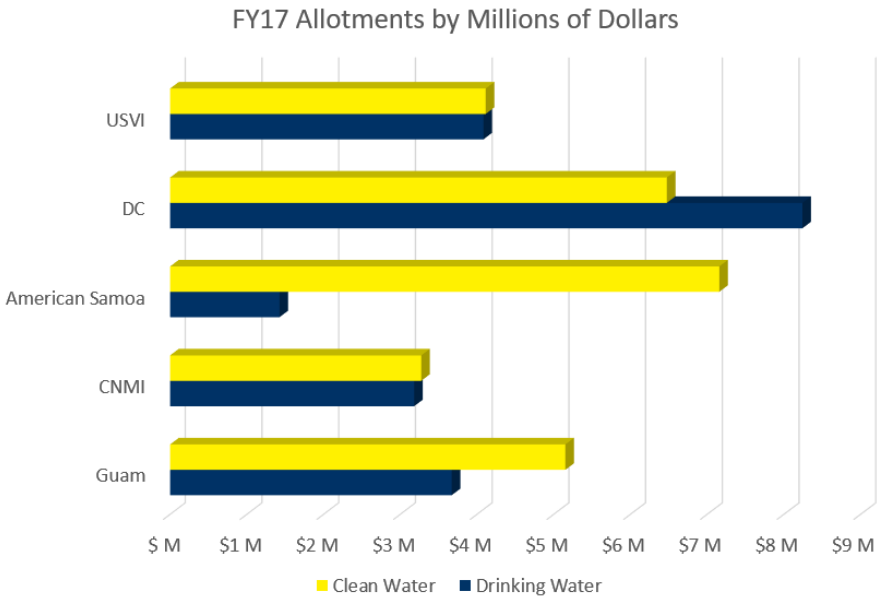
Clean Water and Drinking Water Grants to U.S. Territories and Washington, D.C. FY 2017 Annual Report

EPA allots a portion of the Drinking Water State Revolving Fund (DWSRF) and Clean Water State Revolving Fund (CWSRF) as grants to Washington, D.C., and the U.S. territories of U.S. Virgin Islands (USVI), Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (CNMI) for drinking water and wastewater infrastructure. Congress exempted the District and the U.S. territories from establishing state revolving loan fund programs. The District and the U.S. territories listed above instead chose to continue receiving funds under the Construction Grants Program. EPA supports public health and environmental protection in the U.S. territories and the District by helping communities develop and maintain their water infrastructure through funding, tools, training, and technical assistance.



Graph 1: FY17 Allotments by millions of dollars

The District, USVI, Guam, American Samoa, and CNMI each face unique needs for their drinking water and wastewater infrastructure. In some cases, a locality may need to rehabilitate or develop drinking water sources and provide for basic sanitation needs with limited funds. In others, they may need to replace aging infrastructure, correct outdated combined sewer overflows, or address ground water contamination. The grant program allows the U.S. territories and the District to improve compliance with the Safe Drinking Water Act and Clean Water Act, provide safe drinking water, and protect the environment.

Figure 1: World map showing locations mentioned in this report

This FY 2017 annual report includes examples of the work performed using DWSRF and CWSRF funding from October 1, 2016, through September 30, 2017, from each of the U.S. territories and the District. EPA Region 2 (USVI), Region 3 (the District), and Region 9 (Guam, American Samoa, CNMI) award and manage these grants.

Header Photo: Blue Plains Filtrate Treatment Facility (photo courtesy of PC Construction Company)

Region 2: U.S. Virgin Islands
Virgin Islands Water & Power Authority
Christiansted Waterline Rehabilitation Project

The Virgin Islands Water & Power Authority (WAPA) began construction activities for the Christiansted Waterline Rehabilitation Project on August 9, 2016. The project will improve water quality to residents and businesses and reduce non-revenue water (water loss) due to aging pipes, resulting in increased efficiency of the distribution system and reduced maintenance costs. This project includes the installation of approximately 1,800 linear feet of 6-inch diameter polyvinyl chloride water main to update and replace decaying ductile iron pipes and connect to eight existing water mains of various sizes at six street intersections. It also includes the installation of 36 service connections. WAPA's contractor completed project construction on November 30, 2016. WAPA reports better water pressure and flow in the area as well as an improvement in the water quality.

Photo 1: Christiansted Waterline Rehabilitation Project
(photo courtesy of Harold Mark, VIDPNR)

Region 3: Washington, D.C.
District Department of Energy and Environment
Alger Park Stream Restoration

The Alger Park Stream Restoration and Upland Low Impact Development (LID) Retrofit Project is a multi-faceted, multi-agency initiative to restore a highly-degraded stream and prevent future degradation through a watershed retrofit. The stream restoration portion of the project prevents streambank erosion that causes the transport of over 100 tons per year of sediment from Alger Park Stream to the Anacostia River. The stream restoration was completed in October 2017.

The comprehensive upland LID installations on private and public space slows, retains, and filters stormwater before it enters the Alger Park stream restoration, protecting it from further erosion. The District's Department of Energy & Environment (DOEE) set a goal of outreach to 100% of the watershed's households with information on the project and the RiverSmart Homes Program (RSH), auditing 50% of the homes for RSH practices, and installing RSH retrofits on 25% of the properties that drain into Alger Park. DOEE met its outreach and audit targets and installed RSH practices in 21% of homes in the Alger Park watershed. The District Department of Transportation (DDOT) also completed designs for LID practices in the public space that are estimated to retain over 16,000 cubic feet (120,000 gallons) of stormwater runoff during a 1.7-inch storm event.

Photo 2: Alger Park Stream Restoration
(photo courtesy of Josh Burch, DOEE)

Region 3: Washington, D.C.

District of Columbia Water and Sewer Authority
Blue Plains Filtrate Treatment Facility

Photo 3: Blue Plains Filtrate Treatment Facility (photo courtesy of PC Construction Company)

This District of Columbia Water and Sewer Authority (DC Water) project involves the construction of a new side stream Filtrate Treatment Facility at Blue Plains Advanced Wastewater Treatment Plant. The Filtrate Treatment Facility contributes to continuing high quality effluent discharge from Blue Plains into the Potomac River. The facility reduces the highly concentrated ammonia load from the final dewatering facility recycle before it is delivered back into the mainstream process.

The facility uses a new biological process called DEMON® (from the word DEamMONification) in a series of sequencing batch reactors with varying aeration levels. The recently discovered microbes belonging to bacterial phylum Planctomycetses have the ability to remove nitrogen without the addition of chemicals (i.e. methanol) and reduce the significant power requirements that are normally associated with the removal of nitrogen in a typical Nitrification-Denitrification Process thereby significantly reducing costs.

This project increases the ability of the Blue Plains Advanced Wastewater Treatment Plant to reliably and consistently remove nitrogen from the wastewater. This is helping DC Water to meet its National Pollutant Discharge Elimination System (NPDES) Permit requirement that limits the amount of nitrogen the plant may discharge to the Potomac River to 4.7 million pounds a year. The new nitrogen limit was adopted to support the nutrient reduction goals of the Chesapeake Bay Program. The new nitrogen limit is consistent with the Long Term Control Plan Consent Decree between EPA and DC Water, dated March 23, 2005.

EPA manages this project with assistance from the U.S. Army Corps of Engineers and DC Water.

Photo 4: Drinking Water Infrastructure Improvements (photo courtesy of ASPA)

Region 9: American Samoa

American Samoa Power Authority
Drinking Water Infrastructure Improvements

The American Samoa Power Authority (ASPA) initiated construction of three new production wells, including two new water storage tanks. The new construction will connect to the Central Water System and be completed by the end of August 2018. This critical project will reduce pathogens in American Samoa's drinking water system. Much of the Central Water System has been under a boil water notice since March 2010. Completion of this project will allow ASPA to lift the boil water notice for approximately 9,000 people, about 15% of American Samoa's population. ASPA began strategically drilling new wells in its continuing effort to reduce pathogens in its water system and lift the boil water notice throughout the territory. EPA provides the primary source of funding for making improvements to American Samoa's drinking water system.

Photo 5: Identified Waterline Leak Marked for Repair
(photo courtesy of David Hidalgo, CUC)

Region 9: Commonwealth of the Northern Mariana Islands
Commonwealth Utilities Corporation
Water Loss Project and
Sustainable Drinking Water & Energy Savings

The Commonwealth Utilities Corporation (CUC) is proactively addressing water loss to improve the sustainability of its groundwater resource. Since January 2016, CUC reduced water loss by 6%. To accomplish this success, CUC focused its efforts on three priority areas: (1) replacement of faulty, inaccurate water meters at homes, apartments, and commercial establishments; (2) distribution and main improvements that provide substantial flow control and illegal service disconnection benefits; and, (3) extensive leak detection efforts that have been followed by immediate repairs implemented through priority areas. This work is a significant step forward for CNMI in initiating and sustaining efforts to address water loss. CUC is successfully implementing this non-revenue water program with support from EPA grant funding.

Region 9: Guam
Guam Waterworks Authority
Institutional Capacity Building/Asset Management

Through an in-kind technical services contract, EPA provided grant funding to increase the technical, financial, and managerial capacities at the Guam Waterworks Authority (GWA). The project included the development and implementation of enterprise-wide standard operating procedures, an upgraded geographic information system, and the creation of an asset management program. Working closely with EPA's contractor on asset management, GWA completed an asset inventory, installed a new computerized maintenance and management system for the control and tracking of work orders, and implemented a condition and criticality assessment tool. GWA is beginning to see a significant increase in the ratio of preventative to corrective maintenance. The five-year project helped GWA improve operations and management of their water and wastewater systems and implement standardized procedures and tracking for a more effective and efficient capital improvement program.

Photo 6: New WWTP at Agat-Santa Rita in Guam

For more information about this program, please contact us at:
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