameters after existing systems have been removed and replaced by new on-site waste-treatment facilities; and
3. evaluation of new onsite systems performance.

While his initial proposal called for the selection of four eastern Kentucky sites that either have existing straight pipes or have recently had straight pipes and/or failing septic symptoms removed, Dr. Coyne reports that identification of streams thus far has been challenging. "It has been harder identifying sites than we anticipated," he explains. "They have to meet several criteria. First, be associated with prior sampling so we have background data to compare our results with. Second, preferably be close to existing DOW sampling sites for similar reasons. Third, be easily accessible by road. Fourth, have clearly defined differences between stream reaches that have the potential to be contaminated or not. Fifth, be sufficiently close to Lexington to permit sampling and analysis within a day."

*...Coyne*  
*continued from Page Two*

Dr. Coyne continues, "Because it does not help much if one straight pipe is removed when dozens more exist in a stream, we have opted to go with... Plan B, which is to look for similar streams in a geographic region that have high vs. low straight pipe density. We have tentatively identified sites in UK's Robinson Forest (an absolutely pristine site) and several others in Wolfe and Menifee that feed into the Red River. We thought it might be good to know what was going into a 'recreational' river site. We are also likely to sample sites in the vicinity of Camp Nelson." Dr. Coyne expects to complete his database of such streams in February.

Upon completion of the database, the project will move toward identifying changes in water quality in terms of distance downstream from straight pipes or failed septic systems; characteristics of microbial populations and water quality parameters in streams affected by human septage; changes on water quality or lack thereof as a consequence of installing new on-site systems; and performance of replacement systems.

Dr. Coyne points out the value of the straight pipes project and its applications in the Commonwealth and beyond. "[This research] is important," he declares. "It's in everyone's best interest to live in environments where the water is as good as possible. Even though the water flows downstream, we all ultimately pay a cost for having contaminated it in terms of potentially higher health costs and treatment costs."

## Meet the Staff: **Malissa McAlister** *Kentucky River Basin Coordinator*

The Kentucky River Authority recently renewed its contract with the Kentucky Water Resources Research Institute for assistance in fulfilling its watershed management responsibilities. As a result, I will be serving as the Kentucky River basin coordinator for local watershed initiatives. This means that I finally get to apply my background and interests toward making a difference at the local level—I hope!

During my first year at KWRRI, I greatly increased my familiarity with the Kentucky River Basin by writing a long-range plan for the Kentucky River. The completion of this plan required me to examine a slew of reports written about the water resources of the Kentucky River, all of the county water supply plans for the basin, and many other documents and statistics related to the river. I now feel fully indoctrinated and ready to apply all this knowledge toward something.

I grew up on a farm in Danville, Kentucky and did a lot of camping, canoeing and other outdoor activities throughout my childhood. My educational background includes a biology degree from Centre College and a Master's degree in environmental science from Indiana University's School of Public and Environmental Affairs. At Indiana University, I was lucky enough to have a very enthusiastic professor who taught watershed management.

Ever since, that has been the environmental topic that has interested me the most.

Prior to working at KWRRI, I worked for state government at the Kentucky State Nature Preserves Commission and the Kentucky Division of Water. I then worked as an environmental policy analyst for the Council of State Governments in Lexington. While at the Council, I helped coordinate several watershed training workshops throughout the country, which greatly increased my vision of what is being done in this field. Immediately before taking on a position at KWRRI, I worked for the environmental consulting firm of Tetra Tech, Inc. and coordinated workshops throughout the state to teach erosion control practices to developers, road contractors and others in the construction business.



## Important Links

Kentucky Department for  
Natural Resources  
[www.naturalresources.ky.gov/  
dnrhome2.htm](http://www.naturalresources.ky.gov/dnrhome2.htm)

Kentucky Division of Water  
[http://water.nr.state.ky.us/dow/  
dwhome.htm](http://water.nr.state.ky.us/dow/dwhome.htm)

Kentucky Geological Survey  
[www.uky.edu/KGS/](http://www.uky.edu/KGS/)

Kentucky Water Watch  
[www.state.ky.us/nrepc/water/  
wwhomepg.htm](http://www.state.ky.us/nrepc/water/wwhomepg.htm)

Kentucky Waterways Alliance  
[www.KWAlliance.org](http://www.KWAlliance.org)

National Drinking Water  
Clearinghouse  
[www.ndwc.wvu.edu](http://www.ndwc.wvu.edu)

National Watershed Coalition  
[www.watershedcoalition.org](http://www.watershedcoalition.org)

Ohio River Basin Commisison  
[www.orbcinterstate.org/](http://www.orbcinterstate.org/)

Personal Responsibility in a  
Desirable Environment  
(PRIDE)  
[www.kypride.org/](http://www.kypride.org/)

Project WET  
(Water Education for Teachers)  
[www.projectwet.org](http://www.projectwet.org)

Southeast Watershed Forum  
[www.southeastwaterforum.org/  
index.cfm](http://www.southeastwaterforum.org/index.cfm)

United States Environmental  
Protection Agency  
<http://www.epa.gov/>

United States  
Geological Survey  
<http://www.usgs.gov/>

## Meet the Staff: Anna Goodman Hoover Communications Specialist



A native of Oneida, Tennessee, I grew up less than five miles from the Big South Fork National River and Recreation Area. Always entranced by the river's beauty, I fondly recall participating in water-related activities throughout my childhood, from swimming at Leatherwood Ford to catching crappie in nearby lakes. Tennessee's waterways were my second home and my first love.

Along with the natural beauty, I saw examples of negative human impacts on the region's landscape. My parents purchased our home, adjacent to an abandoned 1960's surface mining operation, soon after reclamation regulations were set in place. For years, black, soot-like dirt covered the side yard in which my sister and I played. Certain corners of the lot behaved like quicksand, with friendly games of tag sentencing more than one pair of new shoes to sink eternally beneath the muck. During mining, bulldozers had hit an underground spring, quickly filling a small valley with water and forcing the company to abandon the area. Despite fences and "No Trespassing" signs, locals frequently swam and jumped into the water from seventy-foot cliffs on the site. I never will forget the day sobbing teenagers arrived at our doorstep exclaiming that their friend had not resurfaced from an ill-fated cliff-dive. Soon

after the young man's funeral, reclamation efforts began.

My conservation education does not end at the Tennessee state line. Frequent visits to family members in the Pacific Northwest have acquainted me with sedimentation issues related to the timber industry. Collegiate participation in the Student Environmental Action Coalition opened my eyes to ecological issues around the country. Living in Florida familiarized me with the environmental effects of decades of re-routing waterways away from the Everglades toward coastal areas. Through it all, I have learned one over-arching lesson: regardless of specific regional shadings, water issues are of paramount importance everywhere.

While remaining committed to environmental issues on a personal level, I have seen my career path flow in a different direction. A public relations professional for more than a decade, I previously worked in the non-profit, corporate, and academic sectors and am thrilled to join the KWRRRI team. My goal always has been to make a difference – to leave the world a little better than I found it. By working with KWRRRI and addressing water resource issues on a professional level, I believe I have an opportunity to do just that.

## Call for Proposals: 2004 Competitive Grants Program

The Institute invites you to submit a proposal for the year **2004 Competitive Grants Program** supported by the U.S. Geological Survey Section 104B program. Funds for the competitive grant awards will be issued to the Institute through the U.S. Geological Survey's Procurement Office. Approximately \$60,000 is expected to be available for this annual program in Kentucky.

Five projects were funded last year with awards ranging from \$6,200 to \$15,000 of Federal support per project. Applicants are required to match each Federal dollar requested to support a project with not less than two (2) non-Federal dollars. Institutional indirect costs may not be charged, but can be claimed as a contribution toward the matching requirement.

In order to stimulate creative and innovative research, the Institute welcomes proposals in all areas of water resources research. Pro-active and innovative scientific, technological, and institutional solutions to water resources research and development needs are particularly sought. (See the National Research Council: *Envisioning the Agenda for Water Resources Research in the Twenty-First Century* – <http://www.nap.edu/books/0309075661/html/>)

Proposals are due to KWRRRI by November 15, 2003. Each proposal received will be reviewed and ranked by the University Committee on Research and Policy. New investigators and faculty/research staff at regional universities are particularly encouraged to apply and will receive special consideration in the ranking and selection process. Selected projects will be announced in December 2003. Funds to support the program are anticipated to be awarded by USGS around March 1, 2004.

Detailed proposal format instructions or additional information may be requested by contacting:

James A. Kipp, Interim Director  
Kentucky Water Resources  
Research Institute  
kipp@uky.edu  
Phone: 859-257-1832



## Media Matters

In August, National Public Radio's *All Things Considered* aired the four-part report *Water in the West: The Past and Present Challenges of Surviving in an Arid Land*. Information on the series can be obtained by visiting <http://www.npr.org/programs/atc/features/2003/aug/water/index.html>.

## Waterworks

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Previous issues of *Waterworks* can be viewed on the KWRRRI web site at <http://www.uky.edu/WaterResources/>



## From Interim Director Jim Kipp

After a hiatus of many months, the Kentucky Water Resources Research Institute is resurrecting its newsletter *Waterworks*. Anna Goodman Hoover was recently hired as communications specialist, and one of her first tasks has been coordinating the preparation, printing, and distribution of this newsletter. A “Meet the Staff” article briefly introducing Anna appears in this issue. I hope that you also will take the earliest possible opportunity to introduce yourself and get acquainted with Anna on a more personal basis.

*Waterworks* will continue highlighting water-related projects and researchers supported through the Institute. We also hope to report on

many of the water-related activities going on throughout the Commonwealth. Please let Anna know of any particular topics that you would especially like to see covered in future issues (aghoov2@uky.edu).

It is very encouraging, during a year when rainfall has been plentiful and the lush green grass has remained throughout the entire summer in the Bluegrass, that so many groups continue working on cooperative and creative solutions to water resource challenges. The Bluegrass Water Supply Consortium, the Pesticide Work Group, the Interagency Technical Advisory Committee on Groundwater, several Watershed Teams and many others continue a

variety of cooperative efforts aimed at improving the management and wise use of our vital water resource. The initial Kentucky Watershed Roundtable held in August was an excellent example of how a wide variety of agencies, groups, and individual citizens can begin working together to better integrate their efforts toward *Solving the Watershed Puzzle*.

As always, please contact the Institute any time that we might be able to better focus and apply our energy and resources toward supporting useful research, education, and information transfer activities in Kentucky.

--Jim Kipp