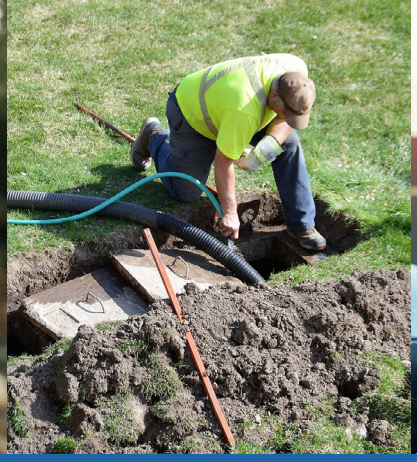
EPA Decentralized Wastewater MOU Partnership: 2020-2023 Accomplishments

Clean Water Starts at Home
EPA Decentralized Wastewater MOU Partnership

Prepared for the 2023 Decentralized MOU Renewal Meeting

December 2023

Introduction and Background

In 2005, seeking to improve the performance of decentralized wastewater treatment systems, the U.S. Environmental Protection Agency (EPA) issued a Program Strategy for the Decentralized Wastewater Program. One part of this strategy is a Memorandum of Understanding (MOU) to facilitate collaboration between EPA Headquarters, EPA Regions, state and local governments, and national organizations representing decentralized wastewater management practitioners.

The initial MOU agreement was created in 2005 between EPA and eight public and private sector organizations. It has been renewed five times since then, in 2008, 2011, 2014, 2017 and 2020. The MOU creates a partnership—the EPA Decentralized Wastewater MOU Partnership—that has expanded significantly over the years and expanded to 20 partners in 2020. The 2023 MOU Renewal brings five new organizations, and a total of 25 partners: the **International Code Council** (ICC), the **National Association of Clean Water Agencies** (NACWA), the **Ocean Sewage Alliance** (OSA), **U.S. Department of Agriculture Rural Development** (USDA-RD), and the **WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene** (WASH).

The MOU Partnership continues to expand collaborative relationships in the decentralized wastewater industry. It celebrates its success in encouraging proper decentralized system management to protect the nation's public health and water resources while facilitating the exchange of information, research and strategies to expand support for the industry.
This report highlights key accomplishments of the 2020–2023 MOU period, based on information from members of the MOU Partnership. The accomplishments are organized to focus on the five MOU Partnership priorities:

1. Increase outreach and public education about decentralized wastewater/septic systems.

2. Identify and utilize current information about decentralized wastewater/septic system use and performance in the United States.

3. Promote advanced decentralized treatment technologies to the wastewater industry and the public.

4. Share information on funding options to help communities and homeowners with decentralized wastewater/septic system repair and replacement.

5. Address workforce, education, training and research needs related to the decentralized wastewater industry.

EPA Decentralized Program Accomplishments

The Closing America's Wastewater Access Gap Community Initiative

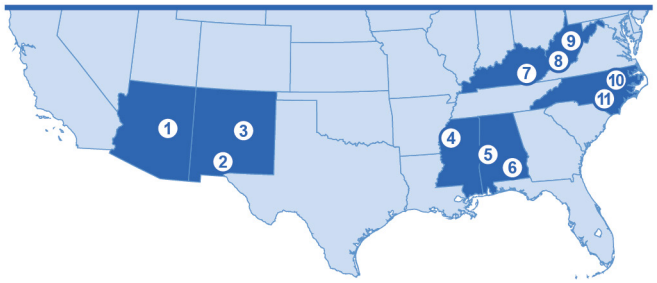
The Closing America's Wastewater Access Gap Community Initiative is a technical assistance pilot, launched by EPA and USDA-RD and managed by a project team of EPA, USDA-RD, technical assistance providers, community members and contractors. It is a collaboration with the states of Alabama, Kentucky, Mississippi, New Mexico, North Carolina and West Virginia, and the federally recognized Tribal nations of Santo Domingo Pueblo and San Carlos Apache. The pilot is helping 11 historically underserved communities address wastewater management needs and improve overall community capacity to support and protect human health.

Working with local, state and Tribal governments and technical experts, the project team has completed community wastewater assessments for each community. The assessments included engagement with state, Tribal and local government officials; wastewater system managers; community-based organizations; and affected residents. Technical assistance providers from the **Rural Community Assistance Partnership** (RCAP), the **National Rural Water Association** (NRWA) and the **Environmental Finance Center Network** (EFCN) were crucial in these assessments, coordinating surveys and collecting information.

The project teams also carried out physical infrastructure assessments and capacity assessments to identify additional technical, managerial and financial capacity needs of local government agencies to steward each project.

From the information gathered in each assessment, the project teams developed Community Solutions Plans for 11 pilot communities. Each one includes preliminary technical recommendations for sustainable wastewater solutions based on local conditions. The plans also help identify technical assistance needed to access Clean Water State Revolving Fund (CWSRF), USDA-RD and other funding programs for infrastructure projects. EPA is exploring technical assistance opportunities to engage locally with partners on the lessons learned from developing the Community Solutions Plans.

Where Are the Communities?



ARIZONA

1. San Carlos Apache Tribe

NEW MEXICO

2. Chaparral, Doña Ana County

3. Santo Domingo Pueblo

MISSISSIPPI

4. Dunlap, Bolivar County

ALABAMA

5. Greene County

6. White Hall, Lowndes County

KENTUCKY

7. Tri-Cities area, Harlan County

WEST VIRGINIA

8. Keystone and Northfork, McDowell County

9. Rhodell and Amigo, Raleigh County

NORTH CAROLINA

10. Haliwa-Saponi Tribe/ Halifax County

11. Teachey and Wallace, Duplin County

MOU Partnership Accomplishments

The accomplishments featured in this report reflect the MOU Partnership's goals of engaging broader audiences, sharing information and resources on decentralized technology and providing leadership to develop materials on decentralized workforce needs. More specifically, they reflect five priorities set by the Partnership, as described below.

1 Increase outreach and public education about decentralized wastewater and septic systems.

The annual SepticSmart Week campaign focuses on educating homeowners and communities on the proper care and maintenance of their septic systems. The MOU Partnership led four successful SepticSmart Weeks in 2020–2023.

For each year of the campaign, the SepticSmart Week steering group—volunteers from partner organizations, federal agencies and state and local health departments—helped develop relevant messaging and materials for public use throughout SepticSmart Week. Organizations such as the **National Onsite Wastewater Recycling Association** (NOWRA), the **Michigan Department of Environment, Great Lakes, and Energy** (EGLE), the **North Carolina Department of Health and Human Services** (DHHS), **Infiltrator Water Technologies**, the **Hawaii Department of Health** (DHHS) and **PrivateWellClass.org** have volunteered for the steering group. Other partners and local organizations helped disperse SepticSmart Week materials to promote awareness via blogs, listservs and other social media platforms.

Spanish-translated materials (such as the *Rental Property Flyer*, a guide to maintaining a septic system) helped boost engagement with more diverse audiences in 2022.

In 2023, MOU partners NOWRA and RCAP produced a guidebook and four training courses for septic system homeowners. The guidebook and courses help homeowners understand the basic principles of septic systems and how to maintain their systems effectively and efficiently.

The MOU partners' SepticSmart Week Social Media Guide was updated each year from 2020 to 2023 to incorporate new features for new audiences, including posts on Twitter focused on workforce development.

The MOU Partnership received **30 proclamations** of support from state and MOU partners over the last three events. The states of **Michigan, North Carolina** and **New Mexico**, as well as MOU partners the **Association of State and**

Territorial Health Officials (ASTHO), the **International Association of Plumbing and Mechanical Officials** (IAPMO), **NOWRA**, and **RCAP** signed proclamations three years in a row.

Each year, EPA assembles a summary of social media, outreach, proclamations, local events and other engagement activities about SepticSmart Week. These materials are to share among MOU partners and post on partner websites. EPA also produces annual documents summarizing the work of its decentralized wastewater program and the MOU Partnership. The Decentralized Wastewater Program annually tracks all SepticSmart Week activities to measure outreach and effectiveness of messaging. In 2023, there was an increase of 428 EPA septic material downloads during SepticSmart Week; impressions across social media platforms increased by 12.5 percent in the same period.

2 Identify and utilize current information about decentralized wastewater/septic system use and performance in the United States.

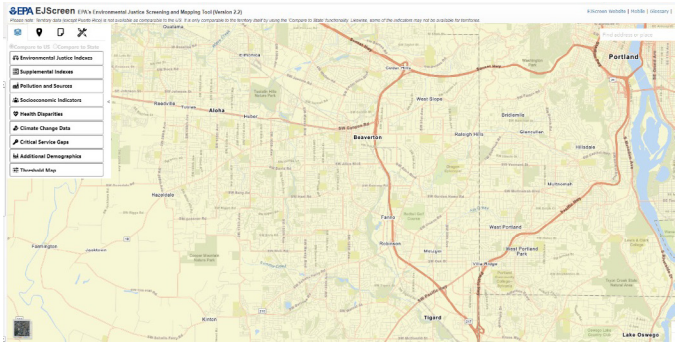
In 2021, EPA produced the ***Report to Congress on the Prevalence Throughout the U.S. of Low- and Moderate-Income Households Without Access to a Treatments Works***. The report reviews the available sources of national data on decentralized wastewater treatment use, discusses how EPA calculated how many low- and moderate-income households lack access to a treatment works, and presents details on four states that have complete statewide data on decentralized systems. The findings of the report show that existing data sources do not provide enough information to accurately characterize the use of decentralized systems on a national scale.

EPA is working with the U.S. Census Bureau to add a question to the American Community Survey (ACS), asking whether the respondent's home is on a central sewer or a septic system. The U.S. Census Bureau has completed the survey question period and is recommending the question "Is your home connected to public sewer, septic system or other?" be included in the 2026 ACS. The question still needs OMB approval before it is included in the ACS.

EPA's Office of Wastewater Management is utilizing the efforts of EPA's Office of Research and Development to map private drinking water wells at a national level. The Partnership hopes to be able to use the mapping data to infer the locations of septic systems. This effort is still underway and will require some field verification at the state level.

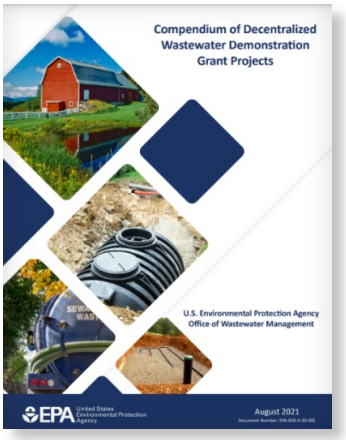
Local governments and organizations need reliable, publicly accessible contacts to find information on funding and technical assistance opportunities for decentralized projects. As of

2023, the contact page for state regulators has been updated on EPA's website.



3 Promote advanced decentralized treatment technologies to the wastewater industry and the public.

In the last three years, the MOU Partnership has increased information sharing within the decentralized wastewater industry and the public by developing materials promoting the benefits of advanced decentralized wastewater technologies.



In 2021, EPA published the ***Compendium of Decentralized Wastewater Demonstration Grant Projects***, which summarizes 18 projects from across the country. The summaries describe the use of specialized technologies that were resilient and adaptive to climate change and other factors. They can serve as examples for communities that are researching how to best address their own wastewater needs.

EPA's Clean Water Technology Center created the Searchable Clearinghouse of Wastewater Technology (SCOWT) in 2021. This information-sharing platform provides resources on the cost-effectiveness and performance of innovative, alternative and wastewater reuse technologies for decentralized systems and others. It compiles accurate, objective research to support technology adoption focused on small, mid-size and underserved communities. Fifty-nine resources related to decentralized wastewater are available on SCOWT.

The **Water Research Foundation** (WRF) has published a synthesis of its research on decentralized systems and support for community resilience efforts.

4 Share information on funding options to help communities and homeowners with decentralized wastewater systems repair and replacement.

The EPA Office of Wastewater Management released in 2022 the ***Financing Decentralized Wastewater Treatment Systems: Pathways to Success with the Clean Water State Revolving Fund Program*** — a step-by-step guide on using the CWSRF to finance decentralized projects for states and communities. The guide describes program basics, funding requirements, alternative financing structures and mechanisms for prospective borrowers who need to repair, build or replace decentralized wastewater systems. It is also a resource for CWSRF state program staff new to financing decentralized systems projects.

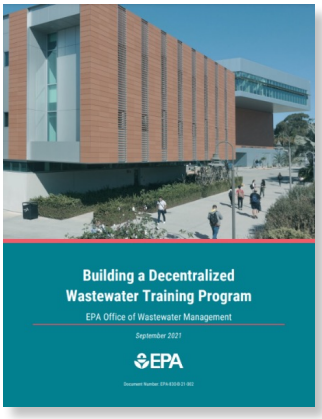
DigDeep developed the ***Decentralized Wastewater Innovation Cohort*** in 2021. This peer-exchange program brought together five cross-sector organizations focused on better understanding the current and future funding

landscape in the decentralized wastewater space, including federal, state and local funding. EPA and other MOU partners met with cohort members and held presentations and discussions to promote awareness and advance the conversation of wastewater challenges in rural communities. The cohort presented their work at several conferences including the UNC Water and Health Conference and NOWRA's Onsite Wastewater Mega-Conference.

Also in 2021, the MOU Partnership updated and advertised the [Water Infrastructure and Resiliency Finance Center], an online training module, to make resources more accessible for underserved communities where many MOU partners are currently working to provide technical assistance to states.

5 Address workforce, education, training and research needs related to the decentralized wastewater industry.

In 2021, the decentralized wastewater workforce steering group, together with many MOU partners, created a series of reports intended to overcome issues that come with an aging (and rapidly retiring) workforce, a lack of training opportunities and the lack of a curriculum for the decentralized wastewater workforce. These



reports provide educational materials on career pathways, information on current educational and training programs and how to apply, and a guide on how to build a decentralized training program at community colleges. The goal of these reports was to provide resources to expand current and new workforce development programs and make training and certification programs more accessible to interested parties.

Celebrating Highlights from 10 Years of SepticSmart Week!

In 2022, the MOU Partnership celebrated the 10th anniversary of SepticSmart Week—10 years of education on septic system management for homeowners. In commemoration, the MOU Partnership launched its first-ever photo challenge, in which partners advertised the event to audiences and asked for their photos of septic systems. The event received a dozen submissions; more than 350 uses of the SepticSmart week hashtags (#SepticSmart and #SepticSmartWeek); and 800,000 impressions across Facebook, LinkedIn and Twitter.

Photo challenge submission by Sara Wigginton, showing a septic system inspection.

Educational day hosted by the Missouri Smallflows Organization in 2022.

Meanwhile, the University of Rhode Island celebrated the 10th anniversary of SepticSmart Week by hosting a SepticSmart event at the Onsite Wastewater Training Center, located at the university's Peckham Research Farm. The university provided guided tours of the center and held educational activities on how to maintain a septic system to protect human and environmental health.

Community events were held across the country in honor of the anniversary, such as an educational event in New Hampshire, an educational day on septic systems hosted by the Missouri Smallflows Organization, and an informational discussion on septic system maintance for homeowners in Geauga County, Ohio.

2022 Photo Challenge finalist Samantha Russell pictured with her septic tank diorama.

Individual MOU Partner Accomplishments

ACWA

• Partnership support. The Association of Clean Water Administrators continued to support the Partnership by sharing Partnership resources and best practices with state/interstate members for dispersal to stakeholders at state and local levels.

ASTHO

• Continued SepticSmart Week promotion. In 2022, ASTHO wrote a blog post on promoting successful wastewater treatment programs. ASTHO has also signed SepticSmart week proclamations for 2020–2023. Several health agency staff have been featured on ASTHO's Public Health Review Morning Edition daily podcast: episodes can be found here and here.

CDC

• Private Water Network (PWN). The Centers for Disease Control and Prevention worked with the National Environmental Health Association (NEHA) to develop a virtual community of practice for those working to protect the public's health from contaminants in private drinking water sources. CDC initiated discussions with federal partners and began efforts with state partners to explore the use of visual data and artificial intelligence to identify operational and non-operational onsite septic systems. CDC is funding North Carolina's Onsite Water Protection Branch to evaluate the status of decentralized wastewater infrastructure in historically underserved communities.

DigDeep

• Delivering wastewater services for communities in need. Since 2022, DigDeep has served nearly 300 families in the Navajo Nation and Appalachia with upgraded decentralized wastewater and another 100 families with sewer line connections. The organization plans to expand its wastewater work to Texas border colonias in 2024.

GWPC

• MOU participation and SepticSmart Week promotion. In 2023, the Ground Water Protection Council participated in quarterly MOU Partnership virtual meetings as well as planning meetings with EPA and other MOU Partnership members. The meetings covered protection of groundwater quality from degradation related to the operation of decentralized wastewater systems.

IHS

• Infrastructure and capacity support. In 2021, Congress appropriated $3.5 billion over five years to the Indian Health Service Sanitation Facilities Construction Program through the Infrastructure Investment and Jobs Act. To date, IHS has allocated $1.4 billion to design and build sanitation facilities for American Indian and Alaska Native homes across the country as well as to address decentralized sewer system deficiencies identified by IHS. IHS developed a public-facing geographic information systems (GIS) dashboard sharing information about the scope, locations, quantity, types and current status of projects IHS has funded.

NAWT

• Update to training materials for workforce development. The National Association of Wastewater Technicians updated its Introduction to Proper Onsite Wastewater Treatment System Practices Manual—part of its inspector training course—and is currently working on updating the accompanying Inspection Manual for Onsite Wastewater Treatment Systems. NAWT partnered with state associations in training and education and issued the following new training certificates: 1,815 inspector training certificates, 647 installer training certificates, 222 operations and maintenance I training certificates, 174 operations and maintenance II training certificates, 252 design training certificates, and 200 vac truck training certificates.

NEHA

• Capacity building in communities and locally based organizations. The National Environmental Health Association collaborated with CDC to develop the PWN, described above. The PWN offers specialized training programs to equip members and professionals with the knowledge and skills they need to manage private water sources effectively. Training sessions cover various aspects of private water management, including water quality testing, emergency response planning, and policy advocacy. Key accomplishments of the PWN include the development of a wide range of resources; hosting webinars, workshops and Twitter chats; and fostering partnerships with various stakeholders in the private water sector.

NOWRA

• Collaboration between MOU partners. The National Onsite Wastewater Recycling Association partnered with NAWT and the State Onsite Regulators Association on the 2022 Onsite Wastewater Mega-Conference in Springfield, Missouri. The conference drew over 500 attendees. NOWRA partnered with RCAP to write the Onsite Wastewater Treatment System User Guide, create other training materials and hold onsite pilots for owners of wastewater systems. NOWRA developed 20 new modules of online training to help educate professionals in the field.

NSF

• SepticSmart Week promotion. The National Science Foundation International has promoted SepticSmart Week from 2020 to 2023. Along the way, it developed two blog posts on septic systems: one on maintaining them and one with consumer resources—basic information, information on effluent filters and some do's and don'ts.

RCAP

• Addressing wastewater challenges in underserved communities. The Rural Community Assistance Partnership partnered with EPA on the Closing America's Wastewater Access Gap Community Initiative, a 2022 pilot program to tackle sanitation challenges in disadvantaged rural communities. RCAP held one webinar in July 2023—Alternatives to Traditional Onsite Systems. RCAP also completed 165 technical assistance projects across 42 states and three territories. These included 26 decentralized/ onsite projects and 49 trainings.

WRF

• Pushing wastewater technologies and research focus forward. The Water Research Foundation completed two research projects: "Successful Implementation of Decentralized Reuse and Treatment Systems" (WRF #5040) and "Integrating Sewage Thermal Energy Use (STEU) and Other Emerging Water-Energy-Waste Technologies into Decentralized/ Distributed Systems" (WRF #4843).

MOU Partnership Workplan Priorities for 2023–2026

The MOU Partnership will continue to collaborate to improve the overall performance and management of decentralized systems in line with five updated priorities that reflect the current state of the decentralized wastewater field: