



DWSRF AWARDS

FOR SUSTAINABLE PUBLIC HEALTH PROTECTION



2 0 0 6 A w a r d W i n n e r s



ABOUT THE AWARDS

Since the first Drinking Water State Revolving Fund (DWSRF) loan was made in 1997, borrowers have shown exceptional creativity in designing projects that promote sustainability and protect public health. The 2006 DWSRF Awards for Sustainable Public Health Protection recognize the most innovative and effective DWSRF projects.

Each State could nominate one DWSRF project for the Award. The projects had to meet several criteria to qualify for the Awards. There were three mandatory criteria that all winners had to comply with:

- Compliance with the Safe Drinking Water Act,
- Audits or financial reviews show that there are no financial problems with the project, and
- For awardees who are borrowers, the project was ranked high on the project priority list for public health benefits.

Finally, each nominee had to demonstrate leadership in at least one of the four additional criteria: innovation in financing, innovative approach to planning and/or project implementation, creative use of partnerships, and promotes sustainable infrastructure.

The 2006 DWSRF Awards reward borrowers and their supporters who achieve results that go beyond the typical project, showing exceptional creativity and dedication to

public health protection. These projects are examples of the high level of sophistication that is possible with the DWSRF.

Winners will be recognized at the national meeting of the Council for Infrastructure Finance Authorities (CIFA) in Philadelphia, PA in November 2006. The materials will also be shared with all EPA regional offices to highlight excellent projects in their region and across the country.



Cover Photos:

Left
Grand Bay Water Works Board, AL: Grand Bay elevated Water Storage Tank

Right
City of Cherokee, OK: Project site sign announcing DWSRF funding

Photo This Page:
City of Cherokee, OK: Interior of water treatment facility in Cherokee, OK



2006 WINNERS

REGION 1

WATERVILLE FIRE DISTRICT, WATERVILLE, VT

A \$425,000 DWSRF loan provided the Waterville Fire District with a new control building to house disinfection and corrosion control equipment, meters, and alarm/control systems. The loan also funded the construction of two new 4,500 gallon reservoirs, and replacement of water mains and services lines. Prior to the project, the system lacked adequate disinfection capacity, resulting in bacteriological contamination and discharge of chlorinated water from storage tank overflow. The SRF loan will give this small water system the technical, financial and managerial capacity to provide safe and healthy drinking water to the 84 people it serves.

CARIBOU UTILITIES, CARIBOU, ME

Caribou Utilities used a \$1,840,000 DWSRF loan to replace their surface water treatment facility with two gravel packed water wells, replace two water mains, and construct a new pump station and disinfection/treatment facility. Prior to the project, Caribou relied on surface water supplies from the Aroostook River, which suffers from water quality problems. The new facilities will fill the drinking water supply through ground water sources, reducing the use of treatment chemicals and maintaining the flow of the Aroostook River for agricultural uses.

REGION 2

CITY OF SAN JUAN, PR

Puerto Rico used DWSRF funds to develop a Capacity Development pilot project aimed at small communities. This pilot project is being carried out in fifteen communities. It seeks to measure the effectiveness of the circuit riders approach to help small community systems achieve and maintain technical, financial, and administrative capacity. A Comprehensive Performance Evaluation (CPE) was developed to help measure progress. The CPE spreadsheet provides several parameters to evaluate the capacity of each system. System work/action plans are created based on the CPE results.

WASHINGTON TOWNSHIP

MUNICIPAL UTILITIES AUTHORITY, WASHINGTON, NEW JERSEY

Two DWSRF loans totaling \$3.9 million were used to construct a treatment plant consisting of pre-filtration, iron sequestration, radium removal, pressure filtration, packed column aeration, pH adjustment, fluoridation, and disinfection. The treatment plant was designed and constructed to address elevated radium contamination in the Washington area water sources. The new system also provides opportunities for resin used in drinking water treatment to be reused for uranium mining applications.

REGION 3

TOWN OF BOONSBORO, MD

The state of Maryland brokered an agreement between Boonsboro and neighboring Keedysville to share the financing and construction for a regional water treatment system benefiting both communities. Boonsboro took out a \$1,400,000 DWSRF loan for its share of the project. Water filtration plants were constructed in both communities and interconnected with a twelve-inch water line. The project will serve 3,141 residents and will eliminate a former risk of contamination by surface water.

AQUA PENNSYLVANIA, BRISTOL BOROUGH, PA

The Bristol water treatment facility has been in continuous operation since 1874. Aqua Pennsylvania purchased the facility in 1996 and used a \$5,949,630 DWSRF loan to rehabilitate and upgrade the facility. Improvements include automating the filters and controls, installation of solids removal equipment, upgrade of chlorination and electrical systems, integration into a central computer system, and replacement of leaking roofs. The project reduced the potential for water filter failure and discharge of contaminants, and eliminated structural safety hazards.



2006 WINNERS

EASTERN WYOMING PUBLIC SERVICE DISTRICT/LOGAN COUNTY PUBLIC SERVICE DISTRICT, WYOMING COUNTY, WV

A 30-year, \$3.5 million DWSRF loan was combined with several other grants and loans to consolidate eleven failing, flooded, and abandoned water systems into the Eastern Wyoming PSD. The project involves the construction of a new regional water plant and three storage tanks, and the installation of over 100,000 linear feet of water lines. At this time, the majority of the District operates under a "Boil Water Order." Completion of this project will provide all residents with a safe and dependable potable water supply.

REGION 4 GRAND BAY WATER WORKS BOARD, AL

Using a \$1,805,000 DWSRF loan, the Grand Bay Water Works Board installed five miles of waterline and a one million gallon elevated water tank. The new system brings safe drinking water to approximately 65 households, and supplements the existing water supply to serve the Grand Bay population on both sides of a major interstate highway. The new water tank also served an unexpected purpose as an emergency shelter during the hurricanes of 2005.

JEFFERSON COMMUNITIES WATER SYSTEM, JEFFERSON COUNTY, FL

Jefferson County used a DWSRF loan to help fund the construction of a regional water system consisting of wells, elevated tanks, distribution facilities, controls, and services. The new system replaced several private wells and non-community water systems that were contaminated with high levels of bacteria and in close proximity to pollution point sources. The new system will bring clean drinking water to the citizens of Jefferson County, while protecting this hydrogeologically fragile area from unrestrained well development.

CULKIN WATER DISTRICT, VICKSBURG, MS

Culkin used an \$825,878 DWSRF loan to construct a system to recycle water produced by the drinking water treatment plant. Prior to this project, Culkin's filter backwash facility was discharging effluent exceeding NPDES limits into a dry creek bed, where it was carried by rainfall into downstream rivers and lakes. Using the DWSRF loan, Culkin constructed facilities to allow recycling of clarified filter backwash water, and to allow sludge disposal in a nearby landfill. The project eliminated a public health threat and brought Culkin into compliance with its NPDES discharge permit.

REGION 5 CITY OF HUTCHINSON, MN

Hutchinson's drinking water contained a high level of ammonia, a corrosive substance that leached copper from the lining of water pipes carrying drinking water to the community. The city used two DWSRF loans totaling \$14,000,000 to construct a water treatment plant that uses membrane softening and biological filtration to remove iron, manganese and ammonia from the water. This will allow copper corrosion to be controlled with an environmentally-friendly pH adjustment, thereby sparing the people of Hutchinson from possible gastrointestinal distress and eventual brain, liver and kidney damage brought on by copper ingestion.

GREEN TOWNSHIP, BROWN COUNTY, OH

Many of the private wells in Green Township tested positive for bacteria. While three rural water systems could be found nearby, extending water service was not financially feasible for the 60 affected residents. Highland County Water Company and Brown County agreed that Highland would provide service to the residents and borrow 50 percent of the funds from the DWSRF, while Brown County would obtain a Community Development Block Grant (CDBG) for the remainder of the project. Using this agreement, the water lines were extended by 13.8 miles to reach Green Township residents.



2006 WINNERS

CITY OF THORP, WI

The City of Thorp used a DWSRF loan of \$1,198,085 and other resources to construct new wells, a water storage facility, a water pressure boosting station and upgraded water treatment processes to reduce radon and uranium levels, and installed chemical feed systems. Prior to the project, the system was comprised of very low capacity wells (21-44 gallons per minute), and experienced both bacteriological and radionuclide contamination. The project serves a community of 1500 people in a rural part of west-central Wisconsin.

REGION 6 TEXARKANA, AR

Texarkana Water Utilities is a regional water supplier in Arkansas and Texas. Two of its wholesale customers were having problems operating and maintaining their systems. In the process of working with these customers, the decision was made for Texarkana to purchase these two systems. Texarkana purchased the systems for approximately \$2.2 million and made \$3.8 million in upgrades to bring the systems into compliance with the Safe Drinking Water Act.

CITY OF BLOOMFIELD, NM

Bloomfield is using a \$3,737,000 DWSRF loan to fund the construction of a new filtration system for its wastewater treatment plant. The city was unable to meet federal standards for drinking water turbidity, and identified the construction of a new filtration system, increased water capacity, and expansion of the city's existing water treatment plant as the best solution. The new filtration system will consistently produce 3 million gallons of filtered drinking water per day and bring the turbidity level back to compliance.

CITY OF CHEROKEE, OK

Cherokee used two DWSRF loans totaling \$250,000 to modernize the city's water source, previously consisting of nine shallow, nitrate-contaminated groundwater wells located on a flood plain. The loans were used to install

water meters to quantify usage and to construct a reverse osmosis water treatment plant, reducing nitrates in the water supply from 11.28 mg/l to 0-2.5 mg/l. The project also established a laboratory, a record-keeping system, and additional operator training, which along with the new metering capabilities will improve the city's ability to finance and maintain the water system.



Possum Kingdom Water Supply Corporation, TX: Placement of the tenth ring for a Welded Steel Standpipe

POSSUM KINGDOM WATER SUPPLY CORPORATION, PALO PINTO AND STEPHENS COUNTIES, TX

The Possum Kingdom area residents received their water from sixty small, non-compliant independent water systems. In 1992, the Possum Kingdom Water Supply Corporation was created to consolidate the

sixty small systems into a single regional water distribution system. The Corporation received a \$4.7 million DWSRF loan in 1998, along with \$6.5 million in USDA Rural Development funds. A new water intake plant was constructed and other improvements were made. Today, area residents receive safe, healthy drinking water. The Corporation recently received a second DWSRF loan to expand the system further.

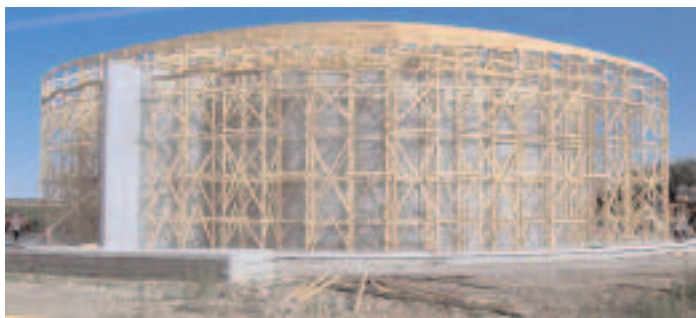
REGION 7 CITY OF McCOOK, NE

A \$9.9 million DWSRF loan helped the city make needed modifications to its existing well field in order to address nitrate, uranium and arsenic violations. The project was also funded in part by a lawsuit settlement from a diesel spill that damaged the city drinking water reservoir. As



2006 WINNERS

part of the project, a 4 million gallon reservoir and two new wells were added to the city's water system. The project helped to bring McCook back into compliance with the Safe Drinking Water Act.



City of McCook, NE: A DWSRF loan helped finance the construction of this new 4-million gallon drinking water reservoir

REGION 8

FORT PECK/DRY PRAIRIE RURAL WATER AUTHORITY, MT

The Fort Peck/Dry Prairie water project used a DWSRF loan to bring safe drinking water to approximately thirty thousand people on the Fort Peck Indian Reservation and surrounding areas. Prior to the project, the public water supply source was groundwater containing a high concentration of dissolved solids. When the project is completed, area residents will be served by a central water treatment plant and a widespread distribution system containing 3,200 miles of pipeline.

CLAY RURAL WATER SYSTEM, UNION COUNTY, SD

A \$4, 331,000 DWSRF loan financed the creation of a sub-system to serve rural users and four housing developments in Union County. To create the sub-system, Clay Rural Water System purchased and upgraded the waterworks assets of one of the affected housing developments, then constructed distribution lines to serve the remaining three housing developments and rural water users. The project improved the water supply for two housing projects that had previously violated primary standards for radium.

MAGNA WATER COMPANY, UT

Magna Water Company has naturally-occurring arsenic levels above the Maximum Contaminant Levels (MCL), as well as perchlorate in the ground water. While there is no MCL for perchlorate yet, Magna wanted to reduce the level of this contaminant in its drinking water. Electrodialysis reversal was identified as a cost-effective method for removing arsenic and perchlorate. A fixed-bed bioreactor also destroys perchlorate below detectable levels. Magna borrowed \$6 million from the DWSRF and combined it with \$12 million in grants to design and build a treatment plant using these technologies.

CITY OF LONGMONT, CO

Using a \$15 million DWSRF loan and \$42 million in other funds, Longmont constructed a new 30 million gallon per day surface water treatment plant, and raw water and treated water transmission mains, doubling its previous capacity. In addition, the Town of Lyons used a \$5 million DWSRF loan to connect to Longmont's water treatment plant, abandoning its old plant in the process. Longmont has an extensive Water Conservation Program, which has the aim of reducing per capita levels below historical levels.

CITY OF RIVERTON, WY

The City of Riverton used DWSRF funding to rehabilitate the Riverton Water Treatment Plant in order to keep their system in compliance with new surface water treatment requirements. The project included replacing and upgrading filters, improving the waste handling system, replacing air actuated valving systems, and equipping the plant with corrosion and pH control systems. Their proactive efforts will help avoid larger costs in the future when the requirements go into effect.



2006 WINNERS



Flowing Wells Irrigation District, AZ: One of the community's wells where an arsenic treatment plant was constructed

REGION 9 FLOWING WELLS IRRIGATION DISTRICT, AZ

Flowing Wells was one of the state's first communities to address the new federal arsenic rule, receiving a DWSRF loan to address arsenic levels before the rule went into effect. Using a \$996,600 DWSRF loan, the District built an arsenic treatment plant using absorptive granular iron media in pressure vessels and a backwash tank. Arsenic occurs naturally in the soil and groundwater in Arizona, and by planning well in advance, Flowing Wells was able to ensure compliance with the federal arsenic rule and provide safe drinking water to its residents.

CITY OF SANTA BARBARA, CA

The Sheffield Water Quality Project replaced an open-air reservoir with two 6.5 million gallon concrete reservoirs buried below 20 acres of open space. This \$20 million project, which took ten years from initial concept to final completion, required the city to work closely with several agencies, community members, contractors, and other stakeholders. At the same time, the city provided potable water storage and delivery to its customers throughout the project period.

CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY, HI

Honolulu has utilized over \$21 million in DWSRF loans to provide safe drinking water to over 770,000 people in three communities. The funds were used for a variety of

purposes. A well contaminated with alachlor was replaced in Weimanalo, the state's largest public water system. New treatment facilities were added in Oahu to remove nitrate and agricultural pesticides, protecting the health of 173,000 people. Finally, a \$5.5 million loan was used to make distribution system improvements in Ewa Beach and Wahiawa.

TRUCKEE MEADOWS WATER AUTHORITY, NV

Truckee Meadows Water Authority (TMWA) serves the cities of Reno and Sparks through a system of treated surface water and wells. When arsenic concentrations in some of the wells exceeded Clean Drinking Water Act rules, TMWA used a \$9 million DWSRF loan to construct a conveyance system to transport contaminated well water to the surface water plant for treatment. By maximizing use of existing facilities, TMWA saved \$11 million off the initial cost estimate for addressing the arsenic contamination.

REGION 10 CITY OF HOMER, AK

The City of Homer used a DWSRF loan to extend its drinking water distribution system into residential areas that had previously been served by private wells or hauled water. The loan also financed a master plan for drinking water infrastructure. Homeowners added to the distribution system will repay between fifty and seventy-five percent of the cost of the extension over 20 years. In addition, revenues from a 0.75% tax on all purchases within the City of Homer will repay the rest of the cost of this project.

MUD BAY WATER SYSTEM, WA

Mud Bay used a combination of DWSRF loans and a CDBG grant to replace an existing spring source with a well, allowing it to increase capacity and hook several new residents up to the system. These residents had previously relied on small wells, which were damaged in a 2001 earthquake. The funds also helped replace failing water mains, install service meters, source meters, and shut-off valves.

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Here is a sample of the informative agenda sessions we're working on:

STATE AND LOCAL INNOVATIONS

- Leading approaches to effective integration of construction, financing, and management
- Innovative institutional partnerships that work
- Creative state and local fees and other revenue sources for water infrastructure
- Real successes in asset management for water infrastructure
- Methods of achieving full cost pricing while ensuring affordability to low income households

SUSTAINABLE WATER INFRASTRUCTURE

- Exploring key challenges and trends facing today's water utilities
- What does the future hold? – future challenges and new utility solutions
- Working utility-based solutions into watershed protection efforts in states and localities
- Moving in the right direction: how can governments, industry, and others support sustainable utility actions?

FEDERAL ROLES IN WATER INFRASTRUCTURE INNOVATION

- Watershed financing: tapping the full potential of the State Revolving Funds
- Financial innovations in the SRF program: freeing capital for investment and reducing the cost of subsidy
- Maximizing public health protection through the DWSRF program
- USDA Rural Utility Service Water Program: the future of national program financing
- The future federal role in water infrastructure funding

INTERNATIONAL INNOVATIONS IN FINANCE, TECHNOLOGIES, AND MANAGEMENT

- Lessons from abroad: developing governments and international development bank programs for financing water/wastewater
- Non-government organizations: a vital new role in international water
- Private sector water providers: where they work, where they don't; why they work, why they don't
- Lowering costs through technological innovations

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