TESTIMONY OF MICHAEL H. SHAPIRO
DEPUTY ASSISTANT ADMINISTRATOR,
OFFICE OF WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE
SUBCOMMITTEE ON INTERIOR, ENVIRONMENT, AND RELATED AGENCIES
COMMITTEE ON APPROPRIATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

MARCH 13, 2013

Chairman Simpson, Ranking Member Moran, and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the state of our nation's drinking water and wastewater infrastructure, as well as the accomplishments of nation's primary Federal sources of low-cost infrastructure financing, the Clean Water and Drinking Water State Revolving Fund programs.

Clean water contributes to our public health, our drinking water supplies, and to the welfare of our families and communities, whether in large cities, small towns, or rural America. It is also vital to the economy as polluted waterways decrease tourism, property values, commercial fishing, and harm many of the businesses that depend on clean water. The range of businesses that we depend on—and who, in turn, depend on a reliable and plentiful supply of clean water—include tourism, farming, fishing, beverage production, manufacturing, transportation, and energy generation, just to mention a few. We have certainly come a long way in improving protection for public health, water quality, and the environment under the Clean Water Act and Safe Drinking Water Act since the creation of the EPA over 40 years ago. Our nation's drinking water meets standards as protective as any in the world, and we have

improved water quality and increased public health protection in streams, lakes, bays, and other waters nationwide. However, significant challenges remain.

Challenges Facing our Nation's Water Infrastructure

Our nation needs significant water and wastewater infrastructure investment. According to the EPA's surveys, America needs $300 billion in wastewater[1] and $335 billion in drinking water[2] infrastructure improvements over the next 20 years.

Despite the progress made since passage of the CWA and SDWA in constructing and operating wastewater treatment facilities and drinking water systems and pipe, the nation will continue to face water pollution and safe water challenges related to water infrastructure in the years ahead. The Census Bureau projects a 35% increase in U.S. population by 2050 with resultant demands on both CWA and SDWA programs and the infrastructure they support.

By 2025, increasing population growth combined with other factors will result in a projected rate of biochemical oxygen demand (BOD), a conventional pollutant under the CWA, being discharged by Publicly Owned Treatment Works (POTWs) at a level about equal to the rate experienced in 1968 (21,280 metric tons per day), the year when the discharge of oxygen-demanding material from POTWs had reached its historical peak.[3] This projection underscores the importance of investing in wastewater treatment infrastructure to maintain and improve pollutant removal efficiencies. Many of the environmental successes of the past three decades may be overwhelmed by future demands. These trends also have implications for drinking water

---

[1] EPA, "Clean Watershed Needs Survey 2008 Report to Congress," http://water.epa.gov/scitech/datait/databases/cwns/2008reportdata.cfm

[2] EPA, "2009 Drinking Water Infrastructure Needs Survey and Assessment: Fourth Report to Congress," http://water.epa.gov/infrastructure/drinkingwater/dwns/index.cfm

[3] EPA, "Progress in Water Quality: Technical Report," Executive Summary, 2000, http://water.epa.gov/polwaste/wastewater/treatment/benefits.cfm

utilities with respect to the quality of their source waters. These drinking water and wastewater infrastructure challenges will be faced by systems across the country, both in our large and growing urban centers as well as our rural towns.

The complexity of the challenges facing water utilities also continues to increase. For example, many wastewater treatment facilities have had to add nutrient removal technologies in order to restore and maintain water quality. Another example is stormwater pollution, which is one of our nation's most challenging water quality problems and is a significant contributor to the impairment of the country's streams, rivers, and watersheds. Unlike pollution from industry or sewage treatment facilities, which is caused by a discrete number of specific sources, stormwater pollution derives from a very large number of point and nonpoint sources. Rainwater and snowmelt runs off landscaping, parking lots, streets, buildings, farms, and construction and industrial sites. This water picks up fertilizers, soil and sediments, pesticides, oil and grease, heavy metals and many other pollutants on the way to our rivers, lakes, and coastal waters. The impermeable surfaces of our traditional urban and suburban landscapes also result in increased stormwater volume. In addition to these problems, many older cities (including many of our nation's largest cities) have combined sewage and stormwater pipes which periodically—and in some cases frequently—overflow due to precipitation events affecting the quality of water supplied to downstream drinking water facilities.

Implementing the projects that are needed to maintain and upgrade our existing water and wastewater infrastructure will be a critical challenge in the years ahead to ensure that our infrastructure continues to provide us with clean drinking water and healthy rivers, lakes, and streams.

Tools for Protecting Public Health and the Environment

Financing

Two of the nation's most important sources of water infrastructure financing are the Clean Water and Drinking Water State Revolving Fund (CWSRF and DWSRF) programs. In 2012 the SRFs provided $7.7 billion in funding to more than 2,600 communities across the country. Through FY 2012, total funding contributed by Federal appropriations and by states over the life of the two programs is closing in on $120 billion, with only $52.6 billion of these funds having come from Federal appropriations.

The CWSRF program supports the overarching goal of protecting public health and aquatic systems throughout the country. The CWSRF program has made available approximately $97 billion for loans, and more than 32,000 individual loans have been made. Over the last 3 years, the CWSRF program has provided on average $6 billion per year to communities. Projects include wastewater treatment, nonpoint source pollution control, and watershed and estuary management. About half of the CWSRF funds – more than $50 billion since the program's inception – has gone towards improving wastewater treatment plants and advanced treatment practices. More than $20 billion has helped address sewer overflow issues and more than $15 billion in funding has gone towards new sewers. An additional $4 billion has gone towards addressing non-point sources of water pollution and protecting and restoring our estuaries.

The DWSRF program helps to ensure that the nation's drinking water remains safe. Since its inception, the DWSRF program has provided approximately $23.7 billion in assistance through nearly 10,000 loans that have improved public health protection for millions of people.

Over the last 3 years, the DWSRF program has provided on average $1.9 billion per year to communities. These funds provide drinking water systems with critical support to comply with Safe Drinking Water Act regulations and provide people with clean and safe water.

The SRFs are low-interest loan programs that give states flexibility in financing projects. The EPA provides capitalization grants to the State SRF programs as an investment in the nation's infrastructure. States also contribute an additional 20 percent of what the EPA provides, further enhancing the size of the program. States make loans at below market rates, at an average of two percentage points below market over the last several years. This results in a substantial interest savings for communities, providing the equivalent to a grant covering approximately 20% of the cost of a project. States even have the flexibility to charge no interest over the life of a loan. Both SRF programs operate on the basis of cost reimbursement. Even though a grant is made directly to a state by the EPA, no funds leave the Treasury until costs are incurred. The programs emphasize a low-cost planning process that leverages and stretches every dollar expended by investing in sustainable solutions, endorsing a "fix it first" approach that focuses on system upgrades and replacements, and preserving natural resources or use alternative approaches to integrate natural or "green" systems. One of the most important features of the SRFs is that repayments are recycled back into the program to provide an ongoing funding source for additional water projects. Additionally, states have the ability to leverage federal grant awards through the sale of bonds. A very basic example of bond leveraging is a state that receives a $10 million annual capitalization grant. The state then uses the grant funds as security for a $20 million bond sale, of which all of the proceeds are used to fund needed infrastructure projects. Twenty-eight CWSRF programs and 22 DWSRF programs have

leveraged by issuing bonds. The net proceeds of these bonds have provided approximately $38 billion in additional funding for critical projects.

Since the passage of the American Recovery and Reinvestment Act (ARRA), states have been given authority in both programs to use a portion of their capitalization grants for additional subsidization, in the form of principal forgiveness or grants. This valuable authority has allowed states to provide critical resources to our most needy communities that could not afford SRF loans, even at subsidized rates.

The SRFs fund systems based on the State's assessment of greatest need, which often includes small systems or those serving disadvantaged communities. More than $2 billion in funding from the SRFs this year reached more than 1,800 communities of 10,000 or fewer people. These communities typically have fewer options for financing infrastructure improvements, and SRF funding enables them to make necessary investments to help protect public health in their communities.

Green Infrastructure

Another important feature of the SRF programs is the Green Project Reserve, first introduced in the ARRA, which helps utilities function in more environmentally-sound ways. This feature was continued in subsequent requests and appropriations, and has increased funding and visibility for green infrastructure.

Green infrastructure is a promising approach for reducing stormwater pollution from its diverse sources and can help catalyze significant improvements to our nation's water quality, ensuring that drinking water sources are protected. Green infrastructure techniques utilize natural systems, or engineered systems that mimic natural landscapes, to capture, cleanse and reduce stormwater discharges using plants, soils and microbes. Green infrastructure can also

support reuse of rainfall, thus also reducing the volume and impacts of stormwater discharges to water quality.

On a regional scale, green infrastructure consists of a network of open spaces and natural areas (such as forested areas, floodplains and wetlands) that improve water quality while providing recreational opportunities and wildlife habitat. When discussing green infrastructure at large geographic scales, it is also important to consider the value of open space preservation and natural resource protection for purposes of wildlife habitat and other ecological functions. On the local scale, green infrastructure consists of site-specific management practices, such as rain gardens, porous pavements, green roofs and cisterns, that are designed to maintain natural hydrologic functions by absorbing and infiltrating precipitation where it falls, and by returning it to the atmosphere via plants.

Green infrastructure has a number of other environmental and economic benefits in addition to improving water quality, including recharge of ground water and surface water supplies; cleaner air; reduced urban temperatures; reduced energy demand; carbon sequestration; reduced flooding; and community benefits, such as improved aesthetics; improved human health; additional recreational and wildlife areas; and potential cost savings associated with lower capital costs compared to building large stormwater collection and conveyance systems.

Sustainability

While SRF funds play an important role in addressing the nation's infrastructure needs, the EPA is also playing a broader role in working to ensure that investments by federal, state, and local governments and the private sector are used as effectively as possible. To this end, the EPA has been stressing the concept of sustainability to plan for future drinking water and wastewater

needs. The EPA is working with partners across the water sector and beyond to provide the knowledge and tools to ensure that the investments we make in our water infrastructure move us toward a more sustainable footing. The goal can be achieved through strong infrastructure planning and management practices at water utilities. We are targeting our resources toward helping systems achieve results in the following areas:

- Promoting an asset management framework that ensures that the right investments are made at the right time.
- Promoting water and energy efficiency to ensure that water sector systems adopt sustainable practices and technologies for improving their efficiency, reducing costs and addressing future needs.
- Promoting infrastructure financing and providing options to pay for water infrastructure needs, including through full-cost pricing.
- Promoting alternative technologies and assessment to ensure that systems are using the best and most innovative solutions when investing in water infrastructure.

We are committed to promoting sustainable practices that will help assure that communities continue to enjoy the benefits of clean and safe water. In October 2010, we issued a Clean Water and Safe Drinking Water Infrastructure Sustainability Policy. The Policy represents the next step in our efforts to increase the sustainability of water infrastructure. The Policy informs our water infrastructure activities funded through the SRF programs but is also intended to guide our efforts more broadly. Based on the principles laid out in the Policy, we will promote sustainability on three interrelated fronts—the sustainability of water infrastructure, the broader sustainability of water and wastewater utilities, and the role these play in fostering

the overall sustainability of communities. We will also work closely with the states to promote the use of SRF funds to support all of these fronts.

The Policy places significant emphasis on promoting planning by utilities that results in infrastructure investments that also support other relevant community goals. The Policy encourages a robust analysis of various infrastructure options, including green and decentralized approaches; and encourages utilities to implement management strategies and rate structures that support systems' necessary water infrastructure investments and operations and maintenance. We will also continue to work with utilities to ensure they have the technical, financial, and managerial capacity to effectively manage all aspects of their operations. Finally, under the umbrella of the HUD-DOT-EPA Partnership for Sustainable Communities, we will work to help coordinate federal infrastructure investments with these other federal partners.

Conclusion

The CWSRF and DWSRF programs are clearly focused on actions and funding to achieve compliance with environmental and public health standards. Addressing these challenges will take effort from the EPA, states, communities, and other partners, and will require us to use more innovative and sustainable tools to solve these significant challenges. We look forward to working with Members of the Subcommittee, our federal and state colleagues, and our many partners, stakeholders, and citizens who are committed to continuing our progress in providing clean and safe water to all Americans. Thank you again for inviting me to testify and I would be happy to respond to any questions you may have.