

NATIONAL WATER REUSE ACTION PLAN

Update on Collaborative Progress—Year 2

March 2022

The **National Water Reuse Action Plan (WRAP)** helps drive progress on reuse by leveraging the expertise of scientists, policymakers, and local experts across the country to **create a more resilient water future** for communities of all sizes. Now two years into WRAP implementation, there are **116 dedicated partner organizations** contributing at various scales. Since February 2020, WRAP collaborators have been working through coordinated actions to address barriers to reuse, including issues related to funding, technology, policy, and organizational capacity. Currently, there are **50 WRAP actions**, with **13 added** since January 2021 on topics such as monitoring practices, plumbing codes and standards, and communication tools. Teams have **finished 267 implementation milestones overall** and **completed 5 total actions to date**, which included deliverables related to funding eligibility, tribal outreach and training, and raising global awareness for reuse. Through the Bipartisan Infrastructure Law, enacted November 2021, lawmakers called for continued WRAP implementation and the creation of a federal reuse interagency working group **“to advance water reuse across the U.S.”** (Sec. 50218).

WRAP YEAR 2 HIGHLIGHTS

At this stage, WRAP collaborators have delivered many critical outputs that lay the groundwork for more substantial impacts in the coming years. The following is a snapshot of some key activities and accomplishments over the past year.

Incorporating Water Reuse into Programs and Policies

- **Expert convening and report on stormwater capture and use.** Investigates opportunities, challenges, and next steps to expand the implementation of stormwater harvesting across the country ([Action 3.3](#), led by EPA, NMSA, WaterReuse, WEF, ReNUWit, and the Johnson Foundation).
- **Integrating Water Reuse into the Clean Water State Revolving Fund document.** Describes the eligibility of water reuse in the CWSRF and highlights successful policies and practices that state CWSRF programs implement to support reuse ([Action 6.2A](#), led by EPA).
- **\$2.4 million in Conservation Innovation Grants.** Awarded across three proposals in this new priority area, reflecting USDA’s broader strategy for water reuse on agricultural land ([Action 5.1](#), led by USDA).
- **Collaboration on NPDES permitting processes.** Enhanced understanding of how permitting can support new water management technologies and strategies, including through development of a training [webinar](#) (collaboration between three WRAP action teams: [Action 2.6](#), [Action 2.16](#), and [Action 3.3](#)).
- **Compendium of Urban Waters and National Estuary Program water reuse activities.** Highlights the intersection of reuse with these key community-focused programs ([Action 1.4](#), led by EPA).



In February 2022, EPA staff and Assistant Administrator for Water Radhika Fox toured the Scottsdale Water Campus in Arizona. The campus has over two decades of experience in indirect potable reuse, recycling 1.7 billion gallons of treated wastewater annually through aquifer recharge. Photo credit: EPA



\$1.4 billion invested in **7 reuse infrastructure projects** in 2021 through EPA’s WIFIA loan program.



PARTNERS AND LEADERS

86 Feb 2020 105 Feb 2021 **116 Feb 2022**

This figure illustrates the growth of WRAP collaborators, actions, and milestones each year since the start of WRAP implementation, with the latest cumulative tallies on the right.



TOTAL WRAP ACTIONS

37 Feb 2020 41 Feb 2021 **50 Feb 2022**



IMPLEMENTATION MILESTONES

241 Feb 2020 359 Feb 2021 **422 Feb 2022**

Supporting Technical and Scientific Advancements and Understanding

- **Regulations and End-Use Specifications Explorer (REUSExplorer)**. Enables practitioners to access existing reuse regulations, technical information, and policies through a searchable compilation currently featuring over 40 relevant components of state regulations/guidelines by end-use application ([Action 3.1](#), led by EPA in collaboration with seven partners).
- **Non-Potable Environmental and Economic Water Reuse (NEWRE) Calculator**. Helps communities assess source water options for non-potable use in buildings using site-specific information ([Action 3.4](#), output led by EPA, in partnership with NBRC for ONWS).
- **New Mexico Produced Water data portal**. Supports public access to produced water availability and related water quality data in a GIS-based format ([Action 4.2](#), led by NMED in collaboration with local partners).
- **Enhanced Aquifer Recharge of Stormwater in the United States: State of the Science Review report**. Synthesizes scientific and technical literature on EAR using stormwater ([Action 7.4](#), output led by EPA).
- **Water use roadmaps**. Help to prioritize research needs for technologies treating nontraditional source waters and desalination in the power, resource extraction, industrial, municipal, and agricultural sectors ([Action 4.6](#), output led by NAWI).
- **Future of Water Infrastructure and Innovation Summit and report**. Explores the opportunity for a more integrated water system, including through the adoption of reuse approaches ([Action 4.3](#), led by DOE in collaboration with five partners).



\$7.3 million awarded by EPA in 2021 to advance reuse research and technology development:

- \$6.2 million in STAR grant awards for reuse research on viral pathogen and surrogate approaches for assessing water treatment performance and safety ([Action 3.6](#), led by EPA).
- \$1.1 million in SBIR Program awards to 11 U.S. small businesses to develop water reuse treatment and monitoring technologies ([Action 7.5](#), led by EPA).

Building Awareness and Sharing Knowledge

- **Virtual tour on water reuse with the government of Israel**. Covered science, technologies, and policies to further agricultural reuse ([Action 11.1](#), led by MoEP, MoEI, and EPA in collaboration with seven partners).
- **Small and underserved communities outreach and listening sessions and training**. Introduced water reuse concepts and implementation approaches, provided an opportunity to learn about community interests in reuse, and informed future technical assistance ([Action 8.5](#), led by EPA).
- **Stormwater capture and use webinar series**. Reached over 1,200 attendees on benefits, drivers, and treatment standards related to urban stormwater capture ([Action 3.3](#), output led by EPA, NMSA, WaterReuse, WEF, and ReNUWit).
- **Aquifer storage and recovery webinars**. Discussed current ASR practices and the state of practice for water reuse, stormwater, and underground injection ([Action 7.4](#), output led by the GWPC ASR-MAR workgroup).

These outputs and more can be found in the [WRAP Online Platform](#) and the [Water Reuse Information Library](#).

Visit <https://www.epa.gov/waterreuse> to access water reuse information and activities online.

Email waterreuse@epa.gov to ask questions, connect with the WRAP collaborator network, or join the WRAP listserv for periodic updates on implementation progress and new action development.

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The growing WRAP collaborative is helping to build capacity for water reuse. Action leaders and partners that have joined since January 2021 are noted in bold italics.

CDPHE
SAWS
NW-PWRC
IWA • ORNL
CSO • NPS
NMED • **CDM Smith**
NAWI • AWWA

UW Partnership Locations
USGS • NDRP • GSK • Tyson
NWRI • NEP • NRWA • NMSA
WTA • ICC • Austin Water Utilities
HUD • NREL • NTC • **Valley Water**
WRF • NYC DEP • FDA • EPA • ASLA
DOE • UWFP • SWAN • ASDWA • NSU • **TTU**
NGWA • USDA • Parker Groundwater • Ecolab
Jacobs • U.S. Water Alliance • Commerce • AWWA
NeoTech Aqua • **Penn State** • Reclamation • NACWA
Pacific Institute • University of California • Rice University
ASTHO • Embassy of Israel • CIFA • Groundwork USA • **MoEI**
CA SWRCB • GWPC • **NSF** • DOT • DOS • MoEP • **IWMI**
Design Aire • PHASC • ASHRAE • GCE • LACSD • WSWC
Wahaso • MWD • USAID • NMSU • WaterReuse • ECOS
WaTr • JFW • USWP • WW • SCCWRP • USACE
IU • ReNUWit • RCAP • GreenBiz Group • FEMA
GCCCI • NSAC • ACWA • DOI • **The World Bank**
SBIR Programs • JCI • IAPMO • Xylem
GSA • **EDF** • NTWC • RN • ISPE • **Stantec**
EPRI • NBRC for ONWS • **Purdue** • Suez
Columbia Water Center • AHA and ASHE
CDC • RTOCs • DOD • WEF • USGBC
USGS • LADWP