

## Upper Iowa River Watershed

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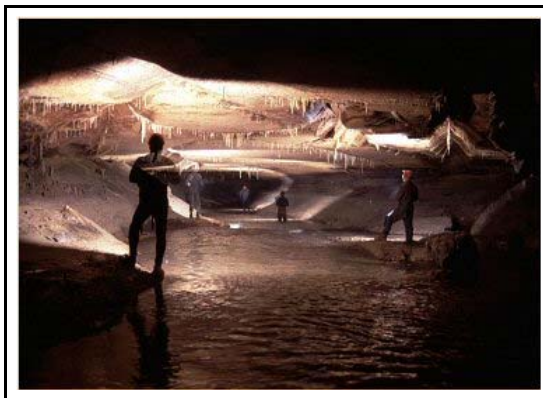
## Upcoming Speakers Discuss Water Quality Issues

As residents of Northeast Iowa, we take pride in our scenic limestone bluffs, winding rivers, and cool springs that are characteristic of the region. However, we often overlook how land and water come together to create our ground water system. Northeast Iowa RC&D, Inc. is sponsoring speakers to discuss this unique system.

Terry Lee gave an informative presentation on February 23<sup>rd</sup> at the Decorah Public Library to a crowd of over 70 people. Lee, Water Coordinator for Olmsted County, discussed the "Decorah Edge" and how development in this unique geographic area has impacted the City of Rochester. The Decorah Edge, named for its presence around the city of Decorah, extends

from north of Rochester, Minnesota, south to Dubuque, Iowa. The land area associated with the Decorah Edge features wetlands that naturally filter the groundwater that supply drinking water for the region's cities and farms.

In April, the public is invited to attend a presentation by Pat Kambesis, Assistant Director of the Hoffman Institute at the University of Kentucky. Pat has spent considerable time in Northeast Iowa studying the Coldwater Cave groundwater basin. The purpose of her research is to identify the relationship between surface and ground water. She will present her preliminary findings at this presentation. Watch for more de-



Researchers in the Coldwater Cave complex  
Photo Courtesy of Pat Kambesis

tails in the coming months.

For more information, please call Northeast Iowa RC&D at (563) 864-7112.

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# Upper Iowa News

February 2004

## Bacteria Source Tracking Project

Thousands of area residents and visitors enjoy the waters of the Upper Iowa River each year. Unknown to most are the contaminants that also find their way to the river. The Upper Iowa River Watershed Alliance has monitored 39 streams in the Upper Iowa River Watershed (UIRW) since 1999 in an effort to identify contaminants in the water, and the potential source of these contaminants, with the goal of improving the water quality in the Upper Iowa River and its tributaries.

Because high levels of fecal bacteria were found in the UIRW, and many people use the river to swim, canoe, and tube, studies were conducted to determine potential sources of fecal bacteria contamination.

The UIRW Alliance realized that some questions needed to be answered—Such as, which tributaries are contributing the most fecal bacteria, and is the bacteria from humans, livestock, or wildlife? Based upon preliminary data, six tributaries to the Upper Iowa River were identified with having elevated bacteria levels, and three were chosen for further study, including Silver Creek

(near Cresco), Coldwater Creek, and Silver Creek (near Waukon). Samples were collected through the UIRW Project in 2002 and 2003 and analyzed by the University of Iowa Hygienic Laboratory. The bacterial DNA studies were conducted as a joint project between the Iowa DNR, Iowa Geological Survey Bureau, the University of Iowa Hygienic Lab, and the Upper Iowa River Watershed Alliance, through the Northeast Iowa RC&D.

The findings of the research indicate the fecal bacteria in the tributaries and in the Upper Iowa River come from a variety of sources, including humans, livestock, and other wildlife such as deer, raccoons, and geese. The fecal bacteria makes its way into the water through various paths, including malfunctioning septic systems, sewage treatment plant discharges, manure spills, runoff from fields after manure application, and even storm water runoff from lands with wildlife or pet droppings.

The Upper Iowa Watershed Alliance will utilize these findings to identify specific projects that will assist in the long-term health of the Upper Iowa River Watershed and reduce bacteria levels in the streams and rivers.



A University of Iowa researcher conducts membrane filtration

Photo Courtesy of  
University of Iowa Hygienic Laboratory



## Trout Run Reforestation Project Update

With the recent addition of Richard Kittelson to the RC&D staff (*see below, left*), the Trout Run Reforestation Project has moved one step closer to its goal of reducing soil erosion in the Trout Run Watershed (*see map, below*).

River Watershed Project have renewed their commitment to the project, and have hired Kittelson to coordinate the project and facilitate communication between the Trout Run landowners and participating agencies.

The Trout Run Reforestation Project began in 2001 in an effort to encourage landowners to reforest steep, highly-erodible, cropped slopes, called "hot spots". These hot spots contribute to a growing amount of sediment and phosphorus being emptied into the Upper Iowa River each year. The Trout Run sub-watershed was targeted for the reforestation project because it is one of the sub-watersheds contributing the greatest amount of sediment and phosphorus to the Upper Iowa River.

Unfortunately, due to many variables, including the complicated nature of the paperwork associated with using the General CRP sign-up, pulled funding, and a transfer of CRP sign-up responsibilities from NRCS to the Farm Service Agency, the project was delayed. Northeast Iowa RC&D and the Upper Iowa

As Project Coordinator, Kittelson will be working closely with landowners in the Trout Run watershed to help them find ways to incorporate forestry into their long-term farm plans.

Through partnerships with the Iowa Farm Bureau Federation, the U.S. Forest Service, the Iowa DNR Bureau of Forestry, and the McKnight Foundation, Northeast Iowa RC&D has been able to secure landowner incentives for reforestation efforts in the Trout Run Watershed. The funding piggybacks off the existing CRP programs available to landowners.

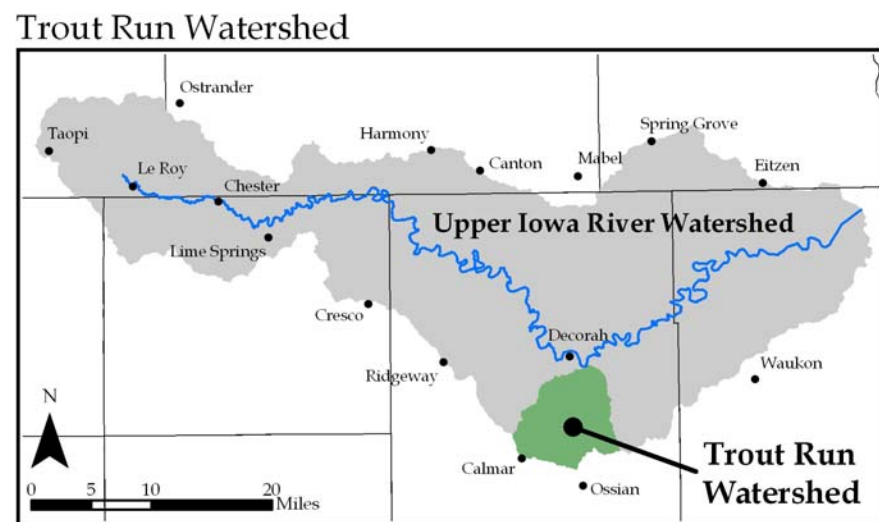
For more information on the Trout Run Reforestation Project, please contact Richard Kittelson at (563) 864-7112 or [kittelson@netins.net](mailto:kittelson@netins.net).

**Reforestation efforts could greatly reduce the amount of sediments and phosphorus emptying into the Upper Iowa River each year.**

### Trout Run Reforestation Project



Richard Kittelson has recently been hired by Northeast Iowa RC&D, Inc. as the Trout Run Reforestation Project Coordinator. Kittelson received his degree in Arboriculture from Northeast Iowa Community College in May 2002, after returning to the area from Oregon.



## Kiel Hired as GIS Specialist

Adam Kiel has recently been hired as a GIS Specialist for Northeast Iowa Resource Conservation and Development (RC&D), Inc., located in Postville.

He will be using Geographical Information Systems to evaluate the Upper Iowa, Yellow, and Turkey watersheds. The information he gathers will be used to develop affordable, volunteer solutions for water quality improvements. He will also be working closely with the Allamakee, Winnesick, and Howard County Soil and Water Conservation Districts to help them maximize state and federal conservation dollars.

A native of Decorah, Kiel is returning to Northeast Iowa after working with the National Parks Service in Yellowstone National Park as GIS Specialist. He has also served as GIS Specialist in Madison, Wisconsin in the Office of Land Information Services and GIS Manager for the City of Onalaska, Wisconsin.

Kiel received his Bachelors of Science in Geography from the University of Iowa in December 2000, with an emphasis in Environmental Science and Geographical Information Systems.



In the GIS Specialist position at Northeast Iowa RC&D, Kiel will be using Geographical Information Systems to evaluate the Upper Iowa, Yellow, and Turkey watersheds. The information he gathers will be used to develop affordable, volunteer solutions for water quality improvements. He will also be working closely with the Allamakee, Winnesick, and Howard County Soil and Water Conservation Districts to help them maximize state and federal conservation dollars.

## From Adam's Desk...A GIS Update

For those who are unfamiliar or new to the idea of GIS, I will start from the top. GIS, or Geographical Information Systems, is a computer application that combines layers of information to give you a better understanding of an area. The layers of information that are combined depend on the objective—finding the best location to target for resource protection, analyzing environmental characteristics, detecting land use patterns, and so on. Remember, GPS is not GIS. GPS, or Global Positioning System, is a tool used to collect location information that can be used in a GIS.

How is GIS helping the Upper Iowa River Project? GIS has been, and will continue be, utilized to accomplish many goals of the Upper Iowa River Project. Recently GIS has helped to identify areas that will be targeted for the Trout Run Reforestation Project. GIS aided this project by identifying areas that meet certain qualifications of soil type, slope and native vegetation. In the next few weeks, a livestock and septic

system survey will be conducted in six sub-watersheds of the Upper Iowa. The data that will be collected will not be used to target individuals, but rather, to analyze sub-watershed trends and identify potential new project areas within the watershed that will be targeted for voluntary assistance programs. This work is the next step in reducing the fecal bacteria levels in the streams in the Upper Iowa Watershed (see article, "Bacteria Source Tracking Project", front page).

Many organizations across the region have been, and will continue to be, a crucial asset to the success of GIS at Northeast Iowa RC&D. It is important in this high-tech field to share information and data, and I would like to thank those that have assisted with the project. The included map is one that was created using data from agencies in two different states. The map shows the probability of sinkholes based on densities of known sinkholes.

Upper Iowa River - Sinkhole Probability Map

