



National Water Monitoring Day

Grand Island, Nebraska, Groundwater Guardian Team Participation

Groundwater Guardian Featured ROA

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October 18, 2002 marked the 30th anniversary of the enactment of the Clean Water Act. As part of the "Year of Clean Water," declared by President George W. Bush, and the 30th anniversary of the Clean Water Act, USGS and other organizations partnered with America's Clean Water Foundation to sponsor National Water Monitoring Day. Citizens, water quality professionals, students, government officials and others from across the nation were invited to participate in National Water Monitoring Day to sample local water quality. USGS personnel worked with local groups and organizations to monitor chemical, biological, and physical aspects of streams, rivers, and groundwater at National Monitoring Day events.

The Groundwater Foundation worked with USGS, the 2002 national co-sponsor of the Groundwater Guardian program, to promote local monitoring events to Groundwater Guardian Communities as an opportunity for education, awareness, public stewardship, building partnerships, and celebration.

The Grand Island Groundwater Guardian team, led by Roger Andrews, met with Foundation President Susan Seacrest, who suggested that Grand Island participate in National Water Monitoring Day and sponsor a local event. The team agreed that it would be a worthwhile activity and community event, and coordinated with the USGS Nebraska District, Grand Island Kiwanis Club, and The Groundwater Foundation to host a local National Water

Monitoring Day event on October 18.

Grand Island's event involved a classroom visit, luncheon, and sampling procedures demonstration. Students at Grand Island Northwest High School heard Nebraska District Chief Bob Joseph and Dan Hitch talk about the various responsibilities of USGS and the value of monitoring on the morning of October 18th. Groundwater Guardian team member Julie Frandsen also performed nitrate testing on domestic well samples brought in by team and Kiwanis Club members. Most samples were under 10 parts per million (ppm), but one sample registered over 30 ppm. Joseph then spoke to the Kiwanis Club and Groundwater Guardian team members at lunch about the history, mission, and current projects of USGS.

While USGS also deals with geology, geography, and biology, Joseph noted that the Nebraska District operated in the water resources discipline of the survey, focuses on providing water quality data, stream flow rates, groundwater levels, and modeling. Joseph reported on the current work of USGS on the National Water Quality Assessment (NAWQA) program projects in Nebraska, which describe current water quality conditions, examine long term water quality trends, and identify human and natural factors that may impact water quality. The High Plains Regional Groundwater study examines the High Plains Aquifer system, which underlies the states of Nebraska, South Dakota, Wyoming, Colorado, Kansas, Oklahoma, New Mexico, and Texas. The Central Nebraska



▲ Julie Frandsen tests domestic well samples for nitrates.

Basins Study, also part of the NAWQA program, deals with the Loup, Elkhorn, and Platte basins in Nebraska examining various aspects of water quality.

Joseph also spoke about the data provided by USGS, and particularly the need for consistency and comparability in data. All processes are standardized throughout USGS for sample collection and analysis, so a sample collected in Grand Island, Nebraska could be compared with a sample taken by USGS elsewhere in the country.

Jennifer Stanton of the Nebraska office was also on hand to demonstrate various sampling techniques and procedures. Stanton spoke of the importance of data accuracy and the challenge of preventing sample contamination. NAWQA water quality samples are analyzed for approximately 200 constituents, including metals, volatile organic compounds, nutrients, dissolved solids, and gases. Stanton mentioned that when in the field, often only one well is sampled per day due to the rigorous protocol required and USGS scientists are

extremely careful to prevent contamination.

Gary Mader and Andrews of the Grand Island Groundwater Guardian team spoke to the group about the team's purpose and activities. Grand Island has been a Groundwater Guardian since 1996 and the team works to raise public awareness through activities such as participation in the Children's Groundwater Festival, Grand Island Earth Day, a county-wide Household Hazardous Waste Clean-up Day, and National Water Monitoring Day.

The Groundwater Guardian team presented a National Water Monitoring Kit to the Northwest High School Future Farmers of America (FFA) class as a part of the event. The kit tests for four key water quality measurements: dissolved oxygen, pH, water clarity, and temperature. The Groundwater Guardian team plans to continue to work with the group to perform contaminant source inventories and wellhead protection activities for area communities in the future.

The Grand Island event was among over 2,500 other monitoring events throughout the country on National Water Monitoring Day which collectively involved more than 80,000 Americans, reported at www.yearofcleanwater.org. Data collected from National Water Monitoring Day are available from USGS at www.usgs.gov.

Other Groundwater Guardian teams participating in local National Monitoring Day events and working with their local USGS included North Platte, Nebraska; Mint Hill, North Carolina; Steele Creek, North Carolina; and Sequim-Dungeness, Washington.