



**Testimony to the
Subcommittee on Rural Development and Energy
Committee on Agriculture, Nutrition, and Forestry
United States Senate**

Rural Water: Modernizing our Community Water Systems

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Introduction

Thank you, Chairman Welch, Ranking Member Tuberville, and members of the subcommittee, for the opportunity to testify on the importance of the U.S. Department of Agriculture's Rural Development (USDA-RD) programs and their impact in supporting economic development and public health improvements in communities across rural America, in part through investments in improved drinking water quality.

My name is Pauli Undesser, a water quality subject matter expert with decades of experience in the fields of chemistry, biochemistry, and toxicological risk management, as it relates to water treatment technologies, standards, codes, and regulations. I am testifying before the committee in my role as CEO of both the Water Quality Association (WQA) and the Water Quality Research Foundation (WQRF).

Founded in 1974, WQA is a not-for-profit association representing the residential, commercial, and industrial water treatment industry. WQA has more than 2,500 member companies around the globe, including over 1,800 companies in the U.S. Our membership is comprised of equipment manufacturers, suppliers, dealers, and distributors of water quality improvement products and services.

The association is dedicated to improving awareness and knowledge of water quality that enhances the quality of life through sustainable technologies and services. Our member companies manufacture, distribute, and sell third-party certified, cost-effective point-of-use (POU) and point-of-entry (POE) solutions that have been improving water quality for decades and are increasingly being relied upon to help remove or significantly reduce emerging contaminants such as PFAS, among others. POU devices, such as reverse osmosis, ultraviolet or carbon-based technologies, treat water at the point of consumption and are commonly referred to as water filters. These technologies provide a final barrier to the contaminants of concern before the water is consumed or used. POE systems, including water softeners, are whole-house treatment systems mainly designed to reduce contaminants in water intended for showering, washing dishes and clothes, brushing teeth, and flushing toilets.

WQA also serves as a trainer and educator to water treatment professionals, an ANAB-accredited certifier of water treatment products, a public resource, and the voice of the water quality improvement industry.

Through our Gold Seal Product Certification Program, WQA helps manufacturers ensure their products conform to national consensus safety and performance standards through independent laboratory testing, literature reviews, and material assessments.

We also provide education and training to thousands of professionals in the water treatment industry through our one-of-a-kind Professional Certification Program, which is designed to uphold the high standards of performance needed to assure customers have confidence in the people providing and servicing their treatment solutions.

WQA's research arm, the Water Quality Research Foundation (WQRF), is a not-for-profit foundation that advances the mission of water quality by sponsoring peer-reviewed academic studies and professional research. A universally recognized, independent scientific body, WQRF

has funded millions of dollars in studies in partnership with universities and other organizations that have generated important and timely information on water quality for industry stakeholders, policymakers, regulators, and the general public.

Rural Drinking Water Challenges

Across the United States, communities face threats to their drinking water from various contaminants, including lead, arsenic, nitrates, volatile organic compounds (VOCs), PFOA, PFOS, hexavalent chromium-6, and others. Cumulative exposure to certain chemical contaminants in drinking water is known to elevate risks of adverse health effects, including various cancers. Further, exposure to waterborne microbes can cause immediate acute, chronic, and fatal effects. It is important for people to have potable water that is also palatable. At times, odor, taste, and other aesthetic issues can be so significant that it may prevent the ability for it to be consumed.¹

Under the oversight of federal and state regulatory entities, public water systems monitor for these threats and treat water before it is distributed to points of consumption. However, more needs to be done to help these systems in rural communities and the residents they serve. According to the EPA's Safe Drinking Water Information System (SDWIS) data, between 2008 and 2018, 2720 small community water systems experienced at least one maximum contaminant level (MCL) violation, with a total of 31,127 MCL violations reported. Of those, 68% were very small systems providing water to less than five people, many of which were chronic violations.²

Moreover, nearly 23 million households are not served by a public water system and instead rely exclusively on groundwater delivered through private wells. This water is not subject to the same regulatory oversight and testing for contamination as water supplied by public water systems, and this can delay the identification of and response to these health threats. Households reliant on private wells are predominantly situated in rural areas, and for many, connection to a community water system is not geographically or economically feasible.

It is critical that this population is not left behind in the federal government's efforts to ensure safe, high-quality drinking water is available to all Americans, regardless of the community they live in. Congress, through the leadership of the Agriculture Committee, and in particular this subcommittee, should ensure that USDA is providing the resources and flexibility needed to address this issue and protect water quality for the millions of rural Americans. This should include third-party certified point-of-use (POU) and point-of-entry (POE) water treatment systems – cost-effective final barrier technologies that are already being utilized by many individuals, households, and businesses to improve their drinking water quality.

These solutions can also be beneficial for rural households that are already organized under a community water system. Community water systems serving small, rural communities tend to struggle with a unique set of drinking water challenges due to their smaller number of ratepayers

¹ <https://pubmed.ncbi.nlm.nih.gov/33328368/>

² https://www.researchgate.net/publication/368994706_Triple-bottom-line_approach_for_comparing_point-of-use_point-of-entry_to_centralized_water_treatment

relative to a system serving a larger town or city. This can lead to difficulties in building the staffing or funding capacity needed to make often costly, but necessary infrastructure investments to ensure the ongoing provision of safe drinking water. These challenges are only anticipated to grow as scientific knowledge of harmful emerging contaminants such as PFOA and PFOS progresses and regulatory compliance requirements for their remediation lead to increased costs.

Implementing POU and POE technologies may be a beneficial, cost-effective short- and long-term solution for households served by small systems struggling to build the capacity needed to remain in regulatory compliance. Research has shown that most POU and POE options can be installed much quicker than centralized system upgrades can be completed, providing risk reduction to communities in an expedited fashion. This does not factor in the approval processes for using POU and POE options in community systems, which can be hindered by state regulations. These remediation options can also offer additional long-term human health safeguards, often protecting against a broader range of contaminants, including emerging contaminants, than centralized upgrades.³

It is important to emphasize that Congress, the EPA, and the CDC have all recognized the value of POU and POE options. The 1996 amendments to the Safe Drinking Water Act (SDWA), explicitly allowed small public water systems to install these treatment devices for the purpose of achieving compliance with some of the MCLs established in the EPA's National Primary Drinking Water Regulations (NPDWRs). Furthermore, the EPA has found that the cost-saving nature of POU and POE devices may enable systems to provide more protection to their customers than they might otherwise be able to afford through centralized treatment.⁴

POU and POE solutions have also been shown to be beneficial options specifically for the remediation of lead and PFAS. According to the EPA, third-party certified POU and POE devices can provide effective and relatively inexpensive treatment barriers for PFAS removal in homes if a household's water system is designed well to meet factors, including source water characteristics and the concentration and type of PFAS found within water.⁵ The CDC also acknowledges the use of these technologies to reduce exposure to lead and provides information about these systems for private well treatment.^{6 7}

As the public becomes more aware of health contaminants in their water supply, resources for testing and monitoring drinking water quality will be crucial. Especially for rural households, we need to bring more awareness and access to cost-effective testing and treatment technologies at the point of consumption.

USDA Rural Development's suite of Water and Environmental Programs has been incredibly successful in improving rural communities' access to high-quality drinking water service, but expanding this assistance will be essential in meeting growing challenges. Programs such as the

³ <https://pubmed.ncbi.nlm.nih.gov/33328368/>

⁴ <https://www.epa.gov/dwreginfo/point-use-and-point-entry-treatment-devices>

⁵ <https://www.epa.gov/sciencematters/epa-researchers-investigate-effectiveness-point-usepoint-entry-systems-remove-and>

⁶ <https://www.epa.gov/system/files/documents/2021-07/epa-3ts-guidance-document-english.pdf>

⁷ https://www.cdc.gov/nceh/lead/prevention/sources/water.htm?CDC_AA_refVal=https%3A%2F%2Fwww

Rural Decentralized Water Systems Grant Program, have helped fund projects in these communities, but more needs to be done to educate residents on their water quality and the availability of funding under current programs. And by creating new program offerings, USDA and the committee can help ensure that there is sufficient flexibility for these communities to leverage all filtration technology options that may suit their remediation needs.

Assistance and Support

For the reasons outlined above, WQA strongly encourages the committee, in its crafting of the 2023 Farm Bill, to prioritize the implementation of POU and POE technologies as one of many tools to assist rural communities with the improvement of drinking water quality.

While the aforementioned USDA Rural Decentralized Water Systems Grant Program serves an important purpose in creating revolving loan funds to provide low interest loans to rural homeowners who need to construct or maintain their well or septic system, there are many people in rural communities who do not fall into this narrow category.

To fill this important gap, WQA is particularly supportive of *S. 806 - The Healthy Drinking Water Affordability Act* – also known as the Healthy H2O Act – and urges the committee to include this important legislation into the Farm Bill this year. This bipartisan, bicameral legislation recognizes the need to close the drinking water quality gap for rural Americans served by struggling small community water systems and private wells by directing resources toward testing and remediation solutions.

The bill would authorize funding to be appropriated for a USDA Rural Development program that would provide grants to conduct water quality testing for households and licensed child-care facilities, and, if deemed necessary based on the results of testing, fund the purchase, installation, and maintenance of POU or POE water treatment systems that remove or reduce health-based contaminants from drinking water. Treatment solutions funded through the program would be required to be third-party certified in alignment with NSF/ANSI standards for the given contaminant identified during testing.

This program would take a targeted approach, providing assistance only to low and moderate-income recipients within rural communities. This targeted approach will allow for households to be prioritized based on need of assistance and otherwise may not be able to afford the costs of adequate testing and treatment.

This legislation already has the support of members of both the House and Senate Agriculture Committees, and it is our hope that all members of this panel will join in supporting this bipartisan, commonsense solution.

Beyond the Healthy H2O Act, WQA is supportive of the 2023 Farm Bill including a Rural Development title that has the most robust practicable support for rural drinking water upgrades. RD's existing suite of Water and Environmental Programs, including grant and low-cost loan funding as well as technical assistance authorities, have proven effective in generating improved

water quality outcomes in thousands of rural communities. This support should be expanded to meet a growing list of costs and challenges.

The availability of high-quality drinking water is a foundational building block needed to foster the growth of healthy, resilient, and prosperous communities, and without it, other key factors, such as economic development, are stymied. It is of the utmost importance for our rural communities to be afforded the same access to safe, reliable, and affordable water as their urban and suburban counterparts. Robust and flexible resources through USDA Rural Development, including access to treatment technologies at the point of consumption, are a fundamental component of this effort.

I thank the subcommittee for the opportunity to testify, and I look forward to fielding your questions.

Supplementary resources related to my testimony are included as addenda. These are as follows:

- **Addendum A:** The executive summary of a January 2019 study conducted by the University of Arizona titled – Cost Benefits of Point-of-Use Devices in Reduction of Health Risks from Drinking Water
- **Addendum B:** A June 2022 study conducted by Corona Environmental Consulting titled – Drinking Water Crises in the United States Phase 2: Predictive Modeling
- **Addendum C:** An April 2022 study conducted by the University of Massachusetts, Amherst, titled – Sustainability Comparison Study: Accessing Centralized Treatment Upgrades and POU/POE Treatment for Small System Compliance to the SDWA