



GROUNDWATER GUARDIAN

2019 Groundwater Guardian Profiles



Groundwater Guardian is a program of the Groundwater Foundation.

www.groundwater.org



Groundwater Guardian Teams

ALABAMA

Alabama Dept. of Environmental Management
New Brockton/Coffee County

CALIFORNIA

Alameda County Water District
Desert Hot Springs
Desert Hot Springs High School
Desert Springs Middle School
Mission Springs Water District
Orange County Water District
Santa Clara Valley Water District

FLORIDA

Hernando County

IDAHO

Boise City

ILLINOIS

Central Regional Groundwater Protection
Planning Committee
City of Rock Falls
McDonough County
Northeastern Regional Groundwater
Protection Planning Committee
Northern Regional Groundwater Protection Planning
Committee
Southern Regional Groundwater Protection Planning
Committee

INDIANA

Carmel
Elkhart
Indianapolis-Marion County
Valparaiso

MASSACHUSETTS

Barnstable County (Cape Cod)

MICHIGAN

Charter Township of Texas
City of Battle Creek
City of Kalamazoo
Coldwater
Greater Lansing Area
Michigan State University

MISSOURI

Independence

NEBRASKA

Beatrice
Cargill Team Blair
Grand Island
Lincoln
Nebraska Water Center, part of the Robert B.
Daugherty Water for Food Global Institute at the
University of Nebraska
Nebraska Wildlife Federation
Trenton, Village of

NEVADA

Las Vegas Valley

NEW HAMPSHIRE

Merrimack

NEW JERSEY

Stafford Township

NEW YORK

Moodna Watershed Intermunicipal Council
Town of Wallkill

NORTH CAROLINA

Mecklenburg County

Orange County

OHIO

Brown County

Dayton Multi-Jurisdictional Source Water
Program

Hamilton to New Baltimore

Miami Conservancy District

Wright-Patterson Air Force Base

OREGON

Springfield

PENNSYLVANIA

Keystone Clean Water Team

Shrewsbury Borough

Washington County

RHODE ISLAND

North Kingstown

TEXAS

North Plains Groundwater Conservation
District

WISCONSIN

Chippewa Falls

Kewaunee County

Marshfield Area

Milladore Area

WYOMING

Casper Aquifer Protection Network

Alabama Department of Environmental Management

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

Continued to work to recruit new communities into the Groundwater Guardian program by contacting communities that hold Groundwater Festivals. -- 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. Approximately 22,000 students have attended 26 Groundwater Festivals around the state. Festival committees can apply for a yearly \$1,000 grant. --The annual Alabama Groundwater Conference was attended by 163 people, including regulators, academic researches, utility personnel , and environmental consultants. -- Continued to provide technical assistance and consulting with Source Water Assessments and Local Wellhead Protection programs. Eleven Source Water Assessments have been reviewed.

New Brockton/Coffee County

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008

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Community Profiles:

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.

Results-Oriented Activities:

Held the Coffee County Groundwater Festival for 775 4th grade students and 35 teachers. The three day festival led students through several activities where they learned about aquifers, water pollution, filtration, and the water cycle. The festival has been held annually for over a decade.

Alameda County Water District

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998

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Community Profiles:

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 340,000.

Results-Oriented Activities:

Continued education and information support in area schools and communities. Sponsored 62 performances by ZunZun's water theater program at 28 schools to over 15,966 students and 720 educators stressing the importance of groundwater. Another 35,500 pieces of printed educational materials were provided to teachers and students. -- During National Groundwater Awareness Week, the District worked with eight Advanced Placement environmental sciences 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 and content on the District website with additional information about the groundwater basin, District programs, Groundwater Guardian, and National Groundwater Awareness Week. -- Successfully implemented an ordinance to regulate wells, exploratory holes, and other excavations in district communities. -- Worked to digitize over 15,000 well permits, 3,500 well completion reports, well location maps, and other historical documents to further reconcile well location information, locate abandoned wells and evaluate their potential to negatively impact the groundwater basin. -- Updated the Groundwater Monitoring Program and Survey Report on Groundwater Conditions in order to roll out the Sustainable Groundwater Management Act (SGMA).

Desert Hot Springs

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

A very unique environmental situation exists within the community of Greater Desert Hot Springs. The area's 30,000 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.

Results-Oriented Activities:

Collaborated with local school district and the Wildlands Conservancy to provide "Desert Watersheds: From Source to Sand" field trips for 4th, 5th, 6th grade and high school students focusing on educating the students about the water cycle, desert wetland systems, and water conservation. Nearly 10,000 students and 1,000 volunteers, teachers, staff, and parents have participated in the field trips. Elements of Next Generation Science Standards were incorporated into the program. -- Re-designed and updated the Mission Springs Water District's website. The updated information is available to approximately 30,000 of the district's customers.

Desert Hot Springs High School

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000

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Community Profiles:

A unique environmental situation exists within the community of Greater Desert Hot Springs. The area's 30,000 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.

Results-Oriented Activities:

Continued participation in the "Desert Watersheds: From Source to Sand" field trip program and portions of the "Creek Freaks" water curriculum were included in the visit. Nearly 10,000 students and 1,000 volunteers, teachers, staff, and parents have participated in this annual field trip program to the Mission Creek Preserve. Elements of Next Generation Science Standards were incorporated into the program.

Desert Springs Middle School

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005

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Community Profiles:

A very unique environmental situation exists within the community of Greater Desert Hot Springs. The area's 30,000 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.

Results-Oriented Activities:

Continued participation in the "Desert Watersheds: From Source to Sand" field trip program. Nearly 10,000 students and 1,000 volunteers, teachers, staff, and parents have participated in this annual field trip program to the Mission Creek Preserve. Elements of Next Generation Science Standards were incorporated into the program.

Mission Springs Water District

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

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 \$15,000 in funding to support the various groundwater protection and education activities of the Desert Hot Springs Groundwater Guardian team.

Orange County Water District

2019 | 2018 | 2017 | 2016 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998

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Community Profiles:

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.

Results-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 was attended by over 7,000 fourth, fifth, and sixth grade students. Additionally, more than 500 presenters and volunteers contributed their time and funds. Over 129,000 students have participated in the festival since its inception. -- Provided tours of and presentations about the Groundwater Replenishment System to students, teachers, elected officials, water professionals, dignitaries, and members of the public. These include information about groundwater as source water, the importance of water conservation, and how recycled water projects are vital to local water supplies. -- Assisted neighboring communities in organizing new local water festivals.

Santa Clara Valley Water District

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000

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Community Profiles:

Mission: 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.

Results-Oriented Activities:

Continued a water conservation program, which included thousands of rebates for water-efficient water fixtures in homes and businesses, free "Water Wise House Calls" to check for leaks and install free showerheads and aerators, free landscape surveys to help large landscape managers become more water efficient, and extensive outreach and education. In 2019, the District issued 670 rebates for irrigation equipment, 732 weather based irrigation controller rebates, rebates for the conversion of 366,719 square feet of turf to water-wise landscape, and provided 500 monthly water budgets to large landscape sites. The program saved an estimated 73,000 acre-feet of water, which is more than 15% of the total water used in the county. -- Continued a groundwater management program that provides services to well owners and groundwater users in the county, including offered free basic water quality testing (sampled 217 wells for nitrates and bacteria), sampled 86 monitoring wells to include data in annual reports, commemorated Groundwater Awareness Week through a information on the District website and social media, distributed a groundwater quality report to all well owners, and continued a rebate program for the installation of point of use treatment systems for domestic wells with elevated nitrate. -- Continued an educational outreach program, making classroom presentations, giving tours, and training teachers. Over 13,780 students and 480 educators were involved during the 2018-2019 year. Staff conducted tours of the water district's outdoor classrooms and the water purification center. The Youth Stewardship Commission is comprised of 21 high school students and discuss water resources and management of the local water supply. -- Participated in many educational events such as career fairs, water festivals, and clean-up days as well as provided in-classroom presentations and tours of the water plant. Over 250,000 people are reached through these events.

Hernando County

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002

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Community Profiles:

Hernando County's 174,475 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.

Results-Oriented Activities:

Continued to maintain, update and expand the Hernando County Groundwater Guardian Website, which features meeting notices, workshop dates, groundwater protection action items, and activities. Created a "stand along" news website with unique web address to enhance the conservation and protection message. The website has helped draw greater interest in the team's activities and local groundwater resources. -- Continued the Florida Friendly Landscaping program 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. The annual workshop is broadcast on the local government broadcast channel. Workshop participants receive a \$10 water bill credit for attending the workshop. Over 50,000 contacts have been made through this program. -- 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 2019. The seminars are also televised on the local government channel to reach the broader community. -- Are in the stages of planning for a groundwater and/or springs related educational workshop for spring 2020 in coordination with local governments and the Southwest Florida Water Management District. This workshop is held every two years and targets decision makers, community leaders, developers, builders, and citizen's interests.

Boise City

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995|1994

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Community Profiles:

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.

Results-Oriented Activities:

Continued education and outreach projects during Idaho Water Awareness Week in May, including classroom presentations, teacher training, and tours at the Boise WaterShed Environmental Education Center. Over 14,000 students received tours or other educational materials. -- Completed 9 Project WET workshops, reaching 159 educators with curriculum and educational activities. -- Sponsored a series of water-efficient landscaping courses and tours in partnership with the University of Idaho Extension Service. The workshops provided information to 80 participants about water efficient landscaping, fertilizer and pesticide use, and selecting appropriate plants for the Boise area. -- Presented an activity on watersheds to 1,100 5th grade students at the Conservation Field Days event.

Central Regional Groundwater Protection Planning Committee

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

Continued to co-sponsor the Clean Water Celebration for nearly 2,000 students to learn about water and encourage them to make a difference in the protection of this precious natural resource. The 2019 theme was "YOU ARE THE CHANGE!" and featured youth speaker Hannah Testa, a 16 year old environmentalist and animal rights activist who launched a Plastic Pollution Awareness Day. -- Organized the Tazewell County Health Department Environmental Education Day for around 350 county 5th graders, who participated in hands-on activities like making edible aquifers and jungles in a jar, and learning about the water cycle, groundwater pollution prevention, recycling and other environmental issues. -- Offered free coliform and nitrate testing to private well owners during Groundwater Awareness Week and during the Tazewell County Employee Health fair. -- Distributed free leak detection kits during Fix a Leak Week. -- Organized a workshop to address chlorides in drinking water. The event targeted snow and ice removal operators and featured state and national speakers to help attendees save money while protecting drinking water. The event was attended by 80 people, promoted on social media, and interviews were broadcasted on 3 TV stations and one radio station.

McDonough County

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996

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Community Profiles:

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.

Results-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 79 water testing kits at the county health department and a local farm supply store. Many residents who get their kits from the county health department return every year, illustrating the understanding of the need to annually test well water. -- Held a Conservation Day, presenting information about groundwater and surface water pollution prevention to approximately 300 fifth grade students. -- Continued installing stormwater sewer medallions to raise awareness about dumping and pollutants in runoff.

Northeastern Regional Groundwater Protection Planning Committee

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

Held the annual Field Day educational seminar for 75 health department sanitarians, well contractors, and local water system operators on groundwater monitoring and protection at an operating landfill. -- Provided bentonite at a reduced cost or free to private well owners who want or need to seal a private well. The committee also provides funding to health departments to promote the program and 21 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 the Kendall County Natural Resource Tour, Youth Groundwater Festival, Earth Day and Arbor Day celebrations, and more. -- Hosted the annual informational and training seminar for public and commercial snow and ice removal operators on the environmental impact of road salts and hands-on training.

Northern Regional Groundwater Protection Planning Committee

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997

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Community Profiles:

Mission: Established in 1991, the Committee emphasizes information transfer, education, and advocacy rather than regulation. Service Area: Winnebago, Boone and McHenry Counties in Illinois.

Results-Oriented Activities:

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. The community also prepared a Water Resources Forum to inform the county's businesses, residents, and elected officials on groundwater resources. -- Completed report of the assessment of the shallow sand and gravel aquifer using local well data. -- Conducted public education and outreach by participating in the 25th annual youth groundwater festival at Rock Valley College which drew more than 350 fourth and fifth graders, a Youth Groundwater Festival in McHenry County, a Science, Technology Engineering, and Mathematics (STEM) festival for 240 students, the Boone County Fair, 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 265 have been abandoned since 2001, and two additional wells were abandoned last year. -- Developed a 3-pronged approach to address groundwater issues that included developing a Water Resources Management Plan (WRAP), enhancing scientific understanding through research, and performing educational outreach. The WRAP Task Force has held monthly meetings featuring guest speakers to educate members on topics being addressed by the WRAP.

Southern Regional Groundwater Protection Planning Committee

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

Hosted a groundwater field day with various educational activities and speakers. 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. The team is looking into starting an electronic library for wider distribution. -- Continued to work to recruit new Groundwater Guardian Communities within the four county area. -- Continued to promote well sealing as a means of groundwater protection and to provide bentonite for use in sealing. -- Maintained and updated a Committee Networking Guide to serve as a resource guide for members and the public providing points of contact within various areas of expertise. -- Offered a Well Sealing Cost Assistance program.

The City of Rock Falls

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

Provided a \$1,000 scholarship with the local electric department to a senior high school student. --
Provided groundwater presentations to four area schools, reaching over 300 fifth grade and tenth grade students. --
Provided classes tours of the Water Department plant for over 100 2nd grade students to learn where the city's water comes from and water treatment.

Indianapolis-Marion County

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000|1999|1998

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Community Profiles:

Indianapolis-Marion County's 928,281 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.

Results-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. Approximately 46 different activities were completed for wellfield businesses and utility partners. Business owners receive information about groundwater, best management practices, and other resources offered by the Marion County Wellfield Education Corporation. -- Provided technical assistance, training, 17 spill kits, and 5 secondary equipment items to community members within the groundwater protection area.

The City of Carmel

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010

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Community Profiles:

Carmel is home to over 80,000 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.

Results-Oriented Activities:

Continued the Customer Utility Academy to increase awareness of local operations and held sessions open to the general public about topics including water distribution, billing, and wastewater treatment. --Organized A Taste of the Chamber, Public Safety Day, and Home Place Welcoming Celebration to share information about the groundwater water supply and water protection safety practices to over 1,200 people. -- Continued to host the Rain on Main event that auctioned rain barrels to community members and featured water conservation tips. --Participated in local events with booths featuring information about the Groundwater Guardian team, Carmel's utilities, and groundwater protection. --Featured the team's involvement with the Groundwater Guardian program in the utility's annual consumer confidence report and at educational public events.

The City of Elkhart

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

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.

Results-Oriented Activities:

Continued an Aquatic Biology program to investigate and evaluate the biological communities in the St. Joseph and Elkhart Rivers and their tributaries. As part of the program, the team monitored 11 streams at 34 sampling sites and engaged in educating the public about local fish populations, the importance of sampling aquatic life, and people's impact on water systems. They attended many area festivals and educational events, presenting their information to over 3,000 people. -- Through the stormwater program, 2,058 catch basins were cleaned. At this event, the team had a watershed model and discussed ways groundwater and surface water interact and techniques to protect both valuable resources. -- Published the City's annual Water Quality Report, which included information about Elkhart's water source. --Twenty customers requested water conservation kits and, upon pickup, received staff instruction on the instillation and benefits of the kits. --Completed a draft of a groundwater overlay ordinance and submitted it for review.

Valparaiso

2019 | 2018 | 2017 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004

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Community Profiles:

The 33,000 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.

Results-Oriented Activities:

Distributed the Annual Water Quality Report to consumers to educate on drinking water testing, and conserving and protecting groundwater. --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. -- Participated in two county Earth Day celebrations with a booth to educate the public on conservation and protection. -- Hosted National Drinking Water Week activities, which included handing out educational materials. -- Continued sampling 7 monitoring wells for any new potential sources of contamination.

Barnstable County (Cape Cod)

2019 | 2018 | 2017 | 2016 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995

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Community Profiles:

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.

Results-Oriented Activities:

Maintained and provided updates to a website as a reference source for all things regarding the unconfined sole-source aquifer. -- Investigated learning games activities to impart environmental and water stewardship lessons to youth.

Coldwater

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996

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Community Profiles:

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.

Results-Oriented Activities:

Continued a Pollution Recycling and Reduction Initiative and held a scheduled collection date in October. -- Educated elementary school children about the importance of conservation and pollution prevention. Students attended tours of the water treatment plant. -- Continued to update and improve the Source Water Protection Program and management plan for the area's drinking water supply. -- Distributed informational material on the website and stuffed inside bills to water customers.

Michigan State University

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002

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Community Profiles:

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 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.

Results-Oriented Activities:

Held an edible aquifer presentation for 4th and 5th graders.

The Charter Township of Texas

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996

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Community Profiles:

Groundwater supplies 100 percent of the drinking water to the 15,000 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.

Results-Oriented Activities:

Provided water sample bottles for residents to use to take their own water samples to test for bacteria and nitrate. Recent flooding has caused damage to several areas that do not have access to public water. The Township utilized Groundwater Guardian designation to obtain and stock testing kits in the township office.

The City of Battle Creek

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003

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Community Profiles:

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.

Results-Oriented Activities:

Held the 19th annual Children's Water Festival for approximately 1,000 fourth and fifth graders. The festival helps educate students about the City's wellhead protection plan and areas of interaction of groundwater and surface water. -- Continued participation in various community events and festivals to share general information about groundwater and surface water protection, household hazardous waste, and responsible use of fertilizers and pesticides with over 2,500 people. -- Continuing progress on implementing a wellhead protection plan with Wellhead Protection grants for 2019 and 2020. -- Runs monthly letters to the editor in the local newspaper, radio and movie advertisements, and posts groundwater protection messages on the City's website and Facebook page. The City recently created an Instagram page.

The City of Kalamazoo

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998

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Community Profiles:

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 17 wellfields have had detectable levels of contamination, with two requiring air strippers to remove volatile organic compounds (VOC's) The City has 10 franchise agreements with neighboring governments to provide water, with capture zones existing within eight jurisdictions. Currently, the City of Kalamazoo and Texas Township are the only governments that have adopted Wellhead Protection Ordinances and associated Performance Standards for groundwater and stormwater protection. In July 2018, the Michigan Department of Environmental Quality (MDEQ) tested all public water supplies in Michigan for polyfluoroalkyl and perfluoroalkyl substances (PFAS). The MDEQ test results showed high levels of PFOA and PFOS in the neighboring City of Parchment's municipal water supply above the health advisory limits. Within 72 hours of the finding of PFOA and PFOS in Parchment's water supply, members of the community and state and local officials worked together to provide safe water to the 3100 residents affected. The city of Kalamazoo flushed the Parchment water system out and pumped municipal water into Parchment's system for public use. A permanent connection to Kalamazoo's municipal water has been completed and Parchment's water wells abandoned. Kalamazoo actively participates in intergovernmental cooperation, including adding an 11th franchise agreement with Parchment, 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.

Results-Oriented Activities:

Continued comprehensive public education and outreach efforts; a collaborative radio ad campaign with The City of Battle Creek Groundwater Guardian team, 10 movie trailer ads created by winners of a local high school contest, public events, bus placards, articles, website visits, presentations to youth groups, and facility tours. The focus of this year's ads was the important relationship between water and consumable goods, specifically coffee and beer given the high density of microbreweries and coffee shops in the area. The public has access to all of these resources and advertisements through the regularly updated website. --Held the 2nd annual Public Service Week with daily public service presentations that included tours of the wastewater treatment facility and water pumping station. -- Finalized a franchise agreement to supply the town of Parchment with water as a retail customer after the town's wells were abandoned due to PFAS contamination. Kalamazoo utilized the Protect YourWater.net website to update and educate people on the quality of their drinking water. --Attended public events, tours, and wellhead protection meetings to hand out informational materials about groundwater protection.

The Greater Lansing Area

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

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.

Results-Oriented Activities:

Ran a social media campaign on a variety of topics ranging from general groundwater education to tips on conserving and protecting water resources at home. -- Participates in a Geothermal Working Group that deliberates on regional geothermal projects and their effects on groundwater supply. The final Geothermal Best Management Practices guide was completed and shared with planners, developers, and local officials. -- Demonstrated a bedrock simulator at the Michigan State University Science Festival Expo Day for elementary, middle, and high school students and families.

Independence

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001

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Community Profiles:

The 116,000 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.

Results-Oriented Activities:

Provided groundwater protection, pollution prevention, and water cycle education to 5th grade students from all 18 schools in the school district. 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. Over 50 school district officials and teachers participated in the program this year.

Mecklenburg County

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998

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Community Profiles:

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, on-site wastewater treatment and disposal systems and other regulated sites. Service Area: Mecklenburg County is a 524 square-mile area located in the southern Piedmont region of North Carolina. It is home to more than 990,000 people (15 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.

Results-Oriented Activities:

Held a booth at a citywide, public information event for over 1,000 realtors to provide information and education on groundwater resources, private wells and septic systems. -- Presented an groundwater basics activity at the Catawba River Festival for 120 students, teachers, parents, and volunteers. -- Managed the Groundwater Advisory Council, which is made up of citizens from several stakeholder groups including public, industry, consulting, health, real estate, and well contractor. The group meets on a quarterly basis. -- Conducted a Wonders of Wetlands workshop to introduce educators to curriculum and resource information. -- Distributed information to homeowners with wells affected by flooding and conducted follow-up visits for water quality samples. -- Updated and revised handout materials for groundwater and well water education and outreach. -- Inspected 47 monitoring wellfields, issued 149 subsurface investigation permits (SIPS), registered 329 monitoring wells, and properly abandoned 136 monitoring wells. -- Maintained the Mecklenburg Priority List of Contaminated Properties Database. This is done by identifying water supply wells that are within 1500 feet of known groundwater/soil contamination sites as well as the mitigation of any well with contaminant levels over the EPA Primary Drinking Water standards. This year, 94 wells were identified and registered and of those 14 were sampled. One well was impacted and a treatment system was installed. -- Operated the Area of Regulated Groundwater Use (ARGU) Program which guides decision making on whether a new well can be drilled based on contamination sites. The staff performed 158 reviews this year.

Orange County

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997

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Community Profiles:

Approximately 37 percent of the drinking water needs for Orange County's 140,000 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.

Results-Oriented Activities:

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. -- 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 13 wells, and the information is available to the public via the North Carolina Division of Water Resources website.

Beatrice

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006

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Community Profiles:

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.

Results-Oriented Activities:

Held an educational training for 30 farmers with land in the wellhead protection area. Presentations included information on the Testing Ag Performance Solutions (TAPS) program and competition. The local NRD sponsored two teams of 5 farmers to compete with other scientists, producers, and regulators to win prizes for most profitable farm, highest efficiency, and greatest yield. The competition is structured to help educate competitors and demonstrate environmentally and economically friendly farming techniques. -- Held an educational training for 23 city residents about chemical use and water conservation in turf care. Both trainings are aimed at getting residents to look at the bigger picture of groundwater protection.

Cargill Team Blair

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996

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Community Profiles:

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.

Results-Oriented Activities:

Presented water activities at mini-groundwater festivals in Grand Island. -- Met with Blair High School science classes to do present on water conservation and wastewater solutions. Students used lab exercises to demonstrate some water treatment methods.

Grand Island

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996

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Community Profiles:

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.

Results-Oriented Activities:

Presented the "Water Rockets" activity at a mini-groundwater festival for approximately 125 students, and provided information about the city's water use. -- Worked with the local public access television station to air "The Price of Water," a documentary about the state's water resources, and a video about the Outdoor Learning Area and Groundwater Festivals. -- The team is working with local schools to present groundwater material at summer programs. The team led two presentations for approximately 225 students. -- Continued to work with a local school and Natural Resources District to beautify a portion of the Wood River and South Locust Street. Native trees and shrubs were added and dead ones replaced. -- Continued to maintain 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 installed permanent signage to identify the bioswale, rain garden, prairie, and general layout of the area. The State Fair is attended by over 300,000 people annually.

Lincoln, Nebraska

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

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.

Results-Oriented Activities:

Sponsored an annual citywide water conservation poster contest for approximately 500 5th grade students. The winning ten "Be Water Wise" posters were featured on the city website, on bookmarks distributed to local city libraries, billboards, and busboards. -- Continued to update and expand the City's website to include additional information about water conservation and team projects. -- Continued to provide speakers for a water conservation Speakers Bureau. -- Participated in Earth Wellness Festival where approximately 3,000 5th graders circulate through hands-on workshops covering topics such as: water, land, air, and living resources. -- Identified lawn irrigation efficiency and water efficiency incentive research are focus areas for the following year.

Nebraska Water Center, part of the Robert B. Daugherty Water for Food Institute

2019|2018|2017|2016|2014|2013|2012|2011|2010

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Community Profiles:

The Nebraska Water Center coordinates, implements, and facilitates water and water-related research, extension, teaching, and outreach programming within the University of Nebraska system as part of the Robert B. Daugherty Water for Food Institute at the University of Nebraska. The Nebraska 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 Grant Universities nationwide. The Robert B. Daugherty Water for Food Institute at the University of Nebraska was founded in 2010 to address the global challenge of achieving food security with less stress on water resources through improved water management in agricultural and food systems.

Results-Oriented Activities:

Participated in a special USDA Coordinated Agricultural Project titled, "Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate," which involves nine institutions in six states and more than 70 researchers. The project is designed to bring stakeholders together to optimize water use and sustain food production, as well as provide a global model for groundwater management. . -- Published the quarterly "Water Current" newsletter featuring water-related news from around the state. -- Partnered with various departments within the State of Nebraska to conduct vadose zone projects directed at investigating methods of monitoring and treating nitrate contamination . --Implemented a third year of a "Know Your Well" project that instructs high school students in assess water quality for domestic and farmstead wells. --Hosted the annual Nebraska Water Conference, bringing together producers, scientists, stakeholders, students, and industry professionals to talk about water related issues. The theme of this year's conference was "Building a Clean Water Future in Northeast Nebraska".

Nebraska Wildlife Federation

2019|2018

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Community Profiles:

The Nebraska Wildlife Federation is the Nebraska affiliate of the National Wildlife Federation. The mission of this organization is to promote Nebraska's wildlife and wild places through outdoor education, fish and wildlife conservation, and public policy.

Results-Oriented Activities:

Installed a Pollinator Flyway in downtown Lincoln, NE. Five thousand native seedlings were planted in 69 permanent beds. These plants are water wise and will reduce the use of water along the flyway. That in turn, protects groundwater. Signs installed along the flyway specifically focus on water wise plants.

The Village of Trenton

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996

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Community Profiles:

Groundwater provides all of the drinking water for the 560 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.

Results-Oriented Activities:

Maintained the Village wellfield's involvement in the Groundwater Guardian Green Site program to ensure best practices around the City's wells. -- Conducted an annual survey among residents about changes in plumbing connections in order to prevent backflow. -- Implemented a Water Conservation Program for elementary and jr./sr. high school students to learn about and share the importance of groundwater. The program coincided with Earth Day. -- Provided a Groundwater Guardian float for the Harvest Festival Parade and 4th of July Parade. -- Participated in Republican River Stakeholder meetings.

Merrimack

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999

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Community Profiles:

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.

Results-Oriented Activities:

Participated in a Water Festival to educate over 400 fourth grade students through presentations, exhibits, and hands-on activities. Water-related science fair projects made by students were also presented. -- Gave out "I Save Water Kits" that contain water saving products like shower heads and bathroom aerators. The community has also provided "Water Wheels" that offer water conservation tips and rulers that demonstrate different sized likes. -- Updated the website to explain the purpose of an odd/even watering schedule and provide links to various organizations within the water industry. -- Reached an agreement with Saint-Gobain Performance Plastics to have a previously closed water treatment plant up and running for 5 years to clean up PFAS contamination. They are designing 2 treatment plants to treat PFAS and 1 treatment plant to treat PFAS, Iron, and Manganese. -- 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, and work to educate local businesses about salt use and alternatives to salt for de-icing. -- Hired a consulting team to compile and present data from 10+ years of water quality data in order to identify trends and track progress.

Stafford Township

2019 | 2018 | 2016 | 2015 | 2014 | 2013 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996

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Community Profiles:

Groundwater provides for all of the drinking water needs of the 26,535 residents in the Stafford Township area. Currently, the community is facing problems from the unsolicited distribution of a newspaper; resulting in littering, damage to street sweepers, and pollution to waterways. 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.

Results-Oriented Activities:

Educated the community about recycling with a Plastic In Nature Endangers Species (PINES) program. They contacted local media and provided teachers with educational programs for their classrooms.

Las Vegas Valley

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000

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Community Profiles:

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.

Results-Oriented Activities:

Continued the Well Conversion Grant Program, which provides financial assistance to well users wishing to connect to a municipal water system. Over 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, 757 conversions have been completed, converting a total of more than 1.9 million square feet of turf to water-smart landscaping. Water meters are also offered to help monitor usage, distributing 416 meters and 223 installation rebates to well owners since 2008. -- Provided funding to plug unused and abandoned wells. More than 728 unused wells have been closed as a result of the program. -- Continued to hold an Advisory Committee meeting to provide recommendations for the activities of the Groundwater Management Program. -- Held an annual public workshop for private well owners.

Moodna Watershed Intermunicipal Council

2019|2018|2017|2016|2015|2013|2012|2011

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Community Profiles:

Approximately half of the population of the Moodna Creek watershed rely on groundwater for drinking water from many different sources, including tributaries, sand and gravel aquifers, and bedrock aquifers. The community is very concerned with preserving water quality in the face of intense growth. The Moodna Watershed uses the Groundwater Guardian program to educate the public about potential threats to water quality.

Results-Oriented Activities:

Hosted guest speakers at quarterly Council meetings that addressed water resource issues in the Moodna Creek and Hudson River Watersheds. -- Monitored the Moodna Creek and four tributaries. The information gathered is used to educate and demonstrate projects to the public and municipal officials about watershed problems and possible solutions. -- Worked with two Eagle Scouts to build informational kiosks.

The Town of Wallkill

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999

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Community Profiles:

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.

Results-Oriented Activities:

Prepared and distributed the Annual Water Quality Report to water customers and the Department of Health. The report included 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, to reduce pollution from stormwater discharges into streams.

Brown County

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005

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Community Profiles:

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.

Results-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. Participation in Groundwater Guardian is included as part of the plan. -- Held regular wellhead protection committee meetings for local groundwater users. The meetings address local and national environmental issues and regulatory updates. -- Continued to update and maintain 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. -- Adopted a section of highway US 52 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 Program

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995

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Community Profiles:

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, establish a risk assessment program for businesses handling chemicals, provide groundwater and environmental education for children and the general public.

Results-Oriented Activities:

Continued to manage and oversee contracts for Multi-Jurisdictional Economic Development Specialists, Fire Prevention Inspector, Risk Assessment Consultant, Risk Assessor, and Environmental Specialists authorized by the Wellfield Protection Board, which promotes groundwater-friendly economic development of the area. -- Held the 24th Annual Children's Water Festival, which was attended by 1,600 fourth grade students. It featured presentations, entertainers, mascots and outdoor activities focused on groundwater, surface water, pollution prevention, wetlands, and recycling. -- Provided informational materials, booths, and tours as well as an interactive Water Trailer to over 80 regional events. -- Nearly 300 high school students attended the 2019 Career Conference, showcasing groundwater industry careers. -- Published and distributed PROGRESS News letters for business and property owners in the Source Water Protection Area. This is a part of the enhanced Source Water Protection Strategies that include the distribution of educational resources to businesses and communities. Other measures include an H2knOw educational program, increasing groundwater monitoring, risk assessments, and enhancing geology of the area in order to protect the quality and flow direction of the groundwater. -- Over 1,000 parents and kids are participating in the Hydro Hero program, encouraging them to be protectors of our water resources and information about the program is shown on LCDs and printed on programs on how to become involved. -- Supported the City of Dayton's resolution to encourage regional sustainability by promoting Green Site Designation and Blue-Gold Certification to businesses in the source water protection area. -- Promoted pollution prevention practices at business inspections in the source water protection area. -- Enacted Source Water Protection Area Groundwater Risk Reduction projects, including site assessments, risk point buy downs, a Quick and Easy up to \$10,000 grant to help businesses implement Best Management Practices, and Waste Disposal Assistance for businesses withing the Source Water Protection Area.

Hamilton to New Baltimore

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997

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Community Profiles:

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.

Results-Oriented Activities:

Continued administration of the area's Source Water Protection Program. The Consortium worked with communities to update their ordinances, as well as businesses in new time of travel zones. -- Continued to update and maintain the local Source Water Protection Program website, with updated event information and photo galleries. A Facebook page also shares information about events and other program activities. -- Held a cleanup of a 17 mile stretch of the Great Miami River with over 300 volunteers. -- Held the 18th Butler County Water Festival, attended by over 1,200 4th-6th grade students. Over 180 volunteers and 37 presenters made this event a success - distributing supplies and giveaways to educators. Students learned about collecting groundwater data with an onsite well. -- Added Facebook and Twitter accounts to keep volunteers and the public informed about events and updates regarding the Consortium. -- Updated banners with the Groundwater Guardian logo.-- Distributed a newsletter to the community to share information about groundwater protection in the area including program activities and updates. -- Offered assistance to help two businesses on a joint campus apply for Groundwater Guardian Green Site designation. -- Continued to utilize a mini drinking water tower at community events to provide attendees with water, promoting the use of tap water and decreasing the use of bottled water. -- Held the 9th annual 5K Race and Fun Walk to raise money for Water For People, an organization working globally to provide access to safe, clean water, raising \$16,000. -- Designing water protection signs to install along bike paths. - Held a Butler County Soil and Water Educational Field trip for over 50 volunteers and participants. -- "Bottled" Hamilton municipal water in refillable water bottles with a sports cap. The label on the bottle encourages people to refill with tap water to help the environment and save money. Water bottles were donated to several events put on by the team, including the river clean up, 5k race, and water festival.

Miami Conservancy District

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000|1999

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Community Profiles:

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 nearly 4,000 square miles and includes the cities of Dayton, Hamilton, Middletown, Sidney, Springfield, and Troy.

Results-Oriented Activities:

Continued collecting data for a Groundwater Monitoring Network to provide information on groundwater quality and quantity in the Great Miami River Basin - specifically, nutrient levels in the Great Miami River and its tributaries as well as quantifying the water budget for the Great Miami River Watershed. The annual water resources report was completed. -- Provided financial support and presenters for the Butler County Water Festival, attended by approximately 1,000 4th-6th grade students. Students learn about groundwater, surface water, conservation, land use, and other water-related topics. -- Provided support for the Great Miami Watershed Network by planning and coordinating meetings. -- Hosted Test Your Well events in four counties, educating citizens on groundwater contamination and protection. On average, 40 samples were tested at each event.

The Wright-Patterson Air Force Base

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995

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Community Profiles:

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.

Results-Oriented Activities:

Continued to maintain an up-to-date potential contaminant source inventory that identifies whether initial storage limits are exceeded and prevents the introduction of contaminants to the wellfield protection areas as part of a memorandum of understanding for the City of Dayton wellfields. A newspaper article published in the WPAFB Skywrighter recognized the Base as doing this activity and earning the Groundwater Guardian designation for the 20th year. --Source Water Protection Area delineation and Drinking water Source Protection Plan will be amended in 2020 to update information regarding the protected areas. --Investigated seven former underground storage tank sites and one former oil/water separator sites to ensure no contaminants of concern are found. Six of those sites are well below national standards and the team was granted No Further Actions (NFAs) for those sites. -- Participated in the City of Dayton's Annual Children's Water Festival as presenters and volunteers. The festival reached approximately 3,000 Dayton area students. -- Provided educational outreach programming to promote environmental awareness. Events were held during the week of Earth Day and news articles were printed in the air force base newspaper. --Continued monitoring underground storage tanks. --Conducted a Prairie Walk and Pollinator Expo to distribute information about natural and cultural resources and pollution prevention. --Presented information on the Water Quality program to students at the Air Force Institute of Technology (AFIT).

Springfield

2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997

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Community Profiles:

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.

Results-Oriented Activities:

Worked with high school students to test water from over 100 private household wells to provide community members free well water sampling, alerting them to potential contamination issues and the importance of preventing contamination. -- Continued the Student Water Quality Sampling Project, which involves 75 students, 10 teachers, and many community members in a multi-faceted approach to monitoring and restoring urban and upstream locations of the Cedar Creek area. This year students analyzed current data, made comparisons to historical data, and presented their work at an end-of-year conference. -- Continued to update and revise 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 inspect approximately 60 stormwater quality facilities like bioswales and retention ponds. The program helps educate residents and business owners about the hydrologic connection between stormwater and groundwater in Springfield. -- Performed a feasibility study to determine whether new Drinking Water Protection Road Signs can be installed. -- Completed the 1st phase of the Gorrie Creek Project which is using native plants to improve water quality in the wellfield area. -- Updated the Springfield Utility Board's website to keep customers and community members informed on ongoing projects and topics of interest.

Shrewsbury Borough

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001

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Community Profiles:

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.

Results-Oriented Activities:

Monitored development in the wellhead protection areas. -- Inspected and properly closed and abandoned over 100 private wells in groundwater protection zones. -- Sampled two wells during a highway construction project to ensure the maintenance of water quality. -- Girl Scouts surveyed Wellhead Zone Areas, identified possible contaminants, and presented their findings to the wellhead committee. -- Created a stormwater map and printed storm drain stencils

The Keystone Clean Water Team

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000

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Community Profiles:

4.5 million of the 12.7 million people in Dallas receive their drinking water from groundwater supplies. Currently, the lack of private well standards and testing is a concern. Keystone Clean Water Team will use Groundwater Guardian to legitimize the group's efforts and empower local grassroots approaches.

Results-Oriented Activities:

Promoted two educational phone apps and the web application called "Diagnose It". --Participated in two educational training sessions on topics related to conservation and energy and community meetings regarding groundwater resources and private wells. -- Conducted two regional private well testing events.

Washington County

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

Groundwater provides 45 percent of the drinking water to the area's 208,716 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.

Results-Oriented Activities:

Concluded stream monitoring efforts at 24 sites throughout the county. Water level, conductivity, and temperature are recorded every 15 minutes. These monitoring efforts, which have been going on continuously for 8 years at each site, in concert with public outreach and education help reduce pollution and improve water quality. Monitoring efforts also provide information on how groundwater influences the streams as most of the county's streams are groundwater-fed.

North Kingstown

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|
2002|2001|2000|1999|1998|1997|1996|1995

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Community Profiles:

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.

Results-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. Citizens were reached through press releases, mailings, and public forums. The team also reached all third grade students in the community with the message of groundwater protection. -- Held events to educate the public on pollinators' role in maintaining a healthy environment and how to create habitats for pollinators from irrigated, fertilized, or mowed yards to not only aid pollinators but also protect groundwater. Also installed a number of public pollinator habitats.

North Plains Groundwater Conservation District

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005

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Community Profiles:

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 100 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.

Results-Oriented Activities:

Held a water festival for local students. Since 2005, approximately 11,000 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 for 130 residents. -- Continued distribution of the "Major Rivers" water conservation curriculum to 4th and 5th 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. Winning entries are featured in a water conservation calendar provided free to the public, given away to hundreds of people each year. -- Gave classroom presentations to approximately 100 students in all age levels, from K-12 in eight counties. -- Presented information on the Ogallala Aquifer and the need for conservation to fourth grade students attending the Farm Bureau Ag Fairs in eight district counties. -- Continued a demonstration project to show how the latest irrigation management strategies and technologies reduce water used for growing corn. 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. About 95% of the water pumped in the district is used for agricultural irrigation. -- Continued the "Operation: Summer Showers" public relations campaign to help residents reduce their water use, particularly during the summer months. Conservation kits were distributed in cooperation with water utilities in each county. The program was promoted through radio and newspaper public service announcements. -- Educated 5th graders about water conservation and water saving techniques. -- 103 individuals completed the Master Irrigator Program, a 32-hour intensive educational program for producers to learn irrigation management and conservation practices that work together to save water, conserve energy, and build healthy soil.

Chippewa Falls

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2004|2003|2002|
2001|2000|1999|1998|1997|1996

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Community Profiles:

The 13,682 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.

Results-Oriented Activities:

Staffed booth at Northern Wisconsin State Fair, attended by over 90,000 people. Various educational materials were distributed. -- Demonstrated an aquifer recharge model with pollution and distributed Groundwater Guardian bracelets and groundwater information to 750 people at State Park Conservation Days. -- Hosted the Safe & Green Sweep Project to collect and properly dispose of expired and unwanted pharmaceuticals. -- Purchased materials and made maps of catch basin indicators to alert people to drainage pathways.

Kewaunee County

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005

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Community Profiles:

Over 75 percent of the land in 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.

Results-Oriented Activities:

Assisted the Kewaunee County Land & Water Department in collaboration with the University of Stevens Point in a private well testing program. Team members worked with well owners to educate them proper well water sampling and the importance of regular private well testing; wells are tested for coliform bacteria and nitrates, mapped, and documented. --Created and sold 70 rain barrels as a fundraiser for the team's groundwater education activities.

Marshfield Area

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003|2002|2001|2000|1999|1998|1997

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Community Profiles:

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.

Results-Oriented Activities:

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, 13,932 pounds total of pharmaceuticals have been collected. -- Held the third annual groundwater education event for Girl Scouts to earn their groundwater patches. -- Transitioned an old rain garden into a new Monarch/Rain Garden. Most of the work was done in 2018, but additional plants, passages, and signage was added in the spring of 2019.

Milladore Area

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010|2009|2008|2007|2006|2005|2004|2003

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Community Profiles:

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.

Results-Oriented Activities:

Conducted a drug take back collection and pill sorting every six months and works with the Marshfield Area Groundwater Guardian to distribute information about groundwater conservation and protection programs. -- Provides presentations to students about drug takeback and the effect of pharmaceuticals on water.

Casper Aquifer Protection Network

2019|2018|2017|2016|2015|2014|2013|2012|2011|2010

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Community Profiles:

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, the use of best management practices, and environmental awareness. The CAP Network uses Groundwater Guardian to provide information to property owners in the community.

Results-Oriented Activities:

Presented a Groundwater Guardian year plate to the Albany County Board of Commissioners to recognize its efforts to protect the Casper Aquifer through policy decisions. -- Created and distributed a newsletter to approximately 256 members, friends, and county commissioners. The newsletter focused on information pertaining to well pump replacement, chlorination to protect groundwater, and an explanation of measuring water levels via airline and the benefits of pump replacement. -- Demonstrated the aquifer's high water quality at the Freedom Has A Birthday festival, reaching over 8,000 attendees