

NATIONAL WATER REUSE ACTION PLAN



WRAP QUARTERLY UPDATE July–September 2022

A Message from Alan Roberson, Executive Director of the Association of State Drinking Water Administrators (ASDWA)

There have been major steps forward in water reuse among states, thanks in part to successful collaborations formed between the EPA Water Reuse Program and a wide range of state associations and other organizations through the WRAP.

ASDWA and its members help ensure the protection of public health for potable reuse applications, which are becoming increasingly important as drought and other water quantity issues continue to intensify across the country. To date, our efforts have focused on compliance—ensuring that potable reuse projects are appropriately designed for redundancy and reliability and include sufficient monitoring to certify that the treatment is operating as designed. In August, ASDWA hosted a webinar on direct potable reuse (DPR) for states under [Action 2.2](#), where experts from California, Texas, and Colorado discussed considerations for reviewing and approving DPR in their states. These states and others are paving the way for a sustainable future in which potable reuse is common practice. To learn more about these efforts, view the webinar recording [here](#).

Recognizing that water availability is a multi-faceted and persistent issue, ASDWA will continue to support its members who are actively working on potable reuse, as well as those considering implementation or gathering more information. ASDWA is excited to continue supporting the WRAP and the EPA Water Reuse Program to help strengthen connections between federal and state regulators as we work to tackle water availability needs around the country.

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. Please email the action leaders, using contact information found in the [Online Platform](#), to get involved or provide input!

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 update](#)
- [August update](#)
- [September update](#)



Technology
Development
and Validation

Incorporate Water Reuse Technology Resources into the Searchable Clearinghouse of Wastewater Technology (SCOWT) Platform ([Action 4.9](#), led by EPA)

Brief description and strategic theme tie-in: SCOWT is an information-sharing platform developed by EPA that provides resources on the cost-effectiveness and performance of innovative and alternative technologies for centralized and decentralized wastewater treatment systems. Action leaders plan to add water reuse technology information, including reports, case studies, and webinars, to this platform to increase the visibility, accessibility, and consolidation of these resources. SCOWT focuses on small, mid-size, and underserved communities and benefits utility operators; state, local, tribal governments; and others in identifying water and wastewater infrastructure solutions.



Water
Information
Availability

Identify Opportunities to Implement Water Reuse within the Beverage Industry ([Action 5.7](#), led by GHD)

Brief description and strategic theme tie-in: Beverage production is water intensive. For example, on average, breweries use 4 to 12 gallons of water per gallon of beer and produce considerable volumes of liquid and solid waste requiring disposal. Action leaders plan to assess where in the beverage manufacturing process water can be recycled to not only make the process more efficient, but also help manufacturers reduce operating costs and meet the sustainability goals that many customers and markets demand. Action leaders aim to 1) identify opportunities for water reuse during beverage production; 2) assess possible challenges to implementing identified opportunities; and 3) develop resources to advance water reuse in the beverage industry. Outputs should provide information helpful for beverage manufacturers to implement water reuse at their facilities.



Integrated
Research

Enhanced Aquifer Recharge Performance and Potential Risk in Different Regional and Hydrogeological Settings Research Grant ([Action 7.8](#), led by EPA)

Brief description and strategic theme tie-in: As part of its STAR program, EPA is seeking applications proposing research to improve understanding of fit-for-purpose uses and risks to advance the scientific and technical foundation of EAR. In many locations, EAR can be a cost-effective way to augment water supplies, restore streamflow, and increase water security. Research is needed to better understand fit-for-purpose (whether EAR is capable of meeting objectives in a specific scenario) and to identify locally appropriate uses and risks of EAR using different source waters, with different end goals in diverse land use and hydrogeological settings. The RFA solicits research to provide new information that supports fit-for-purpose use and risk characterization for potential enhanced aquifer recharge sites and closes November 9, 2022.



International
Collaboration




Support Multi-Stakeholder Alignment to Advance Reuse Along the U.S.–Mexico Border ([Action 11.4](#), led by CONAGUA and EPA)

Brief description and strategic theme tie-in: The severe drought along the U.S.–Mexico border and throughout the Colorado River Basin has threatened the water supplies for many communities. In addition to these water supply challenges, Tijuana, Mexico, experiences inadequate wastewater collection and treatment. The United States and Mexico plan to work together to identify financial and technical assistance for developing water reuse projects. Through this action, action leaders hope to leverage American expertise in water reuse to advance a water reuse project on the border. Action leaders plan to work with federal, state, and local agencies in both countries to conduct a feasibility study, find potential funding mechanisms to support this project, and meet bilateral goals, which include addressing transboundary water pollution challenges along the shared border.

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 productivity and progress under the strategic themes for Policy Coordination and Finance Support. The [completed WRAP action summaries](#) were developed with action leaders and highlight impacts, lessons learned, and potential future activities.

WRAP Metrics	
	60 Total Actions
	134 Action Partners and Leaders
	11 Completed Actions (see completed WRAP action summaries for accomplishments, impact, and future activities)



[Propose U.S. Army Corps of Engineers Nationwide Permit Addressing Reuse](#) (Action 2.17, led by **USACE**)

The USACE Regulatory Program regulates discharges of dredged or fill material into waters of the United States, development of infrastructure (dams and levees), and other work such as infill for development in and around navigable waters. USACE issues individual permits for such activities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Under Section 404(e) of the Clean Water Act, USACE can issue general, nationwide permits to authorize activities that have only minimal individual and cumulative adverse environmental effects. A nationwide permit streamlines Department of the Army authorization of projects such as commercial developments, utility lines, or road improvements that have minimal impact on the nation’s aquatic environment. General permits can be issued for a period of no more than five years. In this action, USACE published [Nationwide Permit 59](#), which authorizes “discharges of dredged or fill material into non-tidal waters of the United States for the construction, expansion, and maintenance of water reclamation and reuse facilities.” This permit was effective as of February 25, 2022.



[Clarify and Communicate the Eligibility of Water Reuse Under the Clean Water and Drinking Water State Revolving Fund Programs](#)

(Action 6.2A, led by **EPA** in collaboration with two partners)

EPA provides annual grants to all 50 states and Puerto Rico to capitalize their state-managed CWSRF and DWSRF programs. States use the SRF programs to provide low-interest loans and other financial assistance to communities for a wide range of drinking water and wastewater infrastructure projects, including projects to support water reuse. To clarify reuse project eligibilities, this action evaluated how the individual state CWSRF and DWSRF programs support reuse projects. The action team created a [matrix](#) that summarizes the types of reuse projects that can be funded by the CWSRF or DWSRF programs. The team also developed a [document](#) that compiles data on financial assistance provided through the CWSRF program to communities for water reuse; since 1988, \$153 billion was awarded to communities for different water quality projects. A [best practices guide](#) was published that details specific policies and practices used by state CWSRF programs to support water reuse, including project priority-setting criteria and financial incentives. Lastly, the action team published fact sheets on [water reuse eligibility under the DWSRF](#) and [funding drought resiliency projects with the CWSRF](#).

Recent WRAP Action Outputs

The following WRAP action outputs were released this quarter. Visit the [Water Reuse Information Library](#) for a robust set of WRAP outputs and other water reuse resources.

Technical

- [Guidebook for Commissioning an Onsite Water Treatment System](#) – San Francisco Water Power Sewer published this guidebook, which provides information to assist design engineers, treatment system managers, and other stakeholders involved in starting up the operation of an onsite water treatment system. The guidebook outlines the process for commissioning an onsite system, discusses stakeholder roles, and provides guidance on inspecting and testing individual treatment processes. Other useful resources on onsite water reuse may be found [here](#). (*Action 3.4: Develop Research and Tools to Support ONWS*)
- [EPA Awards Nearly \\$2 Million to UC Berkeley to Support EAR Research](#) – EPA’s STAR Program awarded \$2 million in grant funding to the University of California, Berkeley, for research to develop a cost-benefit tool to support EAR as a viable, safe, and cost-effective water management strategy. The goal of this research is to improve understanding of the life-cycle analysis of EAR and help decisionmakers understand the costs and benefits of pursuing these strategies. Research to further develop tools, models, and frameworks to support EAR implementation will empower water professionals to make informed water management decisions. (*Action 7.7: Life-Cycle Analysis to Support Cost-Effective EAR*)

Financial

- [EPA Awards \\$6.4 Million for Research to Support National Water Reuse Efforts](#) – EPA announced grants totaling \$6.4 million to Iowa State University and the Water Research Foundation for research to support national efforts to reduce technological and institutional barriers for expanded water reuse. Iowa State University plans to accelerate water reuse adoption by addressing issues in water quality and availability in small, underserved communities, and the Water Research Foundation plans to quantify water reuse potential while aiming to reduce biological and chemical health risk and provide stakeholders with user-friendly tools and materials to advance water reuse. (*Action 10.3: Facilitate Implementation of the WRAP*)
- [Water Reuse Infrastructure Funding Programs Webpage](#) – EPA, in collaboration with seven federal agencies, created a streamlined resource list of federal funding opportunities that support water resilient infrastructure, including water reuse projects. (*Action 6.1 [completed]: Compile Federal Funding Sources and Develop Interagency Decision Tool*)
- [Fact Sheet on Funding Drought Resiliency Projects with the CWSRF](#) – The CWSRF is a source of low-interest financing for a wide range of wastewater infrastructure and water quality projects, including water conservation, reuse, and efficiency projects. The program is an effective partnership between EPA and all 50 states and the territory of Puerto Rico. In each jurisdiction, the program has the flexibility to finance a variety of projects that address the most pressing water quality needs. This fact sheet outlines processes and benefits related to CWSRF assistance, includes examples of state practices and programs that target water reuse in drought-prone states, and highlights case studies to show how communities use CWSRF financing to address drought impacts on wastewater systems. (*Action 6.2A [completed]: Communicate Eligibility of Water Reuse in SRF Programs*)

Policy

- **State Summit Webinar Series on Water Reuse: ASR-MAR and DPR** – Two webinar sessions for state officials were hosted by GWPC and ASDWA on the topics of ASR-MAR and DPR, respectively. The [ASR-MAR webinar](#) featured a panel of water sector leaders who shared insights from GWPC’s ASR-MAR Workgroup and prior webinars, highlighted future focus areas, and encouraged participants to share experiences with ASR-MAR in their states. ASDWA opened the [DPR webinar](#) with a broad overview of DPR policy considerations at the national and state levels. The webinar featured a panel of state experts from California, Texas, and Colorado, who shared approaches to regulating and/or permitting DPR applications. (*Action 2.2: Enhance State Collaboration on Water Reuse*)
- **Watch a Recording of the REUSExplorer Webinar** – Rabia Chaudhry (EPA) guided participants on how to use the [REUSExplorer](#) tool to locate the different guidelines and regulations for water reuse developed across states for a variety of alternative water sources and end-use applications. The REUSExplorer is a resource for stakeholders interested in developing laws or policies for reuse, understanding the technical aspects of a regulation, and/or identifying whether reuse applications are regulated within a particular state. (*Action 3.1: Compile Existing Fit-for-Purpose Specifications*)
- **ICC Launches New Onsite Water Reuse Working Group** – With assistance from the [Action 2.18](#) team, the ICC launched a working group at their annual meeting to develop interest in submitting an onsite reuse proposal for the IPC cycle in 2024. The standards set by the IPC for building plumbing systems are currently adopted at the state or local level in 37 states, DC, Guam, and Puerto Rico. Members from the reuse community are encouraged to participate in the ICC Water Reuse Workgroup; please email Kevin McOsker and Richard Anderson [here](#).
- **Industrial Water Reuse Champions Award** – The WaterReuse Association, the U.S. Chamber of Commerce, Suez Water Technologies & Solutions, and the University of Pennsylvania Water Center are developing a new Industrial Water Reuse Champions Award program. The program will recognize the top Fortune 1000 companies that incorporate best-in-class water reuse programs to improve stewardship and achieve their water management goals. The first winner will be announced during the [2023 WaterReuse Symposium](#). (*Action 8.4: Establish a Water Reuse Champion Award Program*)

Abbreviations Used in This Document					
ASDWA	Association of State Drinking Water Administrators	EAR	Enhanced Aquifer Recharge	SCOWT	Searchable Clearinghouse of Wastewater Technology
ASR-MAR	aquifer storage and recovery–managed aquifer recharge	EPA	U.S. Environmental Protection Agency	SRF	State Revolving Fund
CONAGUA	Comisión Nacional del Agua	GWPC	Groundwater Protection Council	STAR	Science to Achieve Results
CWSRF	Clean Water State Revolving Fund	ICC	International Code Council	USACE	U.S. Army Corps of Engineers
DOE	U.S. Department of Energy	IPC	International Plumbing Code	WIFIA	Water Infrastructure and Finance Innovation Act
DPR	direct potable reuse	ONWS	onsite non-potable water systems		
DWSRF	Drinking Water State Revolving Fund	RFA	request for applications		
		SBIR	Small Business Innovation Research		