

National Water Reuse Action Plan

Improving the Security, Sustainability, and Resilience of Our Nation's Water Resources

Collaborative Implementation (Version 1)



February 2020

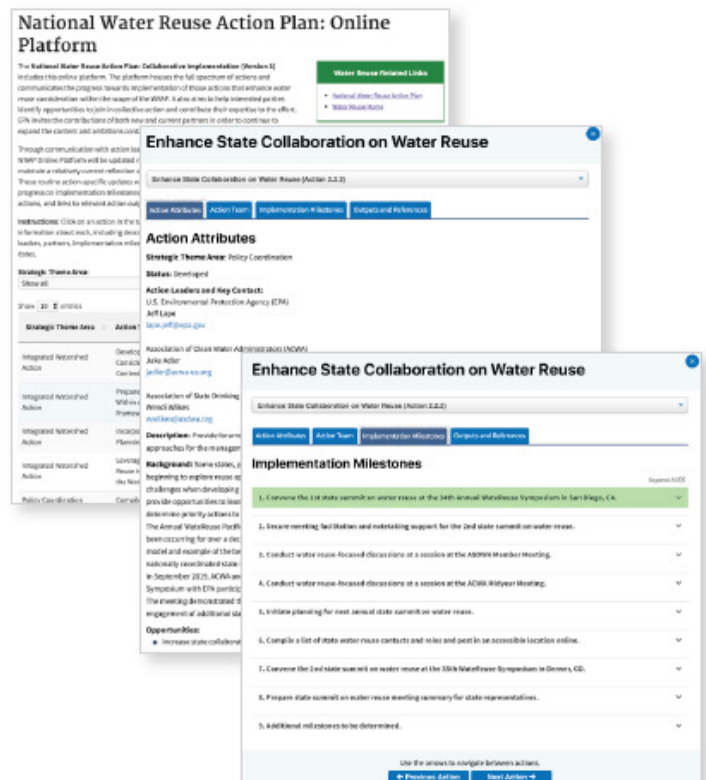
Photo credits (clockwise from top left): Gates Foundation, Denver Water, Monterey One Water, Eastern Municipal Water District, Tom Marks Photography, Rice University

By the Numbers

-  **11** Strategic Themes
-  **28** Unique Action Leaders
-  **37** Developed Actions
-  **80+** Collaborating Partners
-  **200+** Implementation Milestones

WRAP Online Platform

- Provides a repository for all actions (developed and undeveloped).
- Identifies action leaders, implementation milestones, and target completion dates for current and newly developed actions.
- Provides routine updates on progress for each of the actions.
- Creates accountability for action progress.
- Illustrates and communicates ongoing activity.
- Provides a forum to highlight collaboration and partnership.
- Celebrates successes.
- Develops connections among diverse groups of stakeholders.



“We thank all the action leaders, partners, and collaborators and encourage others to join the effort... Together, we can make considerable progress as we move into a new era of collaborative action and accountability and ensure the security, sustainability, and resilience of our nation's water resources.”

—Andrew R. Wheeler, Administrator, U.S. Environmental Protection Agency

Version 1.1—March 27, 2020

WRAP Highlights

Water Reuse Objectives

Water security: The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socioeconomic development.

Water sustainability: Ensuring an adequate, reliable, and continual supply of clean water for human uses and ecosystems.

Water resilience: The ability of a water supply (e.g., a community water system or an asset of a community water system) to adapt to or withstand the effects of rapid hydrologic change or a natural disaster.

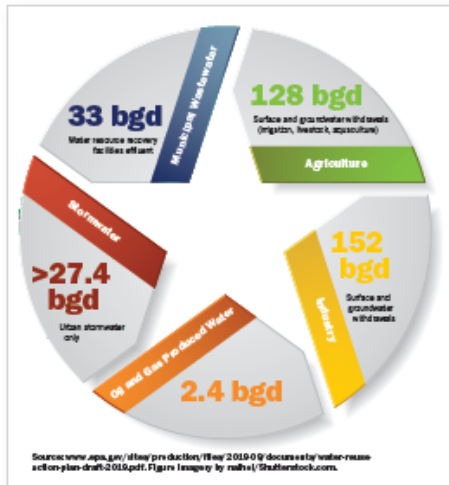


Image source: <https://awwa.onlinelibrary.wiley.com/doi/abs/10.1002/awwa.1426>

Federal Policy Statement on Water Reuse

Water is critical to our nation's health, strength, security, and resilience, but the solutions available to manage water and its availability are often complex. When incorporated into an integrated water management plan, water reuse can be a valuable tool to enhance the availability and effective use of water resources. The federal government recognizes, acknowledges, and respects the primacy of states in the management of water resources within their borders.

The federal government supports the consideration of water reuse to increase water security, sustainability, and resilience, especially when considered through integrated and collaborative water resource planning approaches, typically at the watershed or basin-scale.

This policy statement is intended to guide federal agencies to:

- Encourage consideration of water reuse and integrated watershed-scale planning approaches;
- Communicate the value and benefits of water reuse; and
- Leverage existing programmatic, funding, and technical resources.



National Water Reuse Action Plan Resources

EPA Water Reuse Website: <https://www.epa.gov/waterreuse>

WRAP Launch Press Release: <https://www.epa.gov/newsreleases/epa-and-partners-announce-collaborative-implementation-national-water-reuse-action-plan>

Launch Event Video (90 minutes): <https://www.youtube.com/watch?v=cae-RV8Mu84>

WRAP Print Version: <https://www.epa.gov/waterreuse/national-water-reuse-action-plan-collaborative-implementation-version-1>

WRAP Online Platform: <https://www.epa.gov/waterreuse/national-water-reuse-action-plan-online-platform>

Email your questions and ideas to waterreuse@epa.gov

“Diversifying our nation's water portfolio must be a nationwide priority, and water reuse has the potential to ensure the viability of our water economy for generations to come.”

—David Ross, Assistant Administrator for Water, U.S. EPA



Integrated Watershed Action

Develop a Federal Policy Statement to Support and Encourage Consideration of Water Reuse in a Watershed-Scale Planning Context (Action 2.1.1)

Action Leader: EPA

Prepare Case Studies of Successful Water Reuse Applications Within an Integrated Water Resources Management (IWRM) Framework (Action 2.1.2)

Action Leader: WaterReuse

Leverage EPA's Water Partnership Programs to Consider Water Reuse in the Context of Integrated Water Resources Management at the Watershed Scale (New Action 2.1.4)

Action Leader: EPA



Policy Coordination

Compile Existing State Policies and Approaches to Water Reuse (Action 2.2.1)

Action Leaders: EPA, WaterReuse, ACWA, ASDWA

Enhance State Collaboration on Water Reuse (Action 2.2.2)

Action Leaders: EPA, ACWA, ASDWA

Complete the EPA Study of Oil and Gas Extraction Wastewater Management (Action 2.2.3)

Action Leader: EPA

Enhance Wastewater Source Control through Local Pretreatment Programs to Support Water Reuse Opportunities for Municipal Wastewater (Action 2.2.4)

Action Leaders: NACWA, WEF

Develop Informational Materials to Address How CWA NPDES Permits Can Facilitate Water Reuse/Capture (Action 2.2.6)

Action Leaders: EPA, ACWA

Utilize Existing Multi-Agency Federal Working Groups to Serve as Forums for Coordinated Federal Engagement on Water Reuse (Action 2.2.7)

Action Leader: EPA



Align Policies and Communication Tools to Promote Best Management of Unused and Expired Pharmaceuticals to Support Water Reuse and Recycling (Action 2.2.9)

Action Leader: LACSD

Leverage Existing U.S. Department of Agriculture Programs to Encourage Consideration and Integration of Agricultural Water Reuse (Action 2.2.12)

Action Leader: USDA

Conduct Outreach and Training with Tribes to Build Water Reuse Capacity (Action 2.2.15)

Action Leader: EPA

Support Local and Regional Reuse Projects by Identifying Challenges, Opportunities, and Models for Interagency Collaboration (New Action 2.2.16)

Action Leaders: Eric Rosenblum, WaterReuse, EPA

Propose U.S. Army Corps of Engineers Nationwide Permit Addressing Reuse (New Action 2.2.17)

Action Leader: USACE

Science and Specifications

Compile Existing Fit-for-Purpose Specifications (Action 2.3.1)

Action Leader: EPA

Convene Experts to Address Opportunities and Challenges Related to Urban Stormwater Capture and Use (Action 2.3.3)

Action Leaders: EPA, JFW, NMSA, ReNUWit, WaterReuse, WEF

Develop Research and Tools to Support the Implementation of Onsite Non-Potable Water Reuse Systems (ONWS) (Action 2.3.4, previously 2.6.5)

Action Leaders: NBRC for ONWS

Assess Specifications for Potential Reuse of Wastewater in Food Animal Protein Processing Facilities (New Action 2.3.5)

Action Leader: EPA

“The WRAP presents a unique opportunity for the water sector, policy-makers, and the broader public to collaborate on a set of specific activities that collectively can result in significant progress toward advancing the adoption of water recycling practices across the [United States].”

—WaterReuse Association, National Association of Clean Water Agencies, American Water Works Association, Water Environment Federation, Association of Metropolitan Water Agencies, Water Research Foundation

60-day public comment period

90-day public comment period



Feb 27, 2019
EPA announces development of a National Water Reuse Action Plan (San Francisco, CA)



Apr 18, 2019
Release of Discussion Framework to describe plan development



Apr 18, 2019
Expert convening session (Hosted by WaterReuse in Washington, DC)



May 9, 2019
Expert convening session (Hosted by WaterReuse in San Diego, CA)



Sep 10, 2019
Release of draft Action Plan (WaterReuse Symposium; San Diego, CA)



Sep 23, 2019
Example outreach event (WEFTEC 2019; Chicago, IL)



Technology Development and Validation

Implement New Mexico Produced Water Research Consortium to Identify and Fill Science and Technology Gaps for Off-Field Use of Treated Produced Water (Action 2.4.2)

Action Leader: NMED

Support Water Reuse Through the U.S. Department of Energy's Water Security Grand Challenge (Action 2.4.3)

Action Leader: DOE

Promote Air-Cooling Condensate Water Reuse Standards, Methods, Tools, and Technologies for Implementing Systems in Large Buildings (New Action 2.4.5)

Action Leaders: ASHRAE, IAPMO, EPA, WW, WTA



Water Information Availability

Foster U.S. Department of Agriculture Watershed-Scale Pilot Projects to Share Water Information to Support Water Reuse Actions (Action 2.5.1)

Action Leader: USDA

Develop National Integrated Water Availability Assessments (New Action 2.5.4)

Action Leader: USGS



Finance Support

Compile Existing Federal Funding Sources for Water Reuse and Develop an Interagency Decision Support Tool (Action 2.6.1)

Action Leader: EPA

Clarify and Communicate the Eligibility of Water Reuse Under the Clean Water and Drinking Water State Revolving Fund (SRF) Programs (Action 2.6.2A)

Action Leader: EPA

Continue to Actively Support and Communicate the Eligibility of Water Infrastructure and Financing Innovation Act (WIFIA) Funding for Water Reuse (Action 2.6.2B)

Action Leader: EPA

Compile and Promote Existing U.S. Department of Agriculture Funding and Resources for Rural Communities (Action 2.6.4)

Action Leader: USDA



Integrated Research

Develop a Coordinated National Research Strategy on Water Reuse (Action 2.7.2)

Action Leader: WRF

Increase Understanding of Current Aquifer Storage and Recovery Practices (Action 2.7.4)

Action Leaders: GWPC, EPA

Coordinate and Promote Water Reuse Technology in Federal Small Business Innovation Research Programs (New Action 2.7.5)

Action Leader: EPA

Develop U.S. Bureau of Reclamation Advanced Water Treatment Research Roadmap (New Action 2.7.6)

Action Leader: Reclamation



Outreach and Communications

Compile and Develop Water Reuse Program Outreach and Communication Materials (Action 2.8.1)

Action Leader: WaterReuse

Establish a Water Reuse Champion Award Program for Private Sector Companies (New Action 2.8.4)

Action Leaders: GreenBiz, WaterReuse



Workforce Development

Support and Promote Opportunities for Creating a Skilled Workforce for Water Reuse Applications (Action 2.9.2)

Action Leaders: EPA, WaterReuse, AWWA, WEF



Metrics for Success

Facilitate Implementation of the National Water Reuse Action Plan (Action 2.10.3)

Action Leader: EPA



International Collaboration

Facilitate U.S.-Israel Collaboration on Technology, Science, and Policy of Water Reuse (New Action 2.11.1)

Action Leaders: EPA, MoEP

Raise Global Awareness and Preparedness for Water Reuse and the Water Reuse Action Plan (New Action 2.11.2)

Action Leader: DOS



Feb 27, 2020
Release of Action
Plan (Version 1)
(Washington, DC)

Continuing Implementation: 2020 and Beyond



WRAP Online Platform (www.epa.gov/waterreuse)

- Searchable access to all actions (developed and undeveloped)
- Contact information for action owners and partners to facilitate collaboration
- Complete listing of action implementation milestones
- Regular updates to reflect progress on existing milestones and to add new milestones, collaborators, and actions

Imagining Development of the Action Plan (Version 2)...

- Ongoing stakeholder engagement and communication
- Issue *Federal Register* notice for public input (September 2020)
- Report on implementation progress and initiate Version 2 at the 35th Annual WaterReuse Symposium (Denver, CO; September 2020)
- Release Version 2 during Water Week (April 2021)