

## Private well testing and education program leads to comprehensive water study

### **Issue: Drinking water quality, health, and lack of information**

In a 1999 UW-Extension Community Needs Assessment Survey, residents of Iowa County identified groundwater education as an important issue and need.<sup>1</sup> Several towns had also identified groundwater quality as a priority in the beginning stages of comprehensive planning processes.

At this same time the Land Conservation Department received a grant through the Environmental Quality Incentives Program (EQIP) that included money for well testing. Iowa County was eligible for this EQIP grant because of its location in the Ludden Lake watershed area, which was considered a [Priority Watershed](#). This was the first step in developing a county wide drinking water education program.

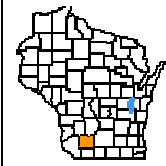
### **Approach: Well testing and drinking water education program**

The newly hired Community Natural Resources and Economic Development (CNRED) educator became the person responsible for implementing the well testing program. The CNRED educator did extensive outreach about the program including meeting with all 14 town boards.

The program was implemented on a town by town basis. It took two months to test and hold educational sessions for each town, and three years to do the entire county. News releases were sent out offering to test residential wells in the towns while town chairs and board members promoted well testing in their meetings. A newsletter was sent out annually to each resident of the respective towns where testing was being promoted. Towns contributed \$100 each for newsletter postage.

Residents registered for well testing with their town clerk, who gave them a bottle and directions for how to collect the water sample. Residents gathered their water sample in the bottle, returned it to the clerk and the sample was taken to the testing lab. Residents later attended an educational session where they received their test results.

For the first round of testing the bottles and tests were paid for by the EQIP grant. Afterwards, residents were charged \$30-\$40 for the bottle (depending on the test), which covered the cost of testing and postage.

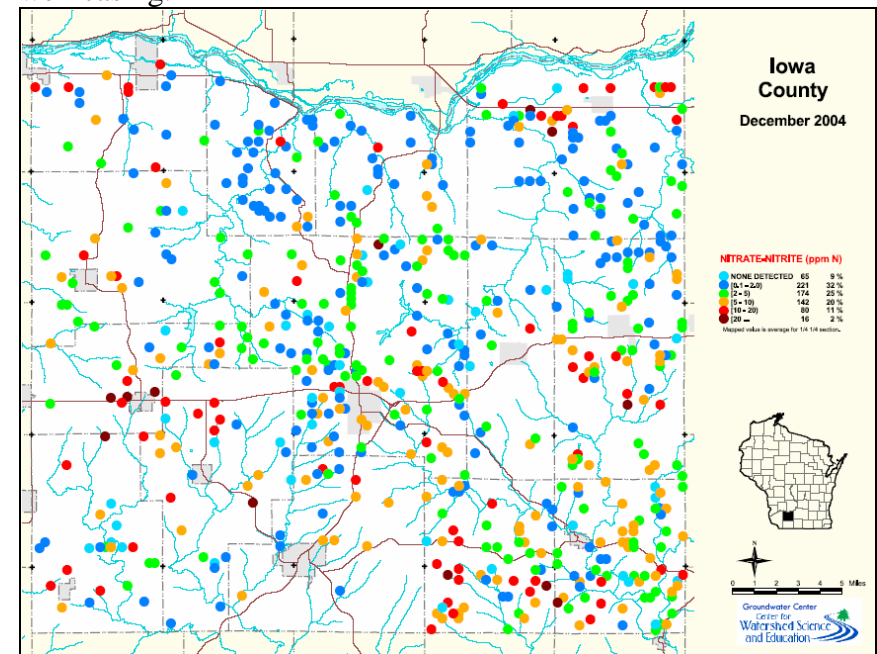


*Iowa County is a rural county in southwestern Wisconsin. Agriculture is practiced on approximately 75% of the land. Most soils are well drained so contaminants tend to move more quickly through the soil.*

This program has become very popular. All towns have been tested once and some towns have been tested twice. In 2002, three years after starting the program, 350 wells had been tested. As of 2005, over 900 wells had been tested since the beginning of the program.

### **Initial results**

Test results showed that there were some wells higher in nitrate and coliforms than the state average. About 40% of the wells tested had some trace amounts of atrazine, a common agricultural chemical. Education is still needed; many residents did not know how deep their wells were, when their water was last tested, and whether they had a well casing.



*This map shows known nitrate levels in Iowa County. The dots represent the average nitrate level of each 1/4, 1/4 section. Concentration increases from light blue to dark red. Red and dark red dots represent samples that exceed the health standard for nitrate.*

## Reflections on Well Testing and Education Program

**“Education is fairly non-threatening and can have a big impact”** – Paul Ohlrogge, Iowa County CNRED educator

### **Weaknesses**

Since the well testing is voluntary, some households who have contaminated water may not be aware of it. Furthermore, these same households will miss out on the educational component of the testing program and may not realize why it is important to test their water.

### **Strengths: Educational “payoff”**

The strategy of using education to improve groundwater is fairly non-threatening if done in the right way. Iowa County has many items to point to that show education can have an impact.

#### General awareness

- In the second round of testing, people have been asking more “sophisticated” questions, like “how can I plant native vegetation,” and “what is the source of our groundwater?”.

#### Groundwater protection and treatment

- One village and the neighboring towns have adopted a wellhead protection ordinance since this well testing program began.
- As a result of testing, some residents have installed anion exchange filters to reduce nitrate levels in areas where it was necessary. Other residents have put well casings further down on existing wells. And people who are installing new wells have requested information and put well casings down further than required. Well casings are steel or plastic pipe installed while drilling a well, to prevent collapse of the well bore hole and the entrance of contaminants.<sup>2</sup>
- The county’s well abandonment program has also become more popular since the testing program began. The cost sharing available for abandoning a well has been fully used during 2002 – 2005.

#### **Sources:**

1. Ohlrogge, Paul. Drinking Water Quality in Iowa County. September 2002
2. EPA. <http://www.epa.gov/seahome/well/src/construc1.htm>

#### Incorporation into comprehensive planning

Groundwater has been a very conspicuous issue and topic in the comprehensive planning process that Iowa County is undertaking. Town Plan Commissions began asking to use groundwater data as criteria for citing development such as feedlots, automobile shops, subdivisions, etc. They wanted to know if they could make assumptions based on well test results. While it was determined that this was not the most reliable criteria, overall town plan commissions feel like they have learned a lot from the well testing program.

#### Participation in comprehensive groundwater study

Iowa County decided to apply for a Wisconsin Geological and Natural History Survey (WGNHS) grant to conduct an in depth water study. The grant would fund the development and collection of detailed groundwater data including: a water study and map, and geology map showing aquifers and bedrock, aquifer thickness, aquifer vulnerability, and residential and high capacity well construction. Information from this study *could* be used for criteria in siting new development.

As of spring 2005, residents are interested in the WGNHS project and are asking when the information will be available. A new Iowa County Groundwater Committee made up of local citizens and elected officials was formed in early 2005. This committee is working closely with WGNHS on the groundwater study.

### **Conclusion**

The well testing and education program has brought many benefits. It has been effective at spurring proactive groundwater protection efforts including the current discussion about planning for future groundwater protection.

*This case study was written by Bobbie Webster, Lynn Markham and Paul Ohlrogge*

#### **For more information:**

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