National Water Reuse Action Plan
Completed Action

Action 1.6 Address Barriers to Water Reuse in Agriculture Through Improved Communication and Partnerships

Integrated Watershed Action

Background

Several institutions are responsible for regulating and advancing agricultural water reuse in the United States:

- States set regulations for centralized reuse of municipal wastewater in agriculture.
- EPA regulates discharges of pollutants from point sources, through National Pollutant Discharge Elimination System (NPDES) permits.
- FDA sets minimum standards for the use of agricultural water to grow fresh produce.
- USDA has a broad mandate to promote agriculture production and support farmers, including highlighting drainage practices that could enable decentralized agricultural reuse of waters.

These agencies are not typically aligned to easily coordinate and facilitate the practice of agricultural water reuse. There are also additional societal and institutional barriers to enabling agricultural water reuse. Action leaders leveraged multiple convenings and research efforts to develop a roadmap for coordination, increase knowledge and improve clarity across federal agencies. Products resulting from this action can help federal and state partners develop resource materials that support regulators and stakeholders interested in advancing centralized and decentralized agricultural water reuse.

Action Team

Action Leaders

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Action Partners

- **Water Research Foundation (WRF)**
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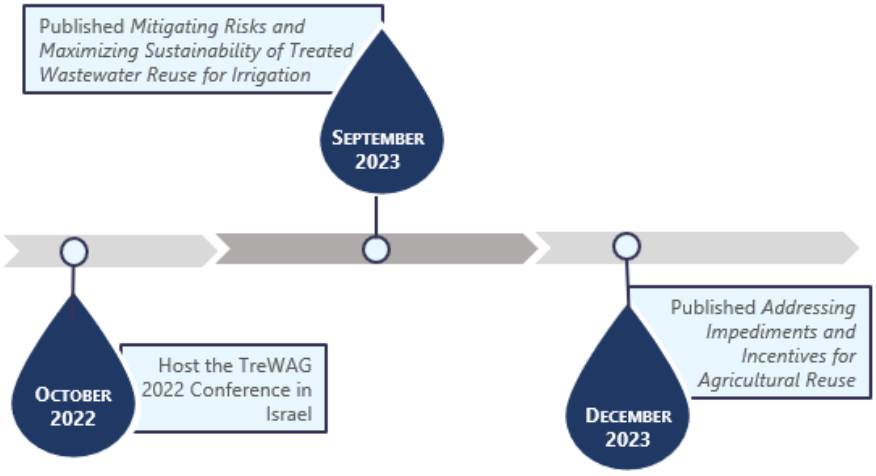
Accomplishments/Impact

- Action leaders cohosted the TreWAG conference: *Understanding and Mitigating Effects of Treated Wastewater Reuse in Agriculture* in October 2022 in Israel. The conference dialogues resulted in a publication *Mitigating Risk and Maximizing Sustainability of Treated Wastewater Reuse for Irrigation*, which presents a multidisciplinary discussion on maximizing the benefits of reusing treated wastewater for irrigation.
- Action leaders published *Addressing Impediments and Incentives for Agricultural Reuse*, which serves as a guide for policymakers and the agricultural sector to overcome diverse geographic and agricultural barriers when implementing water reuse.

Action Implementation Process



Potential Future Activity

Both publications suggested action items to support the advancement of agricultural reuse:

- **Outreach and Stakeholder Engagement** – Stakeholder outreach is a critically important part of developing a reuse system to build confidence and support for projects among agricultural producers and the public. Further research is needed to better understand both effective and ineffective approaches to stakeholder engagement.
- **Improving Monitoring and Data Sharing** – *Mitigating Risk and Maximizing Sustainability of Treated Wastewater Reuse for Irrigation* identifies improvements to monitoring as an important component of better understanding water quality, assessing potential risks associated with agricultural reuse and improving communication with stakeholders. The paper recommends developing a data sharing platform to integrate findings on pollutants worldwide.
- **Investments in Improving Capacity and Innovation** – *Addressing Impediments and Incentives for Agricultural Reuse* emphasizes the importance of investments to improve capacity and innovation for advancing agricultural water reuse. The paper recommends establishing and identifying funding sources for new agricultural reuse research and projects.
- **Improving Science to Protect Public Health** – A key to advancing agricultural reuse is protecting public health from possible threats from contaminants of emerging concern (CECs). Future work is required to translate findings on CECs into actionable steps; better align information with the agronomic, environmental, and public health parameters discussed in both papers; and explore the complex interactions between pollutants and possible uptake by plants.

Additional Resources

- Sheikh, B. (2019). *Agricultural use of recycled water: Impediments and incentives*. Report 15-08/4775. Water Research Foundation. https://www.waterrf.org/research/projects/agricultural-reuse-impediments-and-incentives
- Thebo, A. (2021). *Evaluating economic and environmental benefits of water reuse for agriculture.* Report

4829. Water Research Foundation. https://www.waterrf.org/research/projects/evaluating-economic-and-environmental-benefits-water-reuse-agriculture

- USDA ERS (U.S. Department of Agriculture, Economic Research Service). (2021). *Irrigation & water use*. https://www.ers.usda.gov/topics/farm-practices-management/irrigation-water-use

Additional Resources can be found on the Water Reuse Action Plan Online Platform