

# The NEBLINE<sup>®</sup>

UNIVERSITY OF  
**Nebraska**  
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University of Nebraska Cooperative Extension in Lancaster County  
"Helping Nebraskans enhance their lives through research-based education."

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## Special Insert: Guide to Recycling



# Norris Students Get a Grade of Job "Well" Done in Innovative Project

David Smith  
*Extension Technologist*

In 2000, John Chess, water quality supervisor for Lincoln/Lancaster County Health Department and Doug Malone, educator for Norris Public High School had an idea to test private wells in Lancaster County in a different and original way. Based on this idea, a grant was obtained from the Nebraska Department of Environmental Quality and the "Safe Water Tomorrow Through Pollution Prevention Today" project was created to test and map 600 private drinking wells in southern Lancaster County.

What made this endeavor unique was all the work would be done by Norris High School students involved in the Future Farmers of America (FFA) program. Another innovative component of this project was the use of advanced technology; GPS (global positioning system) to map the wells and GIS (geographic information system) to construct a database and manage all the collected geographic information.

Getting the project started at Norris was a perfect fit for Chess and Malone. Malone had already initiated a program in partnership with the University of Nebraska Cooperative Extension in Lancaster County to introduce the students to GPS and GIS, so the background and education was already in place for that component of the well-testing project. Starting in 1998, Extension Technologist, David Smith, had been educating the Norris students about the use and application of these technologies in a series of hands-on activities and classroom lectures. The reputation and history of success Norris FFA has enjoyed made their involvement in the project a positive for Chess. "If you want to see kids that are hardworking and committed, go to a Norris FFA meeting," said Chess.

Malone has since taken another position at Norris, and two other teachers have supervised the project including Kristyn Harms, the current agriculture teacher at Norris Public Schools. Smith has taken the role of geographic technology supervisor, while Holly Woldt, a UNL employee, has served as the coordinator for the entire project.

To obtain the 600 wells



Norris students test a well-water sample at a "Test Your Well Night" event.

needed for testing, six "Test Your Well Nights" were established in smaller towns in southern Lancaster County and one at the Lancaster County Fair. At these events, county residents received educational material about well pollution and could bring a sample of water from their well and have it tested for nitrates by students. "These events really did a great job of bringing the students and the community together," said Kristyn Harms, "and they also gave students an opportunity to educate adults about the environment."

After receiving an address for each well, students use hand-held GPS receivers to map the specific location of the well and then download the geographic location into a computer.

Important attributes for each well (test result, type, etc.) are added to the well location collected using GIS software and the information is incorporated into a well database. The students have a mapped location of every well tested, with all the information describing those sites in the computer database, or "well" GIS.

"Safe Water Tomorrow Through Pollution Prevention Today" has enjoyed success at both a local and national scale. Governor Mike Johanns selected this project to represent Nebraska at the National Youth Watershed Summit in Edgewater, Maryland in October 2002. At this conference, attended by 47 state-representing schools, the Norris FFA presentation of the well testing project

won third place receiving \$1,250 in scholarship money. Norris was also chosen to present the project in November at the 2002 Groundwater Foundation Conference in Eugene, Oregon.

Other rural high schools are expanding the project with Raymond Central in the beginning phase of testing and mapping northern parts of

**"There is nothing more rewarding than seeing the students' commitment to the environment and the accomplishments they have achieved in this venture,"**

—John Chess  
Lincoln/Lancaster County  
Health Department



David Smith, extension technologist, teaches students how to collect geographic data using a hand-held GPS receiver.

Lancaster County. The cooperation, education and community interaction resulting from this project makes it a great model for high schools even beyond the border of Lancaster County. A CD was also produced to help instruct and guide any school interested in duplicating this activity. "There is nothing more rewarding than seeing the students' commitment to the environment and the accomplishments they have achieved in this venture," commented Chess.

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