WRAP QUARTERLY UPDATE
July–September 2024

A Message from Paula Kehoe, Director of Water Resources at the San Francisco Public Utilities Commission and Chair of National Blue Ribbon Commission for Onsite Water Systems

In the early 2000s, the San Francisco Public Utilities Commission (SFPUC) identified a need to meet future water demands and diversify its water supply portfolio. In 2012, SFPUC championed groundbreaking legislation that allowed us to become the first municipality in the country to permit local buildings to collect and treat non-potable water on a decentralized scale to use water more efficiently and diversify our local water supplies. Our Onsite Water Recycling Program established local oversight and management tools to enable the use of alternate water supplies—such as rainwater, greywater, stormwater, foundation drainage and blackwater—in buildings and neighborhoods. The program also provides the design and development community with a streamlined permitting process, including water quality and reporting requirements, to protect public health.

When we launched our Onsite Water Recycling Program, other municipalities around the country started to express interest in a similar model. To support their efforts, and to expand onsite non-potable reuse, the SFPUC launched the National Blue Ribbon Commission for Onsite Water Systems (NBRC) with the U.S. Water Alliance, which is now sponsored by the WateReuse Association. Today, the NBRC is comprised of over 50 representatives from municipalities, water utilities and public health agencies who work together to create tools and resources to support implementation of this sustainable water strategy and to ensure that projects protect public health.

Over the last 12 years, we have shared many successes. We lead and partner on various actions in the National WRAP; eight cities and states are developing or have developed guidelines for onsite reuse; more manufacturers are producing modular systems in the marketplace than ever before; and there is greater alignment with industry codes and standards based on our collective work. However, there is still work to be done. I am pleased to report that in July, the NBRC posted the *2024 NBRC Action Plan: Accelerating Onsite Water Systems in Communities* to help continue the advancement and adoption of onsite water systems nationally. The plan includes 10 goals, including establishing national health risk-based treatment guidance, maximizing energy-efficiency and nature-based systems, promoting training and workforce development opportunities and expanding guidance to address single family water reuse applications.

To accomplish these goals and others, we need cross-cutting collaboration to forge new partnerships with groups actively engaged in onsite water systems across the world. The NBRC is establishing a new global network of allies, called BILD (Building Infrastructure Locally for Decentralized Water Systems), to encourage more knowledge sharing and implement projects on a broader scale. We are calling on experts like you to participate and look forward to hearing from you. Please contact me at pkehoe@sfwater.org.

Abbreviations are defined at the end of this document. See the Online Platform for more information about each action.

New WRAP Actions

WRAP actions seek to advance water reuse planning and implementation across the country. Actions are organized by strategic theme to help focus efforts and inspire future action. We are pleased to announce that the following new actions are now underway. To get involved or provide input, please email the action leaders using contact information from the Online Platform.

IN CASE YOU MISSED IT

WRAP email updates highlight relevant water reuse activities and events. Monthly updates from this past quarter are available online:

- July and August update
- September update

Policy Coordination

Identify Opportunities to Support the Mississippi River Basin States in Advancing Water Reuse (Action 2.20, led by the **WEF Reuse Committee Mississippi River Basin Focus Group**) Groundwater depletion, pollution and recent economic development are driving interest in alternative sources of water in many states of the Mississippi River Basin (Minnesota, Wisconsin, Iowa, Illinois, Indiana, Missouri, Ohio, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana). However, most of these states do not have well-defined regulatory frameworks for water reuse, and water reuse project implementation remains a challenge. Action leaders plan to develop a white paper for regulators in the Mississippi River Basin states on water reuse drivers and opportunities, along with a rulemaking framework to assist states seeking to advance water reuse implementation.

Finance Support

Integrating Equitable Outcomes into Water Reuse Projects (Action 7.13, led by **WRF**) Water reuse projects present opportunities to increase community resiliency and meet environmentally centered objectives. Implementation of these innovative infrastructure projects also presents an opportunity to incorporate equitable benefits and design considerations at the conceptual phase of a project. This action aims to describe how equitable impacts are relevant to water reuse projects and to provide communities with metrics to assess and inform decision-making processes during project implementation.

We welcome federal, state, Tribal, local and water-sector partners to propose actions to advance water reuse. Ideas for new actions may be sent to waterreuse@epa.gov. For information about how to propose, lead or collaborate on a WRAP action, visit this webpage.

Completed WRAP Actions

Two WRAP actions were completed this quarter, demonstrating continued progress under the strategic themes of Water Information Availability and Outreach and Communications. Completed WRAP Action Summaries are developed with action leaders and highlight impacts, lessons learned and potential future activities.

Water Information Availability

Identify Water Quality Monitoring Practices for Reuse Applications (Action 5.2, led by **WRF**) Enhancing the performance of monitoring technologies is key to improving operations and detecting potential hazards in water reuse projects. With many new monitoring tools under development, the action team helped increase the understanding of their applicability, use and interpretation. The team published two journal articles. The first article outlines a water quality screening model that features increased screening speeds, and the second article assesses surrogates for different viral classes to improve monitoring treatment efficacy. After hosting a technical workshop on the applications of *in vitro* bioassays for water quality assessment, the team also published a two-part technical report (part one and part two) describing three *in vitro* bioassays that can be applied to monitor recycled water quality.

Outreach and Communication

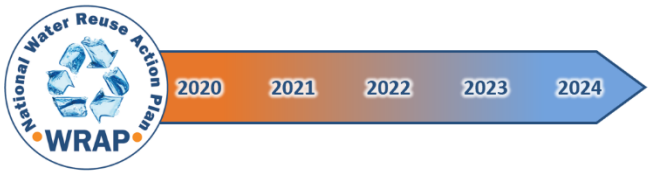
Compile and Develop Water Reuse Program Outreach and Communication Materials (Action 8.1, led by **WateReuse**)
Communication and public engagement efforts are critically important for increasing community awareness of, and support for, water reuse projects. The action team developed the living Water Reuse Communications Library to compile expert-developed water reuse outreach materials. Utilities and other communicators can use the library to understand the types of water reuse communication materials that have been used successfully. The action team also recommended materials that would be helpful to include in the library, such as classroom education resources, treatment train graphics and potable reuse risk assessments.

This Quarter's WRAP Action Outputs and Activities

Visit the Water Reuse Information Library for a robust set of WRAP outputs and other water reuse resources.

Publications and Presentations

The CDC Publishes a Recycled Water Webpage. The CDC published a new webpage titled "Recycled Water for Drinking: An Overview" on its Drinking Water resources site. The webpage presents an overview of recycled water practices in the United States that is accessible for non-scientific audiences and summarizes associated treatment processes and research on the safety of potable reuse. *(Action 8.6: Develop Water Reuse Communication Tools)*



The WRAP has:

- **74** Action Commitments
- **175** Action Leader & Partner Organizations
- **180+** Developed Resources

NBRC for Onsite Water Systems Publishes Action Plan. The NBRC recently published the *2024 NBRC Action Plan: Accelerating Onsite Water Systems in Communities*, which outlines 10 goals to advance the use of onsite water reuse and support sustainable water management. The action plan describes methods and best practices to promote the implementation of onsite water systems from the individual building level to entire neighborhoods. *(Action 3.4: Develop Research and Tools to Support Onsite Water Systems)*

The University of Southern California (USC) ReWater Center Releases Potable Water Reuse Report. The USC ReWater Center recently published a new issue of its Potable Water Reuse Report. In this installment, international potable reuse projects are highlighted, drawing attention to the disparity between the number of projects within and outside of the United States. The new report features interviews with members of the international potable reuse community discussing obstacles that inhibit the development of regulations abroad and provides a roadmap to address these challenges. **Sign up to receive these reports here**! *(Action 7.10: Implement the DoD-funded Water Reuse Consortium for Water Resiliency at Military and Municipal Facilities)*

The EPA Publishes Brief on Treating PPCPs in Wastewater. The EPA published a new technology brief providing preliminary information on treating PPCPs in municipal wastewater to inform the initial identification of PPCP treatment technology. This brief discusses the characteristics of PPCPs that make them resistant to removal in conventional wastewater treatment facilities and reviews known treatment options. Understanding removal efficacy of PPCPs in wastewater can help inform treatment needs and potential applications for different types of water reuse. *(Action 4.9: Incorporate Water Reuse Technology Resources into the SCOWT Platform)*

The EPA Releases New CWSRF Program Overview Fact Sheet. The CWSRF recently released an improved program overview fact sheet that details how the CWSRF can provide flexible, low-cost financing for water quality infrastructure projects, including water reuse projects. Other CWSRF fact sheets that describe funding for climate resiliency activities can be found here. *(Action 6.2A: Communicate Eligibility of Water Reuse in SRF Programs)*

WRF Hosts Webcast on National Research Strategy for Water Reuse. In late August, WRF hosted the webcast "Incorporating Academic Research into the Coordinated National Research Strategy for Water Reuse." The presentation introduced a draft framework for creating a prioritized research agenda that incorporates input from various water reuse stakeholders, such as utilities, consultants, academics and others interested in water reuse. To view a recording of the webcast, register here. *(Action 7.2: Develop a Coordinated National Research Strategy)*

Infrastructure Funding and Research Announcements

The EPA Awards $9 Million in Research Grants to Address Knowledge Gaps in AMR. In August, the EPA announced $9 million in grant funding to four institutions to address knowledge gaps and better identify and manage AMR risk. Wastewater treatment facilities are potential receptors and sources for antibiotic-resistant bacteria and genes. These research projects will measure the environmental health impact of AMR in wastewater and advance understanding of the evolution and spread of AMR. *(Action 7.9: Evaluate AMR in Wastewater: Research Grant)*

The Biden-Harris Administration Announces $7.5 Billion in Funding for Water Infrastructure Projects. In early September, the EPA announced the availability of $7.5 billion in WIFIA funding. This includes $6.5 billion available through WIFIA and $1 billion available through SWIFIA. Priority areas for this round of funding include strengthening climate resilience in the water sector and supporting water innovation and resilience, both of which can include water reuse projects. The EPA is accepting letters of interest for WIFIA and SWIFIA loans. *(Action 6.2B: Support and Communicate WIFIA Funding)*

The EPA Announces $14 Million WIFIA Loan to Develop Drought Solutions in California. The EPA announced a $14.8 million WIFIA loan to Palmdale Water District in southern California. This WIFIA loan will help the district's regional advanced water augmentation program—which will involve purifying recycled water for potable use—to expand the water supply by establishing a drought-proof drinking water supply for over 125,000 residents. The district's water purification demonstration facility will also test an emerging technology, called direct air capture, which is designed to transform brine into a solvent. It will capture carbon dioxide, reduce greenhouse gas emissions and lower operation and maintenance costs. *(Action 6.2B: Support and Communicate WIFIA Funding)*

The EPA Announces $188.3 Million WIFIA Loan to Upgrade and Expand Water Services in Central Florida. The EPA announced a $188.3 million WIFIA loan to the Toho Water Authority. With this loan, the authority will modernize water infrastructure in Polk and Osceola counties to help ensure a resilient water supply for over 450,000 residents. The EPA's WIFIA program will support Toho Water Authority's One Water Program, which aims to reduce reliance on fresh groundwater supplies by increasing the use of potable and non-potable water supplies. *(Action 6.2B: Support and Communicate WIFIA Funding)*

Abbreviations Used in This Document			
AMR	Antimicrobial resistance	SFPUC	San Francisco Public Utilities Commission
CDC	Centers for Disease Control and Prevention	SRF	State Revolving Fund
CWSRF	Clean Water State Revolving Fund	SWIFIA	State Water Infrastructure Financing Authority
DoD	U.S. Department of Defense	WateReuse	WateReuse Association
EPA	U.S. Environmental Protection Agency	WEF	Water Environment Federation
NBRC	National Blue Ribbon Commission	WIFIA	Water Infrastructure Finance and Innovation Act
PPCPs	Pharmaceuticals and Personal Care Products	WRF	Water Research Foundation
SCOWT	Searchable Clearinghouse of Wastewater Technology		