Groundwater Guardian is a program of The Groundwater Foundation.
www.groundwater.org
Groundwater Guardian Communities

ALABAMA
- Eufaula
- Limestone County
- New Brockton/Coffee County

CALIFORNIA
- Desert Hot Springs
- Desert Hot Springs High School
- Desert Springs Middle School
- Orange County Water District

FLORIDA
- Hernando County

IDAHO
- Boise City

ILLINOIS
- Loves Park
- McDonough County
- Rock Falls, City of

INDIANA
- Carmel
- Elkhart
- Indianapolis-Marion County
- Marion
- Valparaiso

KANSAS
- McPherson County

MASSACHUSETTS
- Barnstable County (Cape Cod)

MICHIGAN
- Battle Creek, City of
- Coldwater
- Greater Lansing Area
- Kalamazoo, City of
- Marshall, City of
- Michigan State University
- Texas, Charter Township of

MINNESOTA
- Detroit Lakes, City of
- Holy Rosary Catholic School
- Rossman School - Detroit Lakes

MISSOURI
- Independence
- Sedalia

NEBRASKA
- Beatrice
- Cargill Team Blair
- Grand Island and Surrounding Area
- Keith County
- Lincoln
- Sidney
- Trenton, Village of

NEVADA
- Las Vegas Valley

NEW HAMPSHIRE
- Merrimack

NEW JERSEY
- Stafford Township

NEW YORK
- Harriman, Village of
- Wallkill, Town of
- Warwick, Village of

NORTH CAROLINA
- Mecklenburg County
- Orange County

OHIO
- Brown County
- Dayton Multi-Jurisdictional Source Water Program
- Hamilton to New Baltimore
- Springfield
- Wright-Patterson Air Force Base

OREGON
- Southern Willamette Valley Groundwater Management Area
- Springfield

PENNSYLVANIA
- Buhl Community Water
- Carbon County
- Meadville Area
- Shrewsbury Borough
- Washington County
Groundwater Guardian Communities

RHODE ISLAND
North Kingstown

TENNESSEE
Memphis and Shelby County

TEXAS
North Plains Groundwater Conservation District

WASHINGTON
Renton

WISCONSIN
Calumet
Chippewa Falls
Kewaunee County
Marshfield Area
Milladore Area

WYOMING
Casper Aquifer Protection Network

CANADA
ONTARIO
Cambridge, City of

Groundwater Guardian Affiliates

ALABAMA
Alabama Department of Agriculture and Industries
Alabama Dept. of Environmental Management

CALIFORNIA
Alameda County Water District
Mission Springs Water District
Santa Clara Valley Water District
Water Education Foundation

ILLINOIS
Central Regional Groundwater Protection Planning Committee
Northeastern Regional Groundwater Protection Planning Committee
Northern Regional Groundwater Protection Planning Committee
Southern Regional Groundwater Protection Planning Committee

MICHIGAN
U.S. Geological Survey (USGS) Michigan Water Science Center

NEBRASKA
U.S. Geological Survey (USGS) Nebraska Water Science Center
University of Nebraska-Lincoln Water Center

NORTH CAROLINA
Mecklenburg County Groundwater & Wastewater

OHIO
Miami Conservancy District

PENNSYLVANIA
Pennsylvania Rural Water Association Source Water Protection Program
**Community Profile:**

The 15,000 people who live in Eufaula receive all of their drinking water from local groundwater supplies. The City's drinking water supply is currently threatened by ground contamination and security issues. Eufaula's Groundwater Guardian team wants to protect its groundwater through educational outreach to all age groups in the public.

**Result Oriented Activities:**

Held the 2013 annual groundwater festival for 4th grade students in Barbour and Bullock counties. Over 440 students, presenters, and parents participated in the festival which presented the edible aquifer, water cycle bracelet, and drop in the bucket activities and focused on water conservation and the importance of protecting groundwater supplies.
Limestone County AL


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Community Profile:

The rural areas of Limestone County are experiencing contamination due to run-off from large agricultural operations. Rapid growth in these areas has also put stress on the water system, prompting the installation of an additional supply well. Limestone County uses Groundwater Guardian to advise the public about the importance of groundwater protection and sharing ways to prevent groundwater contamination.

Result Oriented Activities:

Sponsored and coordinated the 2013 Limestone County Groundwater Festival. Over 1,100 students and teachers throughout the county participated in the event, which featured water cycle bracelets, edible aquifers, and filtration activities, plus a show from an eco-magician. The 2013 theme was "Peace, love, and Clean Drinking Water."
New Brockton/Coffee County AL


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Community Profile:

Coffee County is home to 45,000 people that utilize groundwater as a drinking water source. The Coffee County Groundwater Guardian team works to prevent groundwater contamination by increasing public awareness about the importance of groundwater as a drinking water source for county residents, encouraging the protection and preservation of groundwater supplies, and instilling groundwater protection practices in students' lives.

Result Oriented Activities:

Held the annual Coffee County Groundwater Festival for nearly 800 4th grade students, teachers, volunteers and parents. At the festival, students rotated through three stations where they learned about aquifers, water pollution, filtration, and the water cycle.
Community Profile:
A unique environmental situation exists within the community of Greater Desert Hot Springs. The area’s 25,000 residents rely on groundwater for all of their drinking water needs. Residents and visitors from around the world have the opportunity to enjoy both cold and hot water naturally occurring in groundwater aquifers. Separated by the Mission Creek Fault, the cold water aquifer supplies the Greater Desert Hot Springs Community with award-winning drinking water supplied by the Mission Springs Water District, while the hot water aquifer draws visitors to the city’s renowned spas providing a tourism base. The Desert Hot Springs Groundwater Guardian team works to protect the community’s pristine groundwater resources against contamination for its economic well-being and for future generations.

Result Oriented Activities:
Continued the "Newspapers in Education" program with DHS High School and Desert Springs Middle School to provide hands-on opportunities for students to learn about groundwater. A special newspaper supplement, "Groundwater and You," was reprinted and redistributed to spread the word about groundwater conservation, preservation, and protection. The program reaches over 1,500 high school students annually. -- Collaborated with local school district and the Wildlands Conservancy to provide "Desert Watersheds: From Source to Sand" field trips for 4th and 5th grade students focusing on educating the students about the water cycle, desert wetland systems, and water conservation. Over 5,000 students have participated in the field trips. A trip to Cabot’s Pueblo Museum was added during the 2012-13 school year. In addition, students participated in the Waterboxx Project, a tree-planting initiative. -- Maintained information about the Desert Hot Springs team on the Mission Springs Water District website.
Community Profile:
A unique environmental situation exists within the community of Greater Desert Hot Springs. The area's 25,000 residents rely on groundwater for all of their drinking water needs. Residents and visitors from around the world have the opportunity to enjoy both cold and hot water naturally occurring in groundwater aquifers. Separated by the Mission Creek Fault, the cold water aquifer supplies the Greater Desert Hot Springs Community with award-winning drinking water supplied by the Mission Springs Water District, while the hot water aquifer draws visitors to the city's renowned spas providing a tourism base. Desert Hot Springs High School is also a designated Groundwater Guardian Green Site, and works to protect the community's pristine groundwater resources against contamination for its economic well-being and for future generations.

Result Oriented Activities:
Continued the "Newspapers in Education" program with Desert Hot Springs and Desert Springs Middle School to provide hands-on opportunities for students to learn about groundwater. A special newspaper supplement, "Groundwater and You," was reprinted and redistributed for a to spread the word about groundwater conservation, preservation and protection. The program reaches over 1500 students each year at the school. -- Continued participation in the "Desert Watersheds: From Source to Sand" field trip program. Over 5,000 students have participated in this annual four-hour field trip program to the Mission Creek Preserve.
Community Profile:

A very unique environmental situation exists within the community of Greater Desert Hot Springs. The area's 25,000 residents rely on groundwater for all of their drinking water needs. Residents and visitors from around the world have the opportunity to enjoy both cold and hot water naturally occurring in groundwater aquifers. Separated by the Mission Creek Fault, the cold water aquifer supplies the Greater Desert Hot Springs Community with award-winning drinking water supplied by the Mission Springs Water District, while the hot water aquifer draws visitors to the city's renowned spas providing a tourism base. Desert Springs Middle School works to protect the community's pristine groundwater resources against contamination for its economic well-being and for future generations.

Result Oriented Activities:

Continued the "Newspapers in Education" program with Desert Hot Springs and Desert Hot Springs High School to provide hands-on opportunities for students to learn about groundwater. A special newspaper supplement, "Groundwater and You," was reprinted and redistributed to spread the word about groundwater conservation, preservation and protection, reaching over 500 middle school students annually. -- Continued participation in the "Desert Watersheds: From Source to Sand" field trip program. Over 5,000 students have participated in this annual four-hour field trip program to the Mission Creek Preserve. Students also participated in the Waterboxx Project, a tree-planting initiative.
Groundwater provides 68 percent of the drinking water for the 2.4 million residents living in Orange County. However, Orange County residents are unaware that groundwater is a primary source of drinking water. In addition, groundwater education in the county is minimal, and more public outreach regarding water conservation and reuse is needed to reduce residents' dependence on imported water. Stormwater and nonpoint source pollution has recently become a threat to both ground and surface water sources. Orange County uses the Groundwater Guardian program to develop innovative methods to provide groundwater information to adults, disseminate information to the community about reliance on groundwater, and mobilize community members to participate in pollution prevention activities.

Result Oriented Activities:

Participated in various Orange County community events to distribute groundwater education and conservation materials, including corporate environmental fairs, Green Expos, elected official open houses, and more. -- Hosted the Children's Water Education Festival. This two-day annual event is attended by nearly 7,000 fourth, fifth and sixth grade students attended the festival. Additionally about 1000 volunteers, teachers and parents participated. Over 100,000 students have participated in the festival since its inception. -- Provided tours of and presentations about the Groundwater Replenishment System. These include information about groundwater as source water, the importance of water conservation, and how recycled water projects are vital to local water supplies.
Hernando County's 173,249 residents receive 100 percent of their drinking water from local groundwater sources. The inter-relationship of karst formations, stormwater, and saltwater intrusion currently threaten the quality of the area's aquifer. The County is working to provide a sufficient, safe and adequate supply of groundwater now and for the future by developing and implementing conservation strategies countywide. Hernando County uses the Groundwater Guardian program to identify problems, concerns, threats, challenges, opportunities, and solutions and to research, identify, and implement programs and projects to restore and protect the area's groundwater.

Result Oriented Activities:

Maintained and updated the Hernando County Groundwater Guardian Website, which features meeting notices, workshop dates, groundwater protection action items, and activities. -- Launched the Florida Friendly Landscaping program (formerly Florida Yards and Neighborhoods) to provide public information and educational opportunities dealing with Florida-friendly lawn and landscaping practices to protect the quality and quantity of groundwater in the county. Eighty-five residents attended the annual Florida Friendly Landscaping Workshop. The workshop was also broadcast on the local government broadcast channel. Workshop participants received a $5 water bill credit for attending the workshop. -- Educated area residents on the karst sensitive nature of Hernando County's geology and hydrogeology through a series of seminars, the Hernando County Water Awareness Series 2013, attended by 547 people. The seminars are also televised on the local government channel to reach a broader section of the community. -- Held the 2013 best management practices workshop in coordination with local governments and the Southwest Florida Water Management District, with the title 'Your Water, Your World: What does Water Quality Mean to You?' This workshop is held every two years and targets decision makers, community leaders, developers, builders, and citizen's interests.
Community Profile:

United Water Idaho supplies the 210,000 residents of Boise with all their drinking water. Approximately 80 percent of Boise's drinking water is supplied by groundwater. Declining water levels, groundwater contamination, drought, and increased demand are of concern. Boise uses Groundwater Guardian to energize support, knowledge and interest in protecting and conserving groundwater supplies.

Result Oriented Activities:

Continued education and outreach projects during Water Awareness Week in May, including classroom presentations, teacher training, and tours at the Boise WaterShed Environmental Education Center. Other activities take place during the school year to supplement the weeklong celebration of water, including field trips to area wastewater and drinking water plants. The Governor of Idaho issued a statewide proclamation for Water Awareness Week. -- Continued to sponsor a series of water-efficient landscaping courses in partnership with the University of Idaho Extension Service that was attended by approximately 400 people. The workshops provided information about water conservation, reducing fertilizer and pesticide use, and selecting appropriate plants for the Boise area. -- Participated in the Weather in your Watershed Day at the Boise WaterShed Environmental Education Center. Information and activities about groundwater were provided.
Loves Park IL


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Community Profile:
The 23,996 people who live in Loves Park receive all of their drinking water from local groundwater supplies. Currently, one municipal well finished in the shallow sand and gravel aquifer is at risk for groundwater contamination from several sources within the well's ten year capture zone. An abandoned landfill, numerous small businesses generating auto and industrial wastes, and a residential area with abandoned wells on most properties contribute to the possibility of contaminants reaching the drinking water supply. Loves Park uses Groundwater Guardian to develop public awareness and understanding of what can impact the quality of the city's water supply, raise awareness about water protection, and encourage businesses and residents in the capture zone to voluntarily protect their drinking water source.

Result Oriented Activities:
Continued to sponsor an annual Youth Groundwater Festival for more than 700 sixth grade students and nearly 100 volunteers and presenters at Rock Valley College. -- Continued to inventory private wells within the municipal boundary of the City of Loves Park. Any wells located are sealed and connected to municipal water as funding becomes available. A residential area not served by City water or sewer in a soon to be adopted Tax Increment Financing District is now included, providing a funding mechanism necessary to serve this residential area with City water and sewer services.
McDonough County IL

Community Profile:

McDonough County is home to 32,393 residents, as well as a major university, a number of small businesses, ten incorporated communities in various stages of development and excellent farmland. This great economic diversity, together with local landfill expansion, commercial animal confinement operations, and unsewered communities, combine to increase the type and number of concerns related to potential groundwater pollution. Most recently, an over-abundance of phosphate in Macomb's reservoir has become a concern. McDonough County uses the Groundwater Guardian program to expand public education programs in order to keep the population informed about the aquifer and its vulnerability to pollution, as well as to help the public understand where their water supply comes from.

Result Oriented Activities:

Provided free water testing kits for coliform and nitrates to area residents as a part of Drinking Water Week. Distributed a total of 65 water testing kits at the county health department and a local farm supply store. Many residents have begun returning each year, illustrating the understanding of the need to annually test well water. -- Presented a booth, activities, and distributed information and materials about preventing groundwater contamination at the Western Illinois University Environmental Summit, attended by 350 people. -- Held a Conservation Day, presenting information about groundwater and surface water pollution prevention to 300 area 5th grade students. -- Continued installing sewer medallions reminding people not to dump chemicals into storm sewers to prevent pollution of nearby streams. The team will continue to involve local high school students and Macomb Public Works in the project. -- Held a well sealing demonstration and provided handouts about the process and importance of properly sealing wells.
Rock Falls, City of IL

Community Profile:
Public wells provide the 9,700 residents of Rock Falls with 85 percent of their drinking water. The chief concerns are nitrates, arsenic, VOC's and SOC's in the water. Rock Falls uses Groundwater Guardian to help educate the public about groundwater.

Result Oriented Activities:
Provided groundwater presentations to seven area schools 5th and 10th grade classes, reaching approximately 335 students. The presentations included information on the local aquifer that provides drinking water for the community, as well as a flow model set up to demonstrate the function of shallow aquifers. -- Provided a $1000 scholarship with the local electric department to a senior high school student.
Carmel IN

Community Profile:
Carmel is home to over 77,000 people. Because the community relies 100% on groundwater and because the community is growing, concerns have arisen about efficient water usage and persisting drought conditions. Carmel uses Groundwater Guardian to bring awareness to the City's Wellhead Protection Areas and spread the word about the importance of efficient water use and water conservation.

Result Oriented Activities:
Distributed a newsletter called "The Full Circle" to all water customers (75,000 people) with information about conservation and the household hazardous waste collection center. -- Promoted efficient irrigation through the production and distribution of a video, "Intelligent Irrigation," available on government access television, YouTube, and on the Utility's website. -- Participated in a number of community events, including a Public Safety Day, an open house for the new water plant, Earth Day/Arbor Day, CarmelFest, and Chamber of Commerce events. Information was distributed and education displays set up. -- Held an electronics recycling event, where over 800 residents dropped off more than 13 tons of electronics to be recycled. -- Held a second electronics recycling event as part of a pharmaceutical disposal event which collected more than 15 tons of electronics from 1,000 residents.
Community Profile:
Groundwater provides 100 percent of the drinking water to 50,000 residents living in the City of Elkhart. Several sites within the community have been included on the Superfund National Priority List due to a threat of contamination from chemicals such as TCE. These threats have caused a great deal of concern for area residents who rely on groundwater for all of their drinking water needs. Elkhart uses the Groundwater Guardian program to increase public awareness and understanding about groundwater issues, to encourage citizens to become more involved in their community and to encourage water conservation and pollution protection.

Result Oriented Activities:
Established an Aquatic Biology program to investigate and evaluate the biological communities in the St. Joseph and Elkhart Rivers and their tributaries. Data was collected from 11 streams at 32 different sampling sites. The program also educated nearly 2,000 people through various events and opportunities. -- Identified and monitored 105 stormwater outfalls for groundwater seep or illicit discharge. Over 1,000 catch basins were cleaned out as part of the effort. -- Held a water conservation seminar, which provided information on Elkhart's drinking water source, water protection, and conservation techniques. Attendees received a water conservation kit. -- Published the City's annual Water Quality Report, which included information about Elkhart's water source. -- Created water education posters for display at the water billing office. -- Organized a cleanup on the Elkhart River that collected 2,440 pounds of trash and 13 tires. -- Conducted "Focus on Groundwater" educational programs at schools and the Elkhart Environmental Center for 129 students. The students explored groundwater and how to protect it using real-world scenarios.
Indianapolis-Marion County IN

Community Profile:
Indianapolis-Marion County's 905,000 residents receive the majority of their drinking water from surface water supplies; however, no additional surface water supplies are available and all growth in the public water supply will come from groundwater sources. Most of the productive aquifers in Marion County are relatively vulnerable to contamination from surface spills. Two of the wellfields are located in older areas of the city with heavy concentrations of industrial and commercial land use. Indianapolis-Marion County Groundwater Guardian is committed to working with owners of potential sources of contamination to teach them best practices.

Result Oriented Activities:
Continued to identify and educate business owners in the county that might be potential sources of groundwater contamination, with a focus on identifying potential contaminant sources and engaging site owners/occupants in an educational dialogue. Over 120 site visits were completed as part of an ongoing face-to-face program. Business owners receive information about groundwater, best management practices, and other resources offered by the Marion County Wellfield Education Corporation. -- Participated in the "Indy Rezone" project, a comprehensive rewrite of the community's zoning ordinance. Specifically, team members have provided input on ordinances pertaining to water and groundwater. A County Health ordinance is also being drafted to regulate activity in wellfield protection areas.
Marion IN

Years Designated: 2013

Community Profile:

Marion is home to 30,000 residents that use groundwater for all their water needs. Many Marion residents don’t know that their drinking water comes from groundwater, and have not been educated on the importance of preventing groundwater contamination. The Marion team uses Groundwater Guardian to educate citizens about the important role groundwater plays in the community and ways they can act to prevent groundwater contamination.

Result Oriented Activities:

Held a "spring cleaning" workshop about the proper disposal of household hazardous waste. -- Hosted 7th and 8th grade students in a visit to Marion Utilities. Students visit several activity stations, including one about groundwater sources and the proper disposal of household materials to protect water from contamination. -- Set up a booth at the local GM outreach event as part of the Energy and Environment activities to share information about water conservation, household hazardous waste disposal, and groundwater contamination prevention. Toilet leak kits and other information were distributed. -- Held a training for over 80% of Utility employees on Marion's water source and wellhead protection plan, enabling utility workers to better educate the community. -- Began coordinating with emergency responders in two counties to exercise emergency response plans in regards to Marion's wells. A workshop will be held to educate emergency responders on the location of local supply wells and wellhead protection areas to test appropriate response procedures. -- Held workshops at the Water Treatment Plant for residents to learn about their water supply and the water treatment process.
Valparaiso IN

Community Profile:
The 30,000 residents of Valparaiso are 100 percent dependent on local groundwater supplies for their drinking water needs. Current groundwater-related concerns and issues include both groundwater quality and quantity, as well as pollution prevention, road salt intrusion, and community outreach and education. Valparaiso uses Groundwater Guardian as a source of ideas and information to further the local wellhead protection program, and to become part of a network to help provide solutions to other communities with similar issues.

Result Oriented Activities:
Hosted National Drinking Water Week activities, which included newspaper articles, children's games and prizes, and information in water bills. -- Distributed the Annual Water Quality Report to over 12,000 consumers, which included information about local wellhead protection efforts and ways citizens can conserve and protect drinking water supplies. -- Distributed a calendar listing household hazardous waste collection events. The calendar was provided to all water customers and landowners in the wellhead protection area, and provides education about the proper disposal of hazardous waste to protect drinking water sources.
Community Profile:

Groundwater supplies the 29,954 residents of McPherson County with 100 percent of their drinking water. Because groundwater is the only source of drinking water for the area, protecting the supply is of the utmost importance. The area remains in an Intensive Groundwater Use Control Area, which prohibits drilling new wells. Nitrate contamination continues to be a major concern in the County. At least two public supply wells have been lost to nitrates, and steps are currently being taken to remediate the wells back into the system. McPherson County uses Groundwater Guardian to promote public awareness by providing accurate information, develop a relationship between the water utility and citizens to promote wise water use, and provide information to educators in local schools.

Result Oriented Activities:

Held an annual Children's Water Festival for local 4th graders. Nearly 600 students participate in hands-on learning activities about the importance of groundwater protection and how actions affect the quantity and quality of the water supply. Students participate in structured learning stations and exhibits about groundwater, recycling, local geology, and potential pollution sources.
Barnstable County (Cape Cod) MA


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Community Profile:
Barnstable County's sandy, permeable soils and shallow depth to the water table make its groundwater particularly vulnerable to contamination. Water resource management efforts on Cape Cod focus on maintaining high quality drinking water within wellhead protection areas, and maintaining and improving water quality in ponds, lakes, rivers, bays, and harbors around Cape Cod. Because development pressures continue to encroach upon all of these areas and because groundwater flows across local boundaries, it is important to develop and implement a regional approach to groundwater protection. Barnstable County has a population of 215,000 with 99 percent relying on groundwater for its drinking water source. Barnstable County uses Groundwater Guardian to sponsor water conservation initiatives, water festivals and other public education activities.

Result Oriented Activities:
Continued to promote water conservation and best management practices through the TOUR (Tourism and Optimal Use of Resources) Program, which informs summer residents about Cape Cod's water resources and ways to conserve them by distributing 400 copies of water conservation materials to local hotels and motels. The materials are currently being modified and will be reprinted and distributed. -- Continued to update and revise the Cape Cod Groundwater Guardian website. The entire site is in the process of being revised with new content. -- Held 11 water festival events for 15 schools with over 2,000 children participating. Teacher/AmeriCorps training sessions were held prior to the events. The festivals focused on five major areas, including hydrology and groundwater, aquatic biology, water pollution sources and solutions, physical concepts, and climate change. -- Held 22 regional household hazardous waste collections, as well as provided technical support to local health departments and pharmacies to provide proper disposal options and education on unwanted medication disposal.
Battle Creek, City of MI


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Community Profile:

Battle Creek uses one prolific wellfield, the Verona Wellfield, as the drinking water source for the city’s 54,000 residents. It is located in the Marshall Sandstone Aquifer, which is fractured and bordered on its east side by a railroad yard. Twenty years ago contamination was discovered in the area and linked to dry cleaning solvents and questionable storage practices. As a precautionary measure, 12 blocking wells are used to protect the city’s 22 production wells, and three backup wells are located in another wellfield. Current industrial activity near the city’s main wellfield is a concern. Battle Creek uses Groundwater Guardian as a resource for goal setting and public education in groundwater protection.

Result Oriented Activities:

Continued the Facility Risk Evaluation Program that offers free, confidential environmental site assessments to businesses within the city’s two wellhead protection areas. The program also offers an emergency spill prevention plan to businesses below the regulatory threshold. -- Worked with area school representatives to incorporate information about stormwater management, wellhead protection, and water quality into school curriculum at the K-12 and community college levels. Science kits were developed and provided to and used in local schools. -- Held the 12th annual Children’s Water Festival for over 9000 4th and 5th grade students. The festival helps educate students about the City’s wellhead protection plan and the interaction between ground and surface water. -- Continued participation in various community events to share general information about groundwater and drinking water protection, household hazardous waste, and responsible use of fertilizers and pesticides with over 2,500 people. -- Enacted a groundwater protection ordinance in partnership with neighboring communities. Work continues on assessing businesses as part of the ordinance. -- Developed and distributed a 2013 wall calendar with water quality protection tips. The team also runs monthly letters to the editor in the local newspaper, radio and movie advertisements, and posted groundwater protection messages on the City’s website and Facebook page.
Coldwater MI


**Community Profile:**

Coldwater's population of 10,555 receives all of its drinking water from four public wells located within a 8.2 square mile area. Protecting the water supply and continuing to encourage conservation are top priorities for Coldwater's Groundwater Guardian team. Coldwater uses the Groundwater Guardian program to bring national attention to local groundwater protection efforts.

**Result Oriented Activities:**

- Continued a Pollution Recycling and Reduction Initiative. Collection events were held for the community as part of the project for items such as batteries, motor oil, CFLs, and other potentially hazardous materials. -- Educated elementary school children about the importance of conservation and pollution prevention through tours of water treatment facility and discussions with students and teachers. -- Included educational information in water bills and the Consumer Confidence Report. -- Continued to update and improve a source water protection program and management plan for the area's drinking water supply. A contaminant source inventory is being updated as part of the program.
Community Profile:
The Greater Lansing Area's 465,000 residents receive 100 percent of their drinking water from local groundwater resources. Currently, groundwater-related concerns are carbon sequestration, unsealed abandoned wells, urban sprawl and additional infrastructure, manufacturing and heavy industry, as well as the ongoing education and involvement of elected officials and the loss of state funding and staff for wellhead protection efforts. The Greater Lansing Area Groundwater Guardian team uses the program to encourage communication among neighboring communities and to provide education to elected officials.

Result Oriented Activities:
Held an annual Children's Water Festival for approximately 1,200 students and 300 volunteers. The hands-on science fair is designed to teach students about the importance of groundwater and how it can be protected, and included a variety of educational sessions and presenters. -- Continued offering a wellhead protection program audit tool to allow communities to evaluate the effectiveness and completeness of their groundwater protection efforts. Three area communities completed audits.
Kalamazoo, City of MI


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Community Profile:

The City of Kalamazoo is an older, urban community with typical known and potential sources of contamination, including industrial and commercial sites. Groundwater provides all of the drinking water for the City's 122,000 water customers. Five of the City's 19 wellfields have had detectable levels of contamination, with two requiring air strippers to remove volatile organic compounds. The Kalamazoo Public Water Supply has 10 franchise agreements to provide water, with capture zones existing within eight jurisdictions. Consequently, land use in all these areas is not specifically or uniformly managed for wellhead protection (WHP) purposes. However, Kalamazoo adopted a new WHP Zoning Overlay and Performance Standards, and actively participates in intergovernmental cooperation with a proactive approach to public education. Kalamazoo uses Groundwater Guardian to plan and implement non-technical WHP Program projects, as well as providing project framework to focus specific efforts.

Result Oriented Activities:

Continued comprehensive public education and outreach efforts, including classroom visits, a radio ad campaign, community events, movie trailer ads, public events, bus placards, articles, website visits, presentations to youth groups, and facility tours. These efforts reach 1,700 people daily from radio ads, 325,000 annually from movie theater ads, tens of thousands from the Metro Bus placard campaign, and approximately 600 from school visits, public events, facility tours, and other events.
Marshall, City of MI


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Community Profile:

The City of Marshall's 7,500 residents rely on groundwater for 100 percent of their drinking water needs. Though there are currently no major problems with local drinking water supplies, residents are concerned about protecting groundwater resources for future uses. Marshall uses Groundwater Guardian to educate local citizens about the need to safeguard water resources and their role in its protection.

Result Oriented Activities:

Participated in the Calhoun County Conservation District's Earth Day celebration. Over 200 students participated and played the Water Jeopardy game to teach them about water resource conservation and protection. -- Participated in the City's annual River Clean Up & Conservation Day by conducting tree planting, storm drain marking, native plant demonstrations, and providing information about groundwater and wellhead protection. -- Participated in the annual Battle Creek Children's Water Festival for 200 of school-aged children with an activity that investigated various water-related topics including the water cycle, groundwater pollution, and conservation. -- Participated in the Greening of Marshall in the spring and fall by planting over 120 trees. Participants and volunteers learned about water's vital role in everyone's daily lives and the importance of protection.
Michigan State University MI


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Community Profile:

Michigan State University is home to 50,000 students who receive 100 percent of their drinking water from groundwater. The majority of the campus water supply wells are located just to the south of the main campus where the University's agricultural research farms are located. These land uses within the recharge area may pose a threat to the groundwater supply. Michigan State uses Groundwater Guardian to build support for the University's drinking water and stormwater management programs.

Result Oriented Activities:

Continued to update an inventory of existing and potential sources of contamination in the campus wellhead protection area, including desk audits and inventories for potential new well sites. A process to evaluate areas of new development on campus that may impact isolation distances or wellhead protection areas of the campus public water supply wells is now in place. -- Provided space, presenters, and support for the 2013 Tri-County Children's Water Festival for over 400 area students and teachers. -- Began the process of reviewing and updating the existing online groundwater and wellhead protection training module.
Texas, Charter Township of MI


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Community Profile:
Groundwater supplies 100 percent of the drinking water to the 13,000 residents of Texas Township. Texas Township has many areas that are not serviced by a public waste water system so it is concerned about the impact on the aquifer. The Township is always seeking ways to protect the aquifer as it continues commercial and residential growth. Texas Township uses the Groundwater Guardian program to develop public awareness and understanding about the township's groundwater resources, educate the citizens on the protection of its aquifers and the importance of safeguarding this valuable resource, as well as to develop a voluntary/regulatory means for protection of the groundwater supply.

Result Oriented Activities:
Began development of a wellhead protection ordinance for the City of Kalamazoo wellheads that are located in Texas Township. The ordinance has been approved by the township's Planning Commission, Engineer and Planner.
Detroit Lakes, City of MN


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Community Profile:
Groundwater supplies 100 percent of the drinking water to the 8,500 people who live in the City of Detroit Lakes. The City is committed to locating and properly closing abandoned wells within capture zones and continues to seek funding for proper sealing. Detroit Lakes uses Groundwater Guardian to educate local students about the water system, involve the public in groundwater protection, and continue management practices of the land within the groundwater recharge area.

Result Oriented Activities:
Coordinated with Rossman Elementary and Holy Rosary Catholic Schools to mentor students to hold festivals for nearly 1,000 students, teachers, parents, and community members. Students gave presentations about a variety of groundwater-related topics. City staff serve as mentors, and provide tours of the water plant, wells, and wastewater treatment facility.
Holy Rosary Catholic School MN


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**Community Profile:**

Holy Rosary Catholic School is located in the City of Detroit Lakes and receives all of its drinking water from local groundwater supplies. This elementary school is committed to educating its students and the surrounding community about the importance of protecting groundwater, and will use Groundwater Guardian to help do so.

**Result Oriented Activities:**

Held the 2013 Water Festival attended by more than 600 students, parents, and the general public. Fourth grade students, working with mentors from Detroit Lakes, served as festival presenters and shared the groundwater protection message with those in attendance. Presentations focused on wellhead protection, water conservation, water treatment, groundwater, surface water, wells, and wastewater treatment.
Rossman School - Detroit Lakes MN


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Community Profile:
Rossman School is located within the City of Detroit Lakes in western Minnesota. Because the residents rely on groundwater for all of their drinking water needs, educating the public and youth about the protection and conservation of this resource is the primary goal of the Rossman School Team.

Result Oriented Activities:
Students worked with mentors at the City of Detroit Lakes to learn about the importance and protection of the water supply. Students took tours of the wells, water plants, water towers, and learned about water treatment, wastewater treatment, wellhead protection, contamination, conservation, watersheds, and more. The students then presented what they learned to 400 other students and community members as part of a community water festival.
Community Profile:

The 121,000 residents of Independence rely on groundwater for all their drinking water needs. However, the wells and treatment facility are located in an adjoining political entity so the City of Independence doesn't have control over zoning and land use. There are several high profile sites in the vicinity of the treatment plant that could possibly endanger the water supply, and public perception often focuses on these sites as a cause for concern. A wellhead protection plan is in place and a network of early warning monitoring wells are tested on a routine basis. The plan calls for public education as a component, which is fulfilled through Groundwater Guardian efforts. The Independence team uses Groundwater Guardian for ideas and solutions in local groundwater education efforts.

Result Oriented Activities:

Provided groundwater education to 5th grade students from throughout the school district, as well as home-schooled students. Students toured the water plant, learning about the water cycle and the importance of keeping groundwater safe. Students also made edible aquifers to demonstrate groundwater contamination. Around 1,200 students participated.
Sedalia MO


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Community Profile:
Sedalia is home to 21,000 people. Sixty percent of the community's drinking water is supplied by groundwater. Current sedimentation rates are threatening surface water supplies, along with high levels of phosphorus and nitrogen. Dropping groundwater levels also are a concern for residents. Sedalia uses Groundwater Guardian to continue community education efforts to the community on their role in protecting groundwater.

Result Oriented Activities:
Provided education to the community about their role in the preservation and quality of safe drinking water, through bi-lingual flyers with water bills, classroom visits to elementary and high school classes, and presentations to community leaders and civic groups. -- Worked with 40 volunteers to hold a clean up to remove debris at breakfast Branch and the Pearl River.
Community Profile:

In Mecklenburg County, population 890,515, approximately 15 percent of homes and businesses rely on groundwater as their drinking water source. Most of the people access groundwater through private and neighborhood wells. Mecklenburg County is in an urban area and has over 1,600 potential sites of contamination. It is important to protect the groundwater as a safe drinking water source and to identify areas where it is not safe to drink. Mecklenburg County uses Groundwater Guardian to participate in community events that provide opportunities to educate the public about the groundwater system.

Result Oriented Activities:

Held a seventh annual well contractors seminar to train and update well contractors on local regulations and groundwater issues. Over 60 well contractors attended and received 7 professional development hours. -- Once again participated in a Realtor Expo to educate realtors working in the county about local groundwater resources, as well as private wells and septic systems and related regulations.
Community Profile:

Approximately 37 percent of the drinking water needs for Orange County’s 126,000 residents are met by local groundwater supplies. The County is working to proactively address the quality and quantity of local groundwater supplies, including radon and arsenic concentrations. In general, the County’s groundwater is of acceptable quality, though concerns exist over the availability of groundwater, especially during periods of drought. Orange County uses Groundwater Guardian in local public education and awareness efforts.

Result Oriented Activities:

Continued collecting data for a groundwater observation well network, Orange Well Net (OWN), to monitor groundwater levels across the county. The network serves as a drought monitoring tool with an early warning system for declining groundwater levels. Groundwater levels are currently collected every hour in nine wells, and the information is available to the public via the North Carolina Division of Water Resources website. -- Participated in various community events and activities to educate the public about the importance of groundwater. Information about local groundwater issues was distributed, and groundwater model presentations were given to demonstrate groundwater movement..
Beatrice NE


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Community Profile:
The City of Beatrice relies on groundwater for all its drinking water needs. The city is home to over 12,000 residents. Drinking water is supplied by and blended from two separate wellfields. Nitrate levels in both wellfields are a concern, and the City uses Groundwater Guardian to help educate farmers and city residents about best management practices.

Result Oriented Activities:
Held an educational training for 35 farmers with land in the wellhead protection area. Presentations included information on fertilizer applications, soils research, and the affect of drought on groundwater levels. -- Held an educational training for 45 city residents about lawn and tree care, including water and chemical use for various trees and shrubs.
Community Profile:
Blair is a mostly rural area, home to a population of 9,000, with an emphasis on agriculture, but is also home to several large industrial facilities, including Cargill. Cargill is a large industrial user of water, and its treatment and reuse are top priorities as the water used by the plant is returned to the environment. As an agricultural partner in the farming community, Cargill supports best land management practices, pollution prevention, and water conservation/reuse. Land and water conservation and pollution prevention are some of the most important issues for this community. Cargill Blair uses Groundwater Guardian to provide educational tools and activities in local schools and participates in the Nebraska Children's Groundwater Festival to extend its scope of beyond the local Blair community.

Result Oriented Activities:
Presented educational activities at the 2013 Nebraska Children's Groundwater Festival. -- Worked with Blair High School science classes to present a groundwater and wastewater solutions presentation with class lab exercises to demonstrate water treatment methods. The same presentation and exercise was also done with classes in the Millard High School science classes in Omaha, along with field trips to a wildlife area for additional outdoor water testing activities and pollution prevention discussions.
Community Profile:

Grand Island relies on wells within the city and wells located on an island in the Platte River to supply the city's 50,000 residents with drinking water. The sand and gravel aquifer underlying the area is very porous, causing rapid recharge. While the porosity makes the aquifer suitable for well installation, any contaminants present can easily leach into the aquifer. Severe contamination from industrial solvents was discovered in 2003, as well as other pollutants in December 2004 and January 2006. Grand Island uses Groundwater Guardian to help educate local citizens about the importance of keeping contaminants out of the water supply.

Result Oriented Activities:

Presented the "Water Rockets" activity at the 2013 Nebraska Children's Groundwater Festival for 160 students. -- Worked with the local public access television station to air a documentary about the state's water resources. -- Provided assistance at the Household Hazardous Waste permanent facility. Paint, pesticides, mercury, computers, oil, pharmaceuticals and other household wastes are collected at the site. -- Collected and recycled thousands of pounds of plastic, aluminum and cardboard at Husker Harvest Days, an annual agricultural event in Grand Island attended by tens of thousands. -- Continued to work with a local school and Natural Resources District to beautify a portion of the Wood River. Native trees and shrubs were added as part of erosion control, but many needed to be replaced due to severe drought. -- Maintained an Outdoor Learning Area at Nebraska's State Fair Park in Grand Island. The learning area educates the public about water quantity and quality, groundwater stewardship, natural filtration techniques, efficient water use, and the Ogallala Aquifer. The team is working to install permanent signage to identify the bioswale and rain garden. The State Fair is attended by over 300,000 people annually. -- Worked with a local FFA chapter to provide support for a Test Your Well event.
Keith County NE


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Community Profile:

Keith County is home to 8,875 residents who receive 100% of their drinking water from local groundwater supplies. Keith County is also home to Nebraska's largest reservoir, Lake McConaughy. While no major problems exist with drinking water, residents are concerned about nitrate levels and agricultural and domestic contaminant sources. Keith County uses Groundwater Guardian as part of its educational programs for students and community members.

Result Oriented Activities:

Worked with the Nebraska Water Center Education Committee to sponsor water education events and activities at the Lake McConaughy Visitor's Center to inform visitors about the many competing issues surrounding water resources. Events and activities included a photo contest; teacher workshops to encourage use of the Visitor's Center; an outdoor education event for students to learn about groundwater/surface water, hydrogeology, water properties and hydroelectric power; a kids fishing clinic and water expo; a youth camp focused on nature and the environment; and a lake cleanup.
Lincoln NE


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Community Profile:

Lincoln's over 250,000 residents rely on groundwater for their drinking water needs. The Platte River provides most of the recharge for the city's water supply near Ashland. Maintaining quality water to sustain the community, especially during warm weather months and/or drought conditions is currently a major concern. The continued growth of Lincoln also requires the city to continue long-term water conservation programs. Lincoln uses Groundwater Guardian in combination with the Mayor's Water Conservation Task Force and the Mayor's Environmental Task Force to educate and inform the public to help them conserve water and better utilize it using best management practices.

Result Oriented Activities:

Sponsored an annual water conservation poster contest for 5th grade students. The winning "Be Water Wise" posters were featured on the city website, on bookmarks distributed to city libraries, billboards, and busboards. -- Continued to provide speakers for a water conservation Speakers Bureau. -- Continued to update and expand the City's website to include additional information about water conservation and team projects. -- Participated in the Earth Wellness Festival, presenting information about Lincoln Water System's water treatment process to around 300 5th grade students. -- Included the Groundwater Guardian logo on all printed materials and displays.
Community Profile:
The 6,755 citizens of Sidney use groundwater for all of their drinking water needs, and utilize three separate well fields: one in the corporate limits, one three miles outside of town and one 18 miles outside of town. Several concerns have plagued the water supply in Sidney over the years, including nitrate contamination and water level declines. Sidney uses the Groundwater Guardian program to build awareness about local groundwater issues through public education and awareness.

Result Oriented Activities:
Continued to promote the Groundwater Guardian Green Site program to a variety of green spaces in and around Sidney and maintain current designations. -- Continued implementation of wellhead protection activities. A plan was approved by the State in 2010. Several trees that were planted in 2012 were lost to the drought and had to be replanted; 30 new acres of native grasses were also installed. -- Made plans to host the 23nd Annual Western Nebraska Children's Groundwater Festival, regularly attended by over 200 4th grade students and volunteers, but a late season snowstorm prompted its cancellation. The festival will be planned again for 2014. -- Continued work to improve Sidney's stormwater management. A new cost share program was implemented by the South Platte Natural Resources District, and demonstration rain garden and over 3,000 feet of buffalograss was installed at the District’s office. -- Continued to work to expand and revitalize the Groundwater Guardian team with new members and new ideas.
Community Profile:

Groundwater provides all of the drinking water for the 575 residents of Trenton. Two new wells provide excellent high quality water to the community, and the Groundwater Guardian team plans to reinforce citizen awareness regarding their drinking water and its protection. The new wellfield has been enrolled in the Conservation Reserve Program (CRP), with some additional private land also enrolled in CRP for wellhead protection. Trenton uses the Groundwater Guardian program to encourage water conservation in all areas of water use.

Result Oriented Activities:

Provided presentation about water conservation to schools within the county. -- Made plans to participated in the annual Harvest Festival Parade to help increase public awareness about the importance of groundwater as a source of drinking water. -- Maintained the Village wellfield's involvement in the Groundwater Guardian Green Site program to ensure best practices around the City's wells. -- Conducted an update to a survey among residents about changes in plumbing connections in order to prevent backflow.
Merrimack NH


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Community Profile:

Because groundwater supplies 100 percent of the drinking water needs for Merrimack’s 26,600 residents, keeping up with water demand throughout the town's new construction is a concern. Keeping the public aware of groundwater and wellhead protection, as well as levels of iron, manganese, sodium, and chloride in District wells, are top priorities for the community. In addition, the Groundwater Guardian team wants to emphasize wellhead protection, education of the community and especially town officials.

Result Oriented Activities:

Worked with a local Girl Scout troop to design fliers that were distributed during a Water Week Festival for 400 4th grade students. The fliers featured helpful hints for conserving water and a water word search. -- Because of concern over rising levels of sodium and chloride levels in community wells, certain streets were targeted as no salt/low salt areas during snow removal. The Village will continue to monitor salt application throughout the coming winter. -- Worked with local snow removal contractors and management companies to provide education about proper salt application during snow removal. Letters will be sent with information about reducing salt and de-icing agents for the health of the community's water supply.
Stafford Township NJ


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Community Profile:

Groundwater provides for all of the drinking water needs of the 26,535 residents in the Stafford Township area. Current groundwater concerns facing residents include saltwater intrusion, groundwater recharge, watershed management, flood mitigation, estuary protection, and development impact. Stafford Township uses Groundwater Guardian to help educate the public regarding potential sources of groundwater contamination and the importance of stormwater management to enhance clean groundwater recharge and discharge into the Bay.

Result Oriented Activities:

Worked to improve the function of an area stormwater basin to ensure better water quality of groundwater recharge and stormwater runoff directed into Barnegat Bay. Engineering plans have been completed and permits obtained to create a 10-acre bioretention basin, which will also help reduce the potential of saltwater intrusion into Township wells by increasing the hydrostatic pressure of fresh groundwater by increasing fresh recharge. -- Held an Arbor Day celebration to educate township students about groundwater quality and environmental stewardship. The celebration includes a poem/poster/essay contest for students.
Community Profile:
The Las Vegas Valley hydrographic basin has been over-appropriated since 1955 and the area's population of two million continues to grow. The declining water table has caused well failures and higher pumpage costs for public and private well users. In 1997 the Nevada Legislature authorized the Southern Nevada Water Authority to establish a Groundwater Management Program and the Advisory Committee for Groundwater Management. The Groundwater Management Program uses Groundwater Guardian to promote the importance of protecting groundwater supplies from contamination, as well as informing well users about important groundwater issues.

Result Oriented Activities:
Continued the Well Conversion Grant Program, which provided assistance to households wishing to connect to a municipal water system. Close to 500 businesses and households have utilized the program since it began in 1999. -- Provided financial incentives to homeowners who replaced turf with water smart landscaping, such as drought tolerant plants and trees. Since the program’s inception in 2002, 648 conversions have been completed, converting a total of 1.7 million square feet of turf to water-smart landscaping. Water meters are also offered to help monitor usage, distributing 379 meters and 195 installation rebates to well owners since 2008. -- Provided funding to plug unused and abandoned wells. More than 350 unused wells have been closed as a result of the program. -- Continued to hold Advisory Committee meetings and an annual public workshop to work with the State Engineer and other stakeholders to address issues facing well owners in the valley, with a focus on recharge and water quantity issues.
Community Profile:

The 5,000 people who reside in Harriman receive all of their drinking water from the local groundwater supply. Harriman's water supply is currently threatened by three existing contamination sites. Although the Village is dealing with the contamination problems, it is working to educate its citizens about the need for groundwater protection. The Village will use the Groundwater Guardian program to bring the public's attention to the effects of groundwater contamination.

Result Oriented Activities:

Taught water conservation classes at local elementary schools. This was the 13th year water conservation classes were taught in the school district. The presentations focus on groundwater as a source of drinking water and wise water use.
Community Profile:

The 15,500 people who live in Wallkill receive all of their drinking water from local groundwater supplies. Wallkill's main wellfields are along the Wallkill River and subject to potential contamination from an urban setting. The Town wishes to continue to protect its groundwater by educating its citizens about groundwater protection options and water conservation. Wallkill uses the Groundwater Guardian program in its education and wellhead inspection programs.

Result Oriented Activities:

Prepared and distributed the Annual Water Quality Report to water customers and the Department of Health. The report includes information for water customers to learn more about water conservation and groundwater protection. -- Continued to air public service announcements about water conservation and wellhead protection on local cable television. -- Continued implementation of the Stormwater Phase II requirements, with an emphasis on education and outreach and public involvement, and the connection to groundwater.
Warwick, Village of NY

Community Profile:

The well that supplies the Village of Warwick's 6,700 residents with a portion of their drinking water is located in an urban setting and therefore subject to potential contamination. The Village wishes to continue to protect its groundwater and to educate its people about groundwater protection and water conservation. Warwick uses the Groundwater Guardian program through its educational programs and wellhead and watershed inspections.

Result Oriented Activities:

Prepared and distributed the Annual Consumer Confidence report to water customers and the Department of Health. The report included information about the groundwater components of the water system, and how they can help conserve and protect it. -- Began an education program to inform customers, through the Village website, about water conservation and source water protection. -- Made plans to host a Groundwater Night. Speakers will present lessons about the groundwater resources in the community and county, and the groundwater model used to demonstrate groundwater concepts.
The Brown County Rural Water Association is a rural water system relying completely on groundwater, with wells over 70 feet deep tapping into the Ohio River Aquifer. This aquifer is highly susceptible to contamination, due to the sand and gravel composition of the aquifer and its proximity to potential contaminant sources. Specific contamination concerns include septic tanks, agricultural chemicals, highway traffic, and potential gravel mining operations. One production well was contaminated by VOCs in 1996. A pump-and-treat remediation system was installed as a result, and the aquifer has been restored to the point that no detectable contaminants were found. The lessons learned from this experience were great, none more important than the value of groundwater pollution prevention. Brown County is home to 25,000 people, and uses Groundwater Guardian to educate the public about the importance of protecting groundwater resources and to instill a sense of ownership of the well fields in community residents.

Result Oriented Activities:

Continued implementation of a long-term wellhead protection management plan, which has been approved by the Ohio EPA. The plan was created to ensure a long-term, easy to follow and implement plan to manage the area to ensure groundwater is protected. -- Updated and maintained a website for the Brown County Rural Water Association and Groundwater Guardian team. The site includes links to federal, state, and local groundwater sites, as well as information about wellhead protection efforts, water treatment, and public education. -- Conducted regular wellhead protection committee meetings for local groundwater users. -- Adopted a section of highway US52 between White Oak Creek and Straight Creek for quarterly cleanups. This section of the highway is near community wellfields and is part of the wellhead protection area.
Dayton Multi-Jurisdictional Source Water Prot


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Community Profile:
The City of Dayton taps a sole source aquifer for 400,000 water consumers. Hundreds of businesses with 175 million pounds of hazardous materials operate near the wellfields. Over 17 million pounds of hazardous materials have been permanently removed from the Source Water Protection Area by financial incentives. Dayton, Huber Heights, Riverside, Vandalia, Harrison Township, and Wright-Patterson Air Force Base initiated a wellfield protection program using overlay zoning, monitoring, emergency response and financial incentives for risk reduction activities. Each jurisdiction has at least one person assigned to monitor compliance with the Source Water Protection Program. The Dayton Multi-Jurisdictional Source Water Protection Program uses Groundwater Guardian to increase citizen awareness of the wellfield protection program, provide groundwater and environmental education for children and provide groundwater education for the general public.

Result Oriented Activities:
Held the 17th Annual Children's Water Festival, which was attended by 1,600 4th grade students. It featured presentations, entertainers, mascots and outdoor activities focused on groundwater, surface water, land use, pollution prevention, environmental stewardship, and recycling. Dayton's Groundwater Guardian designation was celebrated and Multi-Jurisdictional partners recognized during the festival's Dignitaries Luncheon. -- Worked to manage and oversee contracts for Multi-Jurisdictional Economic Development, Fire Prevention Inspector, and Environmental Specialists authorized by the Wellfield Protection Board, which promotes groundwater-friendly economic development of the area. -- Provided materials about the importance of water protection and the importance of water to the community and its economic vitality at various economic development and business conferences. -- Continued the production of a quarterly newsletter, "PROGRESS News," for distribution to businesses and residents in the Wellfield Protection Area. Also developed and distributed Source Water Protection Program calendars, brochures, guides, and emergency contacts lists. -- Continued outreach activities, making presentations to citizens' groups, community organizations, and in schools. Other events included river cleanups, water treatment plant tours, maintaining green roofs on City Hall, using portable taps and a water trailer to provide free drinking water at public events, and maintaining partnerships. - Began working on a "Blue Certification" as part of the Dayton Regional Green effort, which promotes greener government, business, and personal practices throughout the region.
Hamilton to New Baltimore OH


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Community Profile:
The Hamilton to New Baltimore Groundwater Consortium is made up of the cities of Cincinnati, Fairfield, Hamilton, the SW Regional Water District, the SW OH Water Co. and MillerCoors LLC, and includes a population of 315,000. The Consortium wells are interrelated physically and directly influence the capture zone size of each system's wells. The Wellhead Protection (WHP) Area consists of a sand and gravel buried valley aquifer overlain by a densely populated industrial community. The majority of the wells behave hydrogeologically as a collective wellfield yet politically are separate. The characteristics that make it a productive source of drinking water are the same characteristics that make it susceptible to pollution from USTs, general chemical handling, dry wells, and improperly abandoned wells. The Consortium uses GG to inform the public about protecting groundwater resources, teach a basic understanding of what groundwater is and how human activities may affect its quality, and instill a sense of ownership of the wellfields and understanding that protection is necessary and worthwhile for the community.

Result Oriented Activities:
Administered the area's Source Water Protection Program. The Consortium worked with several area communities to update their ordinances. -- Continued to update and maintain the local Source Water Protection Program website, with updated event information and photo galleries. A Facebook page was also established to share information about events and other program activities. -- Planned and implemented a cleanup of a 15+ mile stretch of the Great Miami River. -- Held the 15th Butler County Water Festival, attended by over 1,000 4th, 5th, and 6th grade students. -- Updated banners with the Groundwater Guardian logo at water plants and supply centers within the Consortium. -- Continued to update plaques with groundwater protection information at Consortium monitoring wells. -- Distributed a WHP Program newsletter for businesses within the WHP area to share information about program activities and updates. -- Worked with a local high school, which sits in the one-year Time of Travel zone for a consortium member, to become a Groundwater Guardian Green Site. -- Held an Earth Day event in downtown Hamilton attended by over 1,000 people, and demonstrated a groundwater model. -- Worked in partnership with local agencies to plan and implement a River Days event in 2014 to promote the recreational use of the Miami River while stressing the importance of protecting the river and aquifer. -- Worked with MillerCoors to stencil storm sewers in source water protection areas throughout neighborhoods within drinking water protection areas. -- Continued to utilize a recently constructed mini drinking water tower at community events to promote the use of tap water. The mini water tower is nine feet tall and weighs 800 pounds. -- Held two 5K races, the Water for People Fun Run and Walk and the MillerCoors Lite Lope 5K Walk/Run. Both events helped raise awareness about water resources.
Community Profile:
Springfield is home to 60,500 residents. Because the community relies 100% on groundwater, the team’s main concern is lack of public awareness about the source of drinking water, and the community’s role in protecting local groundwater resources. The Springfield team uses Groundwater Guardian to educate the public about freshwater aquifers and demonstrate ways that people can protect them in their everyday lives via proper waste management and water conservation.

Result Oriented Activities:
Implemented a Backyard Conservation Program, which shows homeowners simple things they can do to protect ground and surface water resources, including reducing runoff and promoting infiltration of stormwater. The program involved sending news releases, two public workshops attended by over 100 people, billboards, and a tree-planting initiative. -- Hosted a series of meetings with city planners, engineers, commissioners, homeowners associations, and others to take recommendations to modify current codes within the City to promote low impact development and other techniques that will protect water resources. Draft updates are currently being prepared. -- Began work on a plan with the local airport to minimize the potential of any spills that may reach large pervious areas of the airport.
The WPAFB community is concerned with the quality of the base's drinking water for its population of 27,000. This concern is due to the number of landfill contaminants that have been found throughout the base. Extensive remediation has been accomplished; however, it has been difficult to change perceptions. Wright-Patterson uses the Groundwater Guardian program to develop and provide public awareness programs regarding the remediation of landfill contaminants, as well as implement a wellfield protection program to prevent possible groundwater contamination.

**Result Oriented Activities:**

Continued to maintain an up-to-date potential contaminant source inventory that identifies whether initial storage limits are exceeded and reduce the possibility of potential pollutant releases to the wellfield protection areas as part of a memorandum of understanding for the City of Dayton wellfields. -- Participated in the City of Dayton's Annual Children's Water Festival as presenters and volunteers. The festival reached 2,000 Dayton area students. -- Continued to provide an education outreach program. Events were held during the week leading up to Earth Day, news articles were printed in the base newspaper, and booths set up in high traffic areas around the base. -- Continued tracking a plume of Trichloroethylene (TCE) from 1991. The TCE has reached asymptomatic levels, and the plume is not migrating. The current treatment system is aging and costs to operate are escalating; as such, a Turbo Stripper System is in the process of being installed to continue to reduce the TCE levels in groundwater. -- Began investigating seven former underground storage tank sites and one former oil/water separator sites to ensure no contaminants of concern are found.
Community Profile:

Within the City of Cambridge, some of the municipal wells are situated in industrial areas where there are known impacts to groundwater. The City’s population of 131,000 continues to grow and will require additional wells to meet the growing water demand. Water conservation measures may reduce the rate at which the demand will increase. Cambridge uses the Groundwater Guardian program to provide educational materials to teachers and to support and participate in local activities that promote protection of groundwater resources.

Result Oriented Activities:

Continued outreach and public awareness activities in the community by setting up a display during Groundwater Awareness Week in City Hall, giving presentations at local schools, businesses, and organizations, and publishing informational articles in the Cambridge Activities Guide. -- Participated in Riverfest. An EnviroScape model was used to demonstrate surface water movement and its connection to groundwater, as well as displays and a test version of an interactive game. -- Continued to distribute a resource package for elementary teachers. The package provides activities, maps, and information specific to the water resources of the Cambridge area. -- Provided in and coordinated speakers for two international delegations interested in Canadian water issues.
Community Profile:
A reconnaissance study done by the Oregon Department of Environmental Quality (ODEQ) in the 1990s and early 2000s indicated that private and public wells within the Southern (Upper) Willamette Valley were experiencing nitrate contamination. The area is home to approximately 21,000 people who receive 85% of their drinking water from groundwater. In 2004, the ODEQ declared the area as a groundwater management area. Oregon law requires that such a declaration be accompanied by the development of an action plan to reduce the contamination. This action plan must be developed by a committee representing local stakeholders and was completed in late 2006. This community will use the Groundwater Guardian program to focus on a select few of the implementation of strategies indentified in the action plan.

Result Oriented Activities:
Sponsored a booth at a Kids Conservation Day, which was attended by over 1,500 people. Children built an edible aquifer to teach them how contaminants can impact their drinking water. -- Conducted a focus group of residents to help gain an understanding of the "typical" rural resident's knowledge and perceptions of groundwater. About 250 individuals were reached, and the results will be used to develop messages that resonate with residents and encourage behavior change.
Springfield OR


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Community Profile:

Springfield's wells are distributed throughout the city and surrounding residential, agricultural, commercial and industrial land use areas. Groundwater supplies 90 percent of the city's 56,000 residents' drinking water needs. Some wells are in or adjacent to areas where leaks and spills have caused groundwater contamination, and these plumes are being tracked and some undergoing bioremediation. Springfield uses Groundwater Guardian to help publicize the city's reliance on groundwater and the contamination risks faced, support educational programs in schools, participate in local organizations and support ordinances that help reduce the risk to drinking water supplies.

Result Oriented Activities:

Worked with high school students to test water from 150 private household wells to provide a basic analysis and suggest alternatives for further testing and treatment. -- Continued progress on the Cedar Creek Project, which involves 75 high school students and 10 teachers in a multi-faceted approach toward the monitoring and restoration of the Cedar Creek basin and illustrating the connections between groundwater and surface water. Students conduct water quality sampling every other month, along with fish sampling. -- Participated in an initiative through the University of Oregon to work with students to install a demonstration rain garden. The rain garden site includes a pervious pathway, rain garden, concrete roof structure, and naturescape area. -- Updated and revised a plan for enhancing current groundwater education activities, focusing on ways the team can educate and inform the public about Springfield's groundwater supplies. -- Continued an inspection program to inventory and map stormwater quality facilities like bioswales and retention ponds, conduct inspections, and suggest corrective action if necessary. The program helps educate residents and business owners about the hydrologic connection between stormwater and groundwater in Springfield. Forty-five inspections were performed. -- Developed a brochure describing proper septic tank maintenance, both as a means to prevent unnecessary maintenance expenses, but also protect groundwater. Over 5,000 brochures were distributed.
Buhl Community Water PA


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Community Profile:

Groundwater is the sole source of drinking water for the 2000 residents served by Buhl Community Water. Some of the groundwater-related concerns for this area include building public awareness and education, pollution prevention and conservation. The Villages use the Groundwater Guardian program to educate residents about the importance of groundwater protection through a variety of public information activities.

Result Oriented Activities:

Continued local groundwater education and outreach efforts through presentations at local meetings and distributing educational materials. The education focuses on the need to protect that area's drinking water source.
Community Profile:
The 63,558 people who live in Carbon County receive 76 percent of their drinking water from local groundwater supplies. Currently, bacterial contamination of wells by septic tanks, suspected dumping of hazardous material into abandoned coal mine shafts, the lack of a recycling program for household hazardous waste, lack of well water testing and the general indifference to groundwater-related issues are concerns of area residents. Carbon County uses the Groundwater Guardian program to legitimize the group's efforts, facilitate networking, educate homeowners about wells and septic systems and raise the level of public perception of groundwater issues and how they relate to the county's drinking water.

Result Oriented Activities:
Continued to update and expand a website featuring local groundwater information and on-line resources. The team also maintains a Facebook page and PA Groundwater Forum to further educate the community. -- Continued a homeowner's well water testing program. Private well owners fill out a short questionnaire about their well, and recommendations are made as to what testing should be performed, eliminating unnecessary tests. -- Continued to collect and post precipitation data from a network of nine volunteer monitors in the county. The data is shared with a variety of agencies and organizations as part of various collaborative volunteer networks.
Meadville Area PA


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Community Profile:

The Meadville Area Water Authority serves a population of 16,000 with all of the drinking water supplied by groundwater. In 2006, the Authority received a Source Water Protection Grant to delineate the source water area, identify potential contaminants from residential, commercial, and industrial sources, and to develop action items to protect source water. The Authority has developed a state-approved wellhead protection program, and the team’s goal is to maintain and update the program to work with municipalities, citizens, schools, and other organizations to provide education and make recommendations of needed ordinances to the proper governing bodies.

Result Oriented Activities:

Continued Source Water Protection education to sixth graders at seven local elementary schools. A Source Water Protection Poster Contest was held as part of this effort during Drinking Water Week. Over 300 students participated in the contest, with prizes donated by over 35 local businesses. The winning posters will be used on bookmarks to be given out at the 2014 Drinking Water Week celebration.
Community Profile:

Shrewsbury Borough, with a population of 3,800, has all of its drinking water supplied by groundwater. It is currently dealing with the costs and fees related to current regulations, and uses Groundwater Guardian for educational resources and to learn more about regulations that may affect the Borough's water supply.

Result Oriented Activities:

Continued work on GIS mapping of wellhead protection areas, showing different zones for spill response. -- Worked to involve surrounding communities in the York County Water Supplier's Coalition, which will function to share ideas and resources to protect groundwater and surface water in the area.
Washington County PA


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**Community Profile:**

Groundwater provides 45 percent of the drinking water to the area's 204,000 residents. Current threats to groundwater include possible impacts from development of natural gas resources in the Marcellus Shale formation, particularly in the quality of well water, and the impact of urban and suburban development on groundwater. Washington County uses Groundwater Guardian to continue public education efforts in local schools and for the general public.

**Result Oriented Activities:**

Continued monitoring efforts for potential negative impacts from Marcellus Shale drilling. Monitoring equipment is installed in 21 streams throughout the county, and the data has been distributed at various outreach events to residents of the county, as well as with public agencies and local municipalities. Most of the county's streams are groundwater-fed, establishing baseline readings for streams and groundwater in the region.
North Kingstown RI

Community Profile:

The 26,296 people who live in North Kingstown rely on groundwater for all of their drinking water needs. Currently the community is concerned about the potential for bacterial contamination, as well as wastewater management and continued development. North Kingstown uses Groundwater Guardian as a component of various education programs.

Result Oriented Activities:

Continued a public education initiative to educate the citizens of the community about the benefits of good wastewater management, stormwater management, and appropriate groundwater protection policies. A yearly community environmental fair is part of this effort, which is attended by over 1,000 people.
Memphis and Shelby County TN


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**Community Profile:**

Shelby County's 1.1 million residents draw 100 percent of their drinking water from the largest public artesian water supply in the U.S. Protecting the purity and quality of this groundwater supply is imperative. In 1987, for the first time, one of the water wells used to supply public water showed traces of chemical contamination. At approximately the same time, wells in a smaller municipality were contaminated with TCE which had spilled at a nearby manufacturing facility several years earlier. The contamination of these wells revealed that the depth of the aquifer and its confining strata would not act as a barrier to the downward migration of the variety of chemicals generated by an urban society. Memphis and Shelby County use Groundwater Guardian to develop a comprehensive aquifer protection and conservation education program.

**Result Oriented Activities:**

Sampled and tested approximately 527 quasi-public wells located within Shelby County and 22 newly-installed residential wells for various contaminants. -- Continued the Well Survey Program. Over 130 wells were surveyed and nine abandoned wells closed. -- Performed 31 site inspections of 22 new water wells to verify all construction standards were met. -- Reviewed all applications for proposed installation of remediation systems at sites throughout Shelby County. Issued 164 permits for remediation efforts and performed 118 site inspections. -- Updated a presentation on the value of water resources and the Memphis Sand Aquifer for use by the Ground Water Quality Control Board members for presentations to rotary clubs, schools, and other community groups. -- Reviewed 260 site plans and inspected 31 sites before new development was allowed in the aquifer recharge area. Nine abandoned wells were located as a result, and properly filled before construction activities began. -- Continued to utilize GIS to map areas with greatest concern in relation to the Memphis Sand Aquifer. Thirty-seven GIS projects were completed that dealt with the protection of the water-bearing aquifers of Shelby County and other health-related issues. -- Sealed 13 abandoned water wells within Shelby County. -- Maintained a permanent collection site for Household Hazardous Waste. -- Performed age-dating of local groundwater. Continued sampling and testing indicate no modern water is entering the Memphis sand aquifer. -- Properly abandoned 380 unused monitoring wells. -- Made 155 site inspections to properly site 103 subsurface sewage disposal systems within Shelby County.
North Plains Groundwater Conservation District


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**Community Profile:**

Groundwater depletion is the major concern for the eight counties within the North Plains Groundwater Conservation District. This region is home to over 71,000 people who utilize groundwater for 98 percent of their drinking water. Lack of recharge in this part of the Ogallala Aquifer indicates groundwater mining, and teaching water conservation and raising public awareness is a major goal of this District. Rules are now in place that regulate the amount of groundwater that can be pumped by well owners each year and that limit the proximity of new wells to existing wells. As a Groundwater Guardian Community, the District offers education to the public through outreach programs, public libraries, and school curricula.

**Result Oriented Activities:**

Held "Water Wonders" Festivals for 4th and 5th graders in 17 school districts. Since 2005, over 5,000 students have been reached with messages about water protection and preservation. -- Held a day-long class on water-wise gardening and xeriscaping in partnership with local Master Gardeners. -- Continued distribution of the "Major Rivers" water conservation curriculum to 4th grade teachers and their students in the District. The curriculum educates students about their water resources and their role in protecting and conserving them. -- Sponsored a water conservation artwork contest for 4th-6th graders in District counties. Thirteen winning entries are featured in a water conservation calendar provided free to the public, given away to hundreds each year. -- Offered sponsorships for students to participate in the Texas State Water Camp, a week-long camp to encourage high school students to be water stewards. -- Gave classroom presentations to all age levels, from K-12. Five presentations in three schools were given in 2013. -- Continued a five-year reduced irrigation for corn production demonstration project using the latest irrigation management strategies and techniques. The project is aimed at showing producers how their efficient use of water can help them maximize their return on investment while preserving water for the future, as corn irrigation uses 63% of the groundwater pumped in the District. -- Continued the "Operation: Summer Showers" public relations campaign to help residents reduce their water use to help deal with the region's historic drought conditions. Conservation kits were distributed in cooperation with water utilities in each county, and radio and newspaper PSAs were run. -- Gave presentations on the Ogallala Aquifer and the need for conservation to 2,000 4th grade students who attended the Farm Bureau Ag Fairs in the District’s eight counties.
Renton WA


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Community Profile:
Renton is home to 93,910 people that receive all of their drinking water from local groundwater supplies. The protection of a shallow aquifer located beneath downtown businesses from various forms of contamination is a top priority for the residents of the area, as well as maintaining quality and quantity of service in the face of new City growth. Renton uses the Groundwater Guardian program to raise awareness about local drinking water and groundwater issues.

Result Oriented Activities:
Participated in a number of public events, including Renton River Days Festival (attended by 1,000 people), Family Science Night (over 150 people), Earth Day at Boeing, and Arbor Day/Earth Day. Educational materials were distributed at the events, which helped educate children and adults about where the city gets its drinking water and what they can do to protect it, and included a fish tank model of an aquifer that kids can pump water from and groundwater games and activities. Conservation items such as faucet aerators and hose gaskets were also distributed.
Calumet WI

Community Profile:
Calumet County's 45,990 residents draw 93 percent of their drinking water from the local aquifer. Historically, private wells have tested positive for coliform bacteria and nitrate levels above 10 ppm. The county is especially sensitive to groundwater contamination from shallow soils overlying fractured dolomite bedrock and moderately developed Karst topography. The magnitude of current water quality problems indicate that multiple sources and land use activities are affecting groundwater supplies. Calumet uses Groundwater Guardian to increase awareness of groundwater problems, educate the public about land use and conservation practices, expand existing educational efforts to reach new audiences and build trust and relationships with community members and other citizen action groups.

Result Oriented Activities:
Administered a rain barrel program. Members assemble the barrels for sale or donation. Seven barrels were sold during the group's Earth Day sale. Revenue from the sales benefitted five scholarships to attend the Sand Lake Conservation Camp. The camp is an opportunity for students to learn about wildlife, habitat, ecosystems, water quality, and more. -- Assisted in a water sampling event for area residents to help create awareness of the importance of annual water well testing. Over 30 wells were sampled and tested for bacteria, nitrate, and arsenic, and over 50 attended an educational event as part of the effort. Test results are used to monitor groundwater quality for program planning, development, and implementation. -- Began development of a low-income well testing program. The effort focuses on bringing awareness to well owners about annual sampling recommendations, pollution problems in karst landscapes, and general maintenance concerns and reminders for private wells.
The 13,688 people who live in Chippewa Falls use groundwater for all of their drinking water needs. The City of Chippewa Falls obtains its water supply from wells located in a shallow sand and gravel aquifer. These wells are in wellfields with the majority of the zone of contribution area outside city boundaries. Nitrate, iron, and manganese levels are a concern, along with the strong probability that over 425 acres of agricultural land in the zone of contribution will soon be developed for industrial, commercial and residential uses in the next five to ten years. Chippewa Falls uses Groundwater Guardian to educate residential, business and agricultural landowners.

Result Oriented Activities:

Demonstrated an aquifer recharge model and distributed Groundwater Guardian bracelets and groundwater information to over 300 5th grade students at State Park Conservation Days. -- Staffed informational booth at Northern Wisconsin State Fair, attended by approximately 70,000 people. Various educational materials were distributed. -- Once again helped host the Safe & Green Sweep Project to collect and properly dispose of expired and unwanted pharmaceuticals at drop boxes. Over 400 pounds of pharmaceuticals have been collected. -- Continued to attach signage announcing "Dump No Waste, Drains to River" to catch basins as part of the City's Earth Day activities. -- Provided "save water" conservation kits to residents through the utility office.
### Kewaunee County WI


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<th>Davina Bonness</th>
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<tr>
<td>Kewaunee County Land &amp; Water Conservation Dep</td>
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<td>625 3rd Street</td>
<td>Email: <a href="mailto:bonnessd@kewauneeco.org">bonnessd@kewauneeco.org</a></td>
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<tr>
<td>Luxemburg, WI 54217 US</td>
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**Community Profile:**

Over 75 percent of the land is Kewaunee County is dedicated to agriculture, making the preservation of a clean, safe water supply for the public a top priority for the team. Recent private well testing indicates the presence of nitrates and bacteria, which has not only raised awareness but prompted well owners to become involved with the Groundwater Guardian team. The team is working to become a sustaining informational and educational, neutral organization that informs the public regarding potential groundwater contamination hazards. Kewaunee County, with a population of 20,648 relying more than 70 percent on groundwater for drinking water supplies, uses Groundwater Guardian to educate the public about potential private well contaminants through well testing programs, school programs and local event booths.

**Result Oriented Activities:**

Assisted with the Kewaunee County Land and Water Conservation Department's well testing program. Team members worked with private well owners on proper well water sampling and the importance of regular private well testing. Sixty wells were tested for coliform bacteria and nitrates, mapped, and documented. -- Created and sold 55 rain barrels as a fundraiser for the team's groundwater education activities.
Community Profile:

The 20,000 residents of the Marshfield area receive all their drinking water from local groundwater supplies. Marshfield’s municipal wells are shallow (50-90 feet deep) and exist in narrow, confined bedrock channels. Domestic and farm wells are low yielding wells drilled into fractured rock. Top soil consists of 8 to 10 feet of tight clay soils, which limits recharge. Marshfield uses Groundwater Guardian to promote education and awareness of the need for groundwater protection.

Result Oriented Activities:

Held an annual Green Expo that provided displays, presentations, workshops, and hands-on activities regarding conservation, efficiency, and groundwater protection for over 600 visitors. The event was planned and supported by a number of community groups and volunteers. -- Continued to educate residents about the efforts of the Marshfield Groundwater Guardian program and projects to generate interest in the group's efforts and recruit new team members. An ad runs on the local AM and FM radio stations monthly, as well as on the Utility's telephone system. -- Continued the Rx Round-Up Pharmaceutical Take-Back Program. A permanent site has been established for residents to take their unused/expired pharmaceuticals for proper disposal through incineration. Since the program began in 2006, nearly 5,400 pounds of pharmaceuticals have been collected. -- Continued to promote the Groundwater Guardian Green Site program and offer assistance throughout the community.
Community Profile:

The Village of Milladore and the Towns of Eau Plaine and Milladore make up the Milladore Area, with a population of approximately 2,000 people. This area relies solely on groundwater for all its drinking water needs. Testing has indicated the presence of bacteria in drinking water, and nitrate levels have been a concern. The Milladore Area Groundwater Guardian team uses the program to educate the public and youth about keeping groundwater a priority in their everyday lives.

Result Oriented Activities:

Provided information to area residents about private wells, including information about how the well works and how it should be maintained and protected. Proper sampling and regular testing were also encouraged.
Casper Aquifer Protection Network WY


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Fax:
Website:

Community Profile:

The Casper Aquifer Protection (CAP) Network is made up of private well owners located in or near the Casper Aquifer Protection Zone, and includes roughly 1000 people that depend on groundwater for all their drinking water needs. While there are no serious problems with the area's groundwater supply, Network members want to educate rural property owners about ways they can protect groundwater quality through wellhead and septic tank maintenance, regular water quality testing, and environmental awareness. The CAP Network uses Groundwater Guardian to provide information to property owners in the community.

Result Oriented Activities:

Participated in a local Fourth of July celebration attended by over 10,000 people with a booth to provide information and handouts about the geology of the Casper Aquifer, groundwater protection, and best management practices. An aquifer model was also demonstrated by a geologist and team member. --
Distributed a CAP Network newsletter for property owners located on or near the Casper Formation Aquifer with information about groundwater protection through well testing and maintenance, septic tank maintenance, and environmental awareness.
Affiliate Profile:

Mission: To educate the general public about pesticides, use, safety, worker protection and endangered species with special programs in pesticide waste collection, plastic pesticide container recycling, worker protection standards and school IPM. To be the state lead agency in regards to FIFRA and the implementation of all pesticide laws. Service Area: The State of Alabama.

Result Oriented Services:

Continued to work to recruit new communities into the Groundwater Guardian program through breakout sessions at the state annual groundwater conference. -- Assisted with the state's Groundwater Festivals program by helping find funding and providing support to add to the counties in Alabama with active festival programs. -- Continued to work to implement the School Integrated Pest Management Program into Alabama's school systems. Integrated pest management has been expanded into a new school district and has reached over 100,000 students since starting in 2000.
### Alabama Dept. of Environmental Management (ADEM) AL

**Affiliate Profile:**

**Mission:** To provide technical, financial and program support to communities and utilities throughout the state regarding groundwater protection and assessment.  **Service Area:** The State of Alabama.

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<tr>
<td>Alabama Dept. of Environmental Management (AD)</td>
<td>Fax: 334-279-3050</td>
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<tr>
<td>P.O. Box 301463</td>
<td>Email: <a href="mailto:cws@adem.state.al.us">cws@adem.state.al.us</a></td>
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<tr>
<td>Montgomery, AL 36109 US</td>
<td>Website:</td>
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**Result Oriented Services:**

Continued to work to recruit new Groundwater Guardian Communities through the state's groundwater festival program.  -- Provided education and information support to current and potential Alabama Groundwater Guardian teams through the annual Alabama Groundwater Conference, which approximately 140 people attended.  -- Continued to partner with the Alabama Rural Water Association to provide technical assistance to communities developing a wellhead protection program, installing new wells, conducting potential contaminant source inventories and developing protection programs at the local level.  Five source water assessments were reviewed.  -- Provided funding for groundwater and water festivals around the state of Alabama.  This is the 16th year of groundwater and water festivals.  In 2012, 27 festivals were held with approximately 22,186 children attending.  The 2013 festivals are ongoing.
Affiliate Profile:

Mission: To manage and protect the Niles Cone Groundwater Basin and ensure a reliable supply of high quality water that satisfies present and future uses of the service area at a reasonable cost. Service Area: The cities of Fremont, Newark and Union City; a 104.8 square-mile area with a population of over 330,000.

Result Oriented Services:

Continued education and information support in area schools and communities. Over 760 students participated in programs that stress the importance of groundwater during the 2012-2013 school year. Another 45 classes received materials about groundwater. The District also worked with area Advanced Placement classes to provide more in-depth information about water resources. Pamphlets and brochures explaining the importance and benefits of groundwater protection, pollution prevention and water conservation methods were distributed at public events as well as in water bill inserts. -- Updated the design of the District website, with new information about groundwater basin, District programs and Groundwater Guardian on the District's website. -- Continued to update the District's groundwater management policy, including groundwater monitoring and reporting on groundwater conditions. -- Continued to implement an ordinance to regulate wells, exploratory holes, and other excavations in district communities. -- Worked to digitize over 1,500 well permits that were previously stored on Microfilm. The information will be used to further reconcile well location information, locate abandoned wells and evaluate their potential to negatively impact the groundwater basin. --
Mission Springs Water District CA


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**Affiliate Profile:**

Mission: To provide, protect, and preserve our most valuable resource - water. Service Area: The district operates three separate water distribution systems and two separate wastewater collection and treatment systems, serving Desert Hot Springs, 10 smaller communities in Riverside County, mobile home parks, resorts and a small portion of Palm Springs. The District was incorporated in February 1953 as a County Water District and is now a Special District of the State of California. The service area includes 135 square miles and over 25,000 people.

**Result Oriented Services:**

Continued to provide support to the Desert Hot Springs Groundwater Guardian team in the form of office storage, operating space, administrative support and technical support. -- Provided $30,000 in funding to support the various groundwater protection and education activities of the Desert Hot Springs Groundwater Guardian team during the 2012/2013 fiscal year.
Santa Clara Valley Water District CA


Affiliate Profile:
Mission: To aggressively protect the groundwater basin from contamination and the threat of contamination, and ensure groundwater supplies are sustained. The District manages Santa Clara County's wholesale drinking water resources, coordinates flood protection, and provides stewardship for the county's 10 reservoirs and more than 700 miles of streams. Service Area: Santa Clara County, a 1,300 square mile area with a population of over 1.8 million people.

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Result Oriented Services:
Continued a water conservation program, which included rebates for water-efficient water fixtures in homes and businesses, free "Water Wise House Calls," and extensive outreach and education. In 2013, the District conducted 1,135 "Water Wise House Call" surveys, issued rebates for/or installed 3,499 residential high-efficiency toilets, issued 199 commercial clothes washer rebates and issued 349 landscape rebates. The program saved over 56,000 acre feet of water, which is approximately 13% of the total water used in the county. -- Continued a groundwater management program that provides services to well owners and groundwater users in the area, including offering free basic water quality testing (sampling 318 wells for nitrates and bacteria), commemorated Groundwater Awareness Week through a resolution adopted by the District Board and promoted on the District website and social media, presented groundwater information to small acreage owners, and distributed a groundwater quality report to all well owners. -- Continued an educational outreach program, making classroom presentations, giving tours, and training teachers. Over 22,000 students and 974 educators were involved during the 2012-2013 year. Staff also engaged high school students in a career development program, encouraging them to pursue careers in the water industry, as well as hosting informational booths at a number of local community events.
Water Education Foundation CA

Affiliate Profile:
Mission: To create a better understanding of groundwater issues and help resolve groundwater problems through educational programs. Service Area: The western United States, particularly the states sharing the Colorado River (California, Nevada, Arizona, Utah, Colorado, New Mexico and Wyoming).

Result Oriented Services:
Held various tours of the state that discuss various water issues. A tour of the Lower Colorado River discussed groundwater availability in three states, the Central Valley Tour addressed groundwater contamination and overdraft, and the Bay Delta Tour which discussed groundwater and drinking water issues, and the Northern California Tour which discussed contamination and overdraft. The tours, plus an Executive Briefing, promoted the value of groundwater education and the Groundwater Guardian program.
Central Regional GW Protection Planning Committee IL


**Evelyn Neavear**
Central Regional GW Protection Planning Commit
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**Affiliate Profile:**

**Mission**: To develop and implement local programs aimed at preventing groundwater contamination. The organization attempts to do this by educating adults and children about risk factors and methods of pollution prevention.

**Service Area**: Central Illinois, including Mason, Peoria, Tazewell and Woodford Counties.

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**Result Oriented Services:**

Continued to co-sponsor the Clean Water Celebration for nearly 3,000 students to learn about water and encourage them to make a difference in the protection of this precious natural resource. The celebration is divided into four sections - an exhibitor area, a streams section, and groundwater classroom sessions. -- Organized the Tazewell County Health Department Environmental Education Day for 400 county 5th graders, who participated in hands-on activities like making edible aquifers and jungles in a jar, and learning about water, recycling, and other environmental issues. -- Once again provided a program for snow and ice removal operators to educate them about chlorides and their potential hazards. Over 60 participants learned how calibrating their equipment can help reduce the quantity of road salt used while still effectively providing snow removal.
Affiliate Profile:

Mission: To advocate groundwater protection practices, procedures, and education throughout the Northeastern Planning Region. The Northeastern Illinois Groundwater Regional Protection Planning Committee is organized as a protective and collaborative effort of citizens, businesses, and local and state government officials to further groundwater protection in this sensitive region. Service Area: DuPage, Kane, Kankakee, Kendall, and Will counties.

Result Oriented Services:

Held a Field Day for health department sanitarians, well contractors, and local water system operators. -- Continued a program to purchase ample quantities of bentonite to provide through local health departments to private well owners who want or need to seal a private well. The committee also provides funding to each health department to promote the program. 10 wells were sealed in conjunction with the program. -- Participated in a variety of regional community outreach events with activities and giveaway items, which reached several thousand people, including open houses, the Kendall County Natural Resource Tour, school group meetings and Earth Day and Arbor Day celebrations. The Committee also maintains a Facebook page and posts brochures in public places like libraries and city buildings to reach additional members of the public. -- Once again provided a program for snow and ice removal operators to educate them about chlorides and their potential hazards. -- Investigated the status of private well protection, sampling, and maintenance following flood events. A subcommittee has been established with the Illinois EPA to ensure that public health is ensured following floods.
Affiliate Profile:


Result Oriented Services:

Continued to develop programs to educate county boards, city councils, and planning/zoning officials about groundwater protection, which included working with McHenry County on their groundwater protection program, attending meetings of the Regional Water Supply Planning Group as part of the Chicago Metropolitan Agency for Planning and working with communities to become Groundwater Guardians. -- Conducted public education and outreach by participating in the 18th annual youth groundwater festival at Rock Valley College which drew more than 250 fourth and fifth graders, the Boone County Fair, Boone County Field Day and Regional Agricultural Conference, providing support for a county unused and expired medications collection effort, and other local initiatives. -- Continued to work with Winnebago, Boone and McHenry Counties to abandon unused wells. Over 255 have been abandoned since 2001, and an additional 4 were abandoned last year. -- Helped support a water table management structure, along with the Boone County Conservation District, to install a practice that will demonstrate the benefits of managing the shallow water table for crops, wildlife, increased groundwater recharge and improved water quality. Eroded areas have been re-graded and a culvert stream crossing has been removed.
Southern Regional GW Protection Planning Comm. IL


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Affiliate Profile:

Mission: To advocate groundwater protection practices and procedures throughout the Southern Illinois Planning Region. Service Area: Madison, St. Clair, Monroe and Randolph Counties in Southwestern Illinois.

Result Oriented Services:

Hosted a groundwater field day with various educational activities and speakers. Over 75 citizens, government officials, and others attended. -- Continued to maintain and update a library of groundwater educational materials for loan to citizens, schools, and other interested groups. The library consists of books, pamphlets, flow models, videos, and a traveling display. -- Offered 100 free private well tests for nitrates and bacteria. -- Continued to promote well sealing as a means of groundwater protection and to provide bentonite for use in sealing. -- Continued to work to recruit new Groundwater Guardian Communities within the four county area. -- Developed a Committee Networking Guide to serve as a resource guide for members and the public providing points of contact within various areas of expertise.
Affiliate Profile:
Mission: USGS has the principal responsibility within the federal government to provide hydrologic information and understanding needed by others to achieve the best use and management of the nation's groundwater. To accomplish this, USGS, in cooperation with state, local and other federal agencies, systematically collects and analyzes groundwater data; conducts water-resource appraisals describing the occurrence, availability, and physical, chemical, and biological characteristics of groundwater; conducts basic and problem-oriented hydrologic and related research that aids in alleviating groundwater problems; and provides and understanding of groundwater systems sufficient to predict their response to natural and/or human-induced stress. Service Area: The State of Michigan and multi-state initiatives sponsored by the USGS and other federal agencies.

Result Oriented Services:
Continued to make real-time data available online for two groundwater stations. Continuous and discrete data, as well as water quality data, is available for other groundwater sites throughout the state to assist with local groundwater evaluation and protection. -- Continued investigating the potential effects of irrigation withdrawals on aquifer levels and local streamflow through a number of groundwater model scenarios. A report is being developed to document field and modeling work. -- Presented at the Lansing Area Children's Groundwater Festival. -- Completed the compilation of water data for public supply, irrigation, industrial, and thermoelectric uses throughout the state as part of a water use report for the state. Data from past summaries is being reviewed to make corrections and updates.
Affiliate Profile:

Mission: In order to protect the public's health through the protection of groundwater resources, the Groundwater and Wastewater Program approves and oversees private wells, wastewater treatment and disposal systems and other regulated sites. Service Area: Mecklenburg County is a 528 square-mile area located in the southern Piedmont region of North Carolina. It is home to more than 600,000 people (20 percent utilizing groundwater) and is the center of a seven county metropolitan statistical area with an aggregate population of more than 1.3 million people. Mecklenburg County is divided into seven incorporated municipalities, ranging in size from Charlotte at 207 square miles to Pineville at 3.0 square miles.

Result Oriented Services:

Supported the 2013 Mecklenburg County Groundwater Guardian team’s Well Contractors training by hosting the workshop, providing professional speakers, providing administrative support for registration and the submittal of the continuing education credits to the North Carolina Well Contractors Certification Board. Once again, over 60 well contractors participated in the event. -- Continued to be part of the North Carolina Source Water Collaborative, which will mirror the National Source Water Collaborative. The Collaborative's participants will promote source water protection, help align funding sources toward source water projects, provide expertise and guidance to address specific source water protection issues or problems, and recognize source water protection achievements.
Affiliate Profile:
To coordinate, implement, and facilitate water and water-related research, extension, teaching, and outreach programming within the University of Nebraska system as part of its Robert B Daugherty Water for Food Institute. The Water Center has been a fixture at UNL for more than 40 years, being established as the Nebraska Water Resources Research Institute by Congressional mandate in 1964. It is one of a network of more than 54 water resources research institutes at Land Grand Universities nationwide. The Robert B. Daugherty Water for Food Institute at the University of Nebraska is a research, policy analysis, and education institute committed to helping the world efficiently use its limited freshwater resources, with a particular focus on ensuring the food supply for current and future generations. Service Area: State of Nebraska.

Result Oriented Services:
Facilitated a partnership between local Groundwater Guardian teams and UNL faculty and students. Team members volunteered their time to present at public education events, primarily in partnership with UNL Extension and UNL School of Natural Resources. -- Provided Nebraska Groundwater Guardian teams the opportunity to publicize their work in the Water Center’s publications.
Mission: The mission of the USGS Nebraska Water Science Center is to provide hydrologic information and understanding needed by others to achieve the best use and management of the nation's groundwater. The Nebraska Water Science Center works to create and take advantage of opportunities to educate both young people and adults about the groundwater resource. Service Area: The State of Nebraska.

Result Oriented Services:
Participated in several outreach events in Nebraska to help communicate water science to the public and to tell them about the Groundwater Guardian program, including the Nebraska's Children's Groundwater Festival and Science Olympiad contests.
Miami Conservancy District OH


**Affiliate Profile:**

Mission: To maintain a groundwater monitoring network that provides valuable data on groundwater quality and quantity in the watershed of the Great Miami River. To conduct special groundwater investigations individually or in partnership with other government agencies that address groundwater issues of concern in the watershed. Service Area: The watershed of the Great Miami River in southwest Ohio. The watershed encompasses over 5,000 square miles, is home to 1.3 million people, and groundwater provides drinking water to 91 percent of the population.

**Result Oriented Services:**

Continued collecting data for a Groundwater Monitoring Network to provide important data on groundwater quality and quantity in the Great Miami River Watershed. Sampling has been conducted on the Great Miami River twice a month for pathogens, and groundwater from public supply wells has also been sampled. -- Continued to promote the Groundwater Guardian Green Site program to sites in throughout the District. A workshop was held, and 19 sites have applied to be Green Sites and received financial assistance to implement groundwater-friendly practices. -- Provided financial support and presenters for the Dayton Children's Water Festival and the Butler County Water Festival. Together these festivals are attended by over 2,500 students.
Affiliate Profile:

Mission: To provide technical assistance and training to drinking water systems throughout Pennsylvania on the development, funding, and implementation of wellhead and source water protection programs. Service Area: The State of Pennsylvania, including municipal and non-municipal community water supplies and non-community water supplies.

Result Oriented Services:

Distributed information about Groundwater Guardian at the Pennsylvania Rural Water Association Conference, through mailings, and online. -- Provided technical assistance to source water and wellhead protection efforts across Pennsylvania. Efforts are focused primarily on small groundwater and surface water systems serving a population of 1000 people or less.