



**Mike DeWine**, Governor  
**Jon Husted**, Lt. Governor  
**Laurie A. Stevenson**, Director

September 30, 2020

Mike DeWine, Governor  
State of Ohio  
Riffe Center, 30th Floor  
77 South High Street  
Columbus, OH 43215-6117

Dear Governor DeWine:

Under the federal Safe Drinking Water Act (SDWA), each state is required to complete a report every three years which highlights their efforts in implementing strategies that improve the technical, managerial, and financial capacity of our public drinking water systems. This report, entitled "State Fiscal Year 2018 through 2020 Triennial Report on the Capability Assurance Strategy for the State of Ohio" is attached. The report is required under the SDWA to be submitted to U.S. EPA and the Governor.

The attached report outlines Ohio EPA's activities and accomplishments over the last three program years. Much of our focus during this time has been in the development and implementation of comprehensive statewide asset management regulations, developed under the authority of Ohio SB 2, passed in 2017. Implementation of asset management is equivalent to U.S. EPA's capacity assurance.

The intent of an asset management program is to provide our public drinking water systems with a comprehensive tool to better manage, operate, and maintain their systems in a cost-effective manner and consistently meet safe drinking water requirements. Ohio EPA has been working to implement asset management through our drinking water program and we support communities with technical and financial assistance to both develop plans and make infrastructure improvements. The work done through this program also aligns with our objectives under H2Ohio, particularly in meeting the infrastructure needs in our disadvantaged communities.

We look forward to continuing our work in the important area of supporting communities and infrastructure improvements throughout Ohio. Please contact me if you have any questions regarding the attached report.

Sincerely,

A handwritten signature in black ink that reads "Laurie A. Stevenson".

Laurie A. Stevenson  
Director

Enclosure

ec: Sahba Rouhani, Capacity Development Coordinator, U.S. EPA Region 5  
Amy J. Klei, Chief, DDAGW  
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# **Capablility Assurance Strategy**

## ***Ohio's Efforts to Ensure Safe Drinking Water for Ohioans***

**Triennial Report to the Governor**



Division of Drinking and Ground Waters

September 2020

## REQUIREMENTS OF THIS REPORT

This Capability Assurance Strategy Triennial Report to the Governor was prepared by Ohio EPA in fulfillment of Section 1420(c)(3) of the 1996 Amendments of the Safe Drinking Water Act which requires:

“Not later than 2 years after the date on which a State first adopts a capacity development strategy under this subsection, and every 3 years thereafter, the head of the State agency that has primary responsibility to carry out this title in the State shall submit to the Governor a report that shall also be available to the public on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the State.”

The United States Environmental Protection Agency (U.S. EPA) has established a triennial September 30 deadline for submitting these reports. Further, Section 1452(a)(1)(G)(i) op. cit. requires:

*“NEW SYSTEM CAPACITY.—Beginning in fiscal year 1999, the Administrator shall withhold 20 percent of each capitalization grant made pursuant to this section to a state unless the state has met the requirements of section 1420(a) (relating to capacity development) if the State has not complied with the provisions of section 1420(c) (relating to capacity development strategies). Not more than a total of 20 percent of the capitalization grants made to a State in any fiscal year may be withheld under the preceding provisions of this clause. All funds withheld by the Administrator pursuant to this clause shall be reallocated by the Administrator on the basis of the same ratio as is applicable to funds allotted under subparagraph (D). None of the funds reallocated by the Administrator pursuant to this paragraph shall be allotted to a State unless the State has met the requirements of section 1420 (relating to capacity development).”*

## INTRODUCTION

Approximately 90 percent of Ohioans receive water used for bathing, cooking, and drinking from a public water system. Even people who have their own private wells to meet their daily needs will visit other homes or businesses served by a public water system. Children and seniors are the most susceptible to illness and death from several contaminants regulated by federal and state drinking water laws including lead, mercury, nitrates, bacteria, and viruses.

As important as public water systems are to the quality of water we drink, and therefore our health, most of the water produced by public water systems is used by businesses and for fire protection. Properly designed public water systems, including the distribution system, are essential to ensure adequate supplies of water are available for firefighting. Ohio businesses need adequate supplies of good quality water for processing, cooling, and product manufacturing. The availability of adequate supplies of water is often a critical factor in attracting new industry to Ohio.

Ohio EPA’s Division of Drinking and Ground Waters is responsible for overseeing Ohio’s public water systems to ensure they comply with all federal and state drinking water laws and provide adequate supplies of safe drinking water. There are approximately 4,390 public water systems in Ohio including about 1,220 community public water systems serving cities, villages, rural communities, mobile home parks, and 650 non-transient non-community systems such as schools, day cares, and businesses and 2,650 transient noncommunity systems such as restaurants, campgrounds, and churches.

The Capability Assurance Strategy for the State of Ohio was approved by the U.S. EPA Region 5 Safe Drinking Water Branch on September 25, 2000. This report may be found on the Ohio EPA, Division of Drinking and Ground Water's web page at:

<https://epa.ohio.gov/ddagw/pws/assetmanagement#186565321-resources>. This report is based on data for State Fiscal Years (Program Years (PYs) 2018, 2019, and 2020 which covers the period July 1, 2017, through June 30, 2020, except for the compliance data which is from our shared goals with U.S. EPA.

## **PRIMARY OBJECTIVES IN OHIO'S CAPABILITY ASSURANCE STRATEGY**

1. Encourage water systems to actively engage in long-term planning for the future of their systems.
2. Promote regionalization to ensure long-term sustainability of water systems.
3. Enable water systems to maintain compliance with the Safe Drinking Water Act.
4. Assist public water systems in the training and certification of operators.
5. Assist water systems vulnerable to emerging contaminants.
6. Assist water systems in protecting source waters.
7. Assist water systems in contingency planning.

By working with systems to enhance these areas, Ohio can promote sustainable public water systems, greater long-term compliance with national primary drinking water regulations, and public health protection for the citizens of Ohio. Ohio's commitments to these objectives are highlighted most recently with the H2Ohio initiative, [h2.ohio.gov](http://h2.ohio.gov), and the Per- and Polyfluoroalkyl Substances (PFAS) Action Plan, [pfas.ohio.gov](http://pfas.ohio.gov).

## **CURRENT PUBLIC WATER SYSTEM CHALLENGES IN OHIO**

The Needs Survey and Assessment is a periodic national review of infrastructure projects needed to provide safe drinking water to the public for the next 20 years. According to the 2015 Ohio Needs Survey, Ohio's overall drinking water infrastructure needs total approximately \$13.4 billion of capital investment to maintain transmission, distribution, source, treatment, and storage of public drinking water. As U.S. EPA implements the next Needs Survey in 2021, this number is likely to increase.

Across the nation, drinking water system infrastructure is aging. Communities in Ohio and other states face increasing costs to manage and operate water systems, which has made it progressively more difficult to maintain reliable systems. When operations and maintenance items are delayed due to lack of funding, this can cause problems.

Failing drinking water infrastructure can result in temporary losses of water, restrictions on water use, loss of water for fire protection, and damage to other critical infrastructure. Impacts such as increased illness (due to lack of access to safe water and unsanitary conditions) and significant impacts to local economies are critical concerns.

Ohio EPA is developing a state-wide asset management program to help communities identify failing infrastructure and to be proactive about planning, operations, and maintenance activities. Ohio's experience is that many depressurizations and aging infrastructure issues can be prevented or minimized with comprehensive asset management and maintenance. As an example, over the last three years, Ohio EPA has focused on ensuring water systems have up-to-date valve-exercising programs and contingency plans to address this issue. Additionally, Ohio EPA provides grant funding to help small community systems purchase emergency generators.

## **ASSET MANAGEMENT PROGRAM**

In 2017, Senate Bill 2 (SB 2) was introduced to the Ohio Legislature which proposed that all public water systems in Ohio must demonstrate technical, managerial, and financial capability by implementing an asset management program by October 1, 2018. With the passing of SB 2, which revised Ohio Revised Code (ORC) 6109.24, Ohio EPA began early stakeholder outreach to ensure that stakeholders were brought into the rule process for early feedback and throughout the rule-development process. Ohio EPA worked with a group of water systems representing the American Water Works Association (AWWA) to refine the draft rules and implement in the Ohio Administrative Code (OAC 3745-87). The OAC changes were effective November 8, 2018, and all public water systems in Ohio are required to have an asset management program developed and implemented.

Since the passage of SB 2, Ohio EPA has worked to implement an asset management program to ensure technical, managerial, and financial capability at our public water systems. The intent of asset management is to provide public water systems with a tool to better manage, operate, and maintain their water system. This proven structured approach to managing assets allows Ohio PWS's to better plan and minimize risk.

An asset management approach will help systems throughout Ohio identify and proactively address common problems including aging infrastructure, deferred maintenance, lack of financial capability, high water loss, and inadequate maps of distribution piping and service areas. These issues often lead to water-use restrictions for Ohioans and lost revenue from water loss from water systems. By working with systems to enhance these areas of capacity, Ohio can promote sustainable public water systems, greater long-term compliance with national primary drinking water regulations, and public health protection for the citizens of Ohio.

## **ASSET MANAGEMENT AND OHIO'S CAPABILITY ASSURANCE STRATEGY**

Ohio's Capability Assurance Program is designed to help public water systems improve their technical, managerial, and financial capabilities so that they can provide safe drinking water consistently, reliably and cost effectively to Ohioans.

Ohio uses its new asset management Program requirements as a vital tool to meet U.S. EPA Capability Assurance Program requirements and ensure that all public water systems have technical, managerial, and financial capability. The asset management rules are separated into three interrelated but distinct areas: Technical, Managerial, and Financial.

**Technical** - This is the physical and operational ability of a water system to meet Safe Drinking Water Act (SDWA) requirements. Under Ohio's asset management rules, public water systems are required to demonstrate adequate technical capacity by developing the following: schematic of the water source treatment, storage and distribution; inventory of assets; evaluation of assets; operation and maintenance programs; emergency preparedness and contingency planning; source water protection; approved capacity projections; criteria and timelines for infrastructure rehabilitation and replacement; and a capital improvement plan.

**Managerial** – This is the ability of a water system to operate in a manner that enables the system to achieve and maintain compliance with SDWA requirements, including institutional and administrative capabilities, ownership accountability, appropriate staffing, and organization. The asset management rules require the system decision makers to take responsibility and ownership of the operation of the water system as a whole and run the water system like a business.

**Financial** – This is the ability of a public water system to acquire and manage enough financial resources to achieve and maintain compliance with SDWA requirements. With the implementation of the asset management rules, systems are now required to include a long-term funding strategy to support asset management program implementation, which includes identifying sources and amounts of funds to finance the needed repair, rehabilitation, replacement, or expansion of assets.

## **PRIORITIZING ASSET MANAGEMENT**

Ohio Administrative Code Chapter 3745-87 provides Ohio's legal authority to now require all public water systems in Ohio to implement an asset management program starting October 1, 2018. Ohio is identifying public water systems most in need of improving capability through:

1. Requiring and reviewing a written asset management program for new systems, existing systems during the sanitary survey process, and Water Supply Revolving Loan Account applicants.
2. Working with systems in enforcement to ensure they have implemented a written asset management program.
3. Identifying capability issues at systems that have experienced issues in responding and/or recovering from emergencies to improve their capability through asset management planning.

### New Systems

After October 2018, all new public water systems must have a written asset management program prior to detail plan approval and start-up of the system. Prior to this, all new systems had to submit a capability assurance plan (CAP) before detailed plan approval and start-up of the system. Since the last triennial report submitted in September 2017, Ohio EPA activated six community systems, and 32 non-transient non-community water systems. All these new systems had an acceptable asset management plan or capability assurance plan prior to start-up of the system.

### Existing Systems

Following implementation of the asset management rules, Ohio EPA has incorporated questions about asset management in routine sanitary surveys. A sanitary survey is an on-site review of a public water system's water source, facilities, equipment, operations, and maintenance. They are designed to identify conditions that may present a sanitary or public health risk and identify systems that may require technical, managerial, or financial capacity development. Many deficiencies and violations noted during a sanitary survey are directly linked to asset management so co-evaluation allows the Agency to leverage holistic asset management as a tool to achieve compliance.

Community systems undergo a sanitary survey every three years and non-community water systems undergo a sanitary survey every five years. Incorporation of asset management screening into the sanitary survey process provides a structured continual evaluation of public water system capability and asset management program implementation.

### Enforcement

Ohio reviews the federal quarterly Enforcement Targeting Tool list and enforcement priority list on a continuous basis to determine if systems need further technical, managerial, and financial assistance or a more in-depth screening of their asset management program.

With the formation of the asset management rules, capability specific items are now addressed in enforcement cases and a deficient asset management program can now be cited so Ohio EPA staff can work towards greater capacity during all enforcement cases.

Systems listed on the enforcement priority list can benefit from technical assistance provided by Great Lakes Rural Community Assistance Program (RCAP)

#### Identifying Capability Issues in Response to Emergency Incidents

When a PWS experiences a failure, Ohio EPA works closely to help minimize and prevent future impacts to Ohioans. Oftentimes failures are preventable. The response to an emergency can be planned by implementing an adequate asset management program. For example, a system that did not have the required up-to-date maps experienced a large main break that depressurized the entire distribution system. It could not find the leak (no leak detection capabilities) and could not find the appropriate valves to isolate the leak. The system was depressurized for an extended period and had issues providing enough bottled water for the citizens' consumption needs. This was a small system with few resources, antiquated infrastructure, very limited financial capacity, and recovery from this event continued to be a burden on this community for a long time. Since these requirements have been in effect, this system developed portions of its asset management program that resulted in accurate maps of their distribution system, increased the number of working valves and effective management of water line breaks.

### **RESOURCES TO HELP OHIO'S PUBLIC WATER SYSTEMS**

#### Technical and Compliance Assistance

Ohio has an agreement with RCAP to offer technical, managerial, and financial assistance to community and non-transient non-community systems that serve fewer than 10,000 in population. RCAP provides training and technical assistance at no cost to the public water system on various topics and issues. Over the past three years, RCAP provided in-person training to 675 systems and online training to 202 systems. Combined, these trainings had 2,042 attendees. RCAP also assisted 368 systems to increase technical, managerial, and financial capability and worked with 21 systems to provide intensive technical assistance.

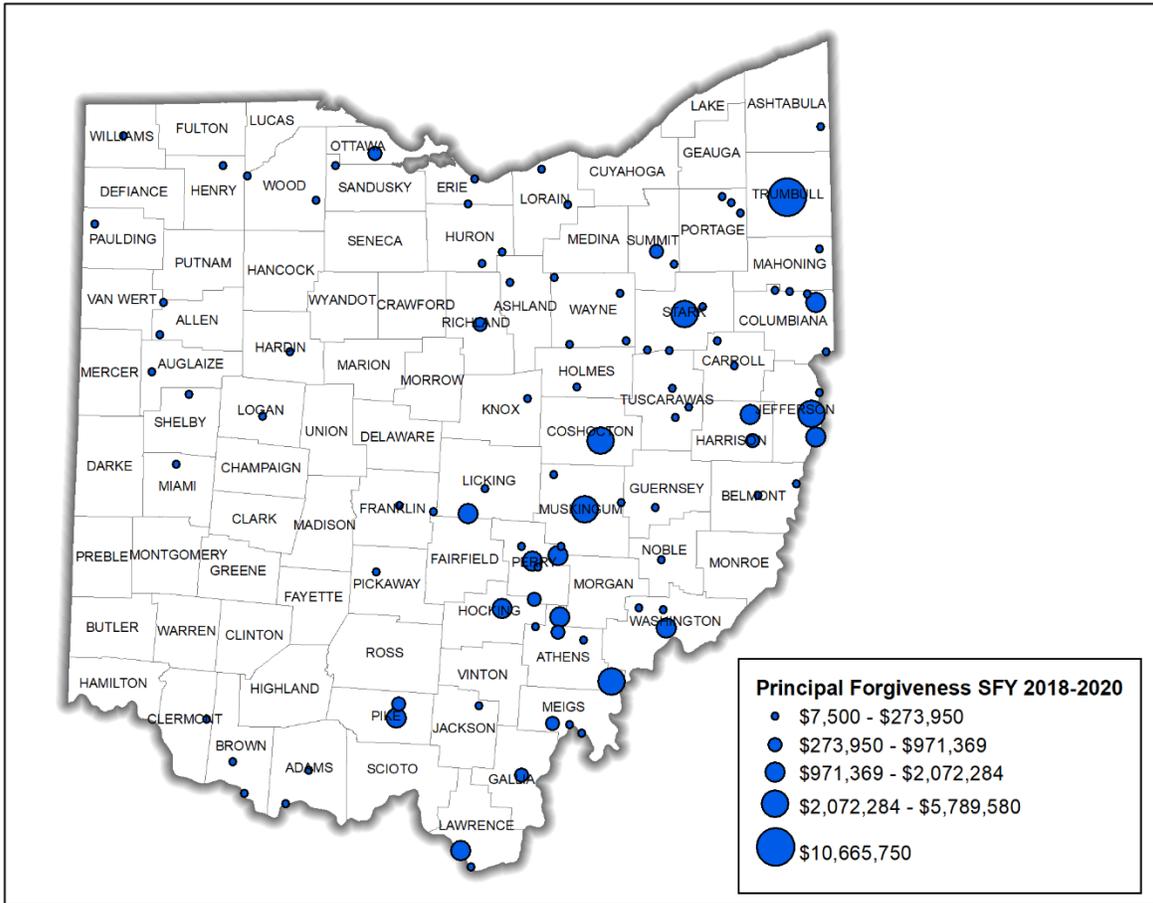
Ohio sends out reminder postcards and automated phone calls to systems that have not monitored as a reminder to monitor and remain in compliance with the rules. For example, during SFY 2018 to SFY 2020, more than 27,100 reminder postcards and 16,500 automated reminder calls were sent and as a result, 97 percent of systems then completed the monitoring for total coliform.

Ohio has 11 electronic service communications (ListServ) for programs such as Compliance, Drinking Water Assistance Fund, Operator Certification, Rules Update, Underground Injection Control Rules, and LT2/Stage 2, with a total of approximately 29,000 subscribers to disseminate rule and programmatic information.

#### Financial Assistance Through the Water Supply Revolving Loan Account

The Water Supply Revolving Loan Account (WSRLA) provides financial assistance for the planning, design, and construction of improvements to community water systems and non-profit non-community public water systems. Ohio issued WSRLA loans to 161 systems in the last triennium. All 161 systems had the required asset management programs.

WSRLA Principal Forgiveness: \$54 million in SFY 2018-2020



Over the past three program years, Ohio has heavily incentivized less-capable, disadvantaged communities to improve capability by:

**Asset Management Program Development Funding**

With the new asset management requirements WSRLA funds were offered to help in developing asset management programs. In PYs 2018 and 2019, the WSRLA offered up to \$10,000 in principal forgiveness per applicant and a no interest loan for asset management planning loans. A total of 77 communities were awarded planning loans with a total of \$746,833 in principal forgiveness.

**Regionalization Funding**

Ohio EPA continues to strongly support drinking water regionalization projects by offering incentives such as principal forgiveness and no interest loans. Over the past three program years, Ohio EPA has funded 22 regionalization projects with a total of \$49 million in WSRLA funding which includes \$29 million in principal forgiveness. Regionalization projects funded by WSRLA include waterline extensions that will tie in other existing public water systems such as municipalities, schools, mobile home parks, and homeowners' associations to a public entity that is able to manage such systems more effectively. In addition, regionalization may involve connecting communities or residential areas served by individual poor quality/quantity wells.

### **Generator Funding**

To help community water systems increase their technical capacity to provide a continuous source of safe drinking water, Ohio EPA has offered grants over the past three program years to reimburse the initial cost of emergency generators and the necessary accessories. Equipment obtained under the grant must be used to purchase equipment necessary to power the water treatment plant in the event of electrical grid failure. Acceptable asset management plan documents must be submitted with the grant application to receive the funds. Grants may be requested for generators, supplies, and training in an amount not to exceed \$10,000. In the previous three program years, 49 public water systems have received grants for emergency generators and a total of \$440,000 has been awarded.

### **H2Ohio**

Ohio was able to further leverage WSLRA and the Federal WIIN grant funding through the H2Ohio initiative after it was launched in November 2019. Focused on shovel ready projects, H2Ohio money was used to help fund four water infrastructure projects in disadvantaged communities in rural Ohio serving more than 4000 people. Another \$1.5 million dollars was dedicated to addressing lead pipes and fixtures at high-risk day cares in conjunction with the federal lead testing WIIN grant. H2Ohio highlights Ohio's commitment to improving infrastructure capabilities.

## **TRACKING OHIO'S PROGRESS**

Development and implementation of Ohio's new asset management rules represents a major milestone in progress toward capable and sustainable water systems across the state. The intent of an asset management program is to provide public water systems with a comprehensive tool to better manage, operate, and maintain their water system in a cost-effective manner and consistently meet safe drinking water requirements. Ohio EPA has been working to implement asset management principles throughout the drinking water program.

The Agency has used a multi-pronged approach to evaluate the required asset management programs. Any system requesting a WSRLA loan must go through an asset management screening and comply with a schedule from the Agency to meet all requirements of the rule. Asset management related questions have been incorporated into the routine sanitary survey process. Enforcement actions include a required demonstration of compliance with the asset management rules. All new public water systems are required to make a demonstration of compliance with the asset management rules prior to plan approval and operation of the new system. Asset management evaluations are also completed for systems with obvious capability issues and the systems placed on compliance schedules.

## **LOOKING FORWARD**

### **Lead Service Line (LSL) Replacements**

On October 4, 2019, the federal Water Infrastructure Funding Transfer Act (WIFTA) was passed into law. Under WIFTA, a State may transfer up to 5 percent of the cumulative capitalization grants from the Clean Water State Revolving Fund (CWSRF) to the Drinking Water State Revolving Fund (DWSRF) to be used as principal forgiveness for projects that address exposure to lead in drinking water. To this end, Ohio EPA encouraged the nomination of LSL replacement projects in the August 2020 call for nominations to estimate the demand. The exact amount of the transfer will be determined prior to the federal October 2020 deadline. The general parameters of the transferred funds will be as follows: (a) funds will be available for award during PY 2021 and PY 2022, (b) nominations will remain open through PY 2021, and (c) funds will be awarded at 100 percent principal forgiveness up to \$1 million per applicant per year.

Additional funds could be awarded beyond the \$1 million cap at 0 percent loan funds. Readiness to proceed will be a main determiner in awarding funds.

### **Reducing Non-Revenue Water Loss**

In previous years and moving forward, reducing non-revenue water loss will continue to be a goal of Ohio EPA. The source of non-revenue water loss often comes from unmetered consumption, unbilled customers, meter inaccuracy, or distribution leaks. The required asset management program aids systems in realizing the true cost of non-revenue water loss and helps set a path forward in resolving water loss issues. Ohio now requires all community water systems to report non-revenue water annually which will help evaluate the effectiveness of the new asset management program requirements.

### **Annual Metrics Reporting**

Ohio EPA has required public water systems to report metrics on an annual basis to enable the Agency to evaluate asset management program implementation. The required metrics are based on industry standards. This will allow Ohio EPA to look at important trends that we can then use to focus our attention in terms of future outreach, training, and funding.

## **CONCLUSION**

Ohio has made great strides during SFYs 2018 – 2020 implementing the capability assurance strategy. We have achieved accomplishments in all our stated goals and objectives, added many new initiatives and developed additional tools to further the capability of Ohio's public water systems. In summary, we have implemented a new asset management program and incorporated the concept of capability into our sanitary survey process, enforcement process, and plan review process. We have conducted extensive outreach and educated many of Ohio's public water systems on the concepts of asset management providing water systems with the framework to develop and implement asset management programs. It is our hope to continue these efforts with asset management during the next triennium with the goal of becoming a more proactive program and to continue to ensure public health protection through safe and reliable supply of drinking water to Ohio's citizens. Ohio will post this report on our website, located at: <https://epa.ohio.gov/ddagw/pws/assetmanagement#186565321-resources>.