S. HRG. 118–101

WATER AFFORDABILITY AND SMALL SYSTEM ASSISTANCE

HEARING

BEFORE THE

SUBCOMMITTEE ON FISHERIES, WATER, AND WILDLIFE

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

MAY 31, 2023

Printed for the use of the Committee on Environment and Public Works

Available via the World Wide Web: http://www.govinfo.gov

U.S. GOVERNMENT PUBLISHING OFFICE

53–348 PDF WASHINGTON : 2023

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

THOMAS R. CARPER, Delaware, *Chairman*
SHELLEY MOORE CAPITO, West Virginia, *Ranking Member*

BENJAMIN L. CARDIN, Maryland
BERNARD SANDERS, Vermont
SHELDON WHITEHOUSE, Rhode Island
JEFF MERKLEY, Oregon
EDWARD J. MARKEY, Massachusetts
DEBBIE STABENOW, Michigan
MARK KELLY, Arizona
ALEX PADILLA, California
JOHN FETTERMAN, Pennsylvania
KEVIN CRAMER, North Dakota
CYNTHIA M. LUMMIS, Wyoming
MARKWAYNE MULLIN, Oklahoma
PETE RICKETTS, Nebraska
JOHN BOOZMAN, Arkansas
ROGER WICKER, Mississippi
DAN SULLIVAN, Alaska
LINDSEY O. GRAHAM, South Carolina

COURTNEY TAYLOR, *Democratic Staff Director*
ADAM TOMLINSON, *Republican Staff Director*

SUBCOMMITTEE ON FISHERIES, WATER, AND WILDLIFE

ALEX PADILLA, California, *Chairman*
CYNTHIA M. LUMMIS, Wyoming, *Ranking Member*

BENJAMIN L. CARDIN, Maryland
SHELDON WHITEHOUSE, Rhode Island
EDWARD J. MARKEY, Massachusetts
DEBBIE STABENOW, Michigan
MARK KELLY, Arizona
THOMAS R. CARPER, Delaware *(ex officio)*
KEVIN CRAMER, North Dakota
PETE RICKETTS, Nebraska
JOHN BOOZMAN, Arkansas
DAN SULLIVAN, Alaska
SHELLEY MOORE CAPITO, West Virginia *(ex officio)*

C O N T E N T S

Page

MAY 31, 2023

OPENING STATEMENTS

Padilla, Hon. Alex, U.S. Senator from the State of California 1
Lummis, Hon. Cynthia M., U.S. Senator from the State of Wyoming 3

WITNESSES

Jones, Kyle, Policy and Legal Director, Community Water Center; Sacramento, California 6
Prepared statement 8
Response to an additional question from Senator Cardin 16
Menard, Rosemary, Water Director, City of Santa Cruz Water Department; Santa Cruz, California 18
Prepared statement 20
Responses to additional questions from Senator Cardin 25
Pepper, Mark, Executive Director, Wyoming Association of Rural Water Systems 28
Prepared statement 30

ADDITIONAL MATERIAL

Letter to Senators Padilla and Lummis from the Association of Metropolitan Water Agencies, May 31, 2023 52
Letter to the U.S. Senate Committee on Environment and Public Works, Subcommittee on Fisheries, Water, and Wildlife, from Community Water Center et al., May 31, 2023 55
Memorandum from U.S. Environmental Protection Agency, Analytical Chemistry Branch, to Anne Overstreet, Director, Biological and Economic Analysis Division, Office of Pesticide Programs, May 18, 2023 57

WATER AFFORDABILITY AND SMALL SYSTEM ASSISTANCE

WEDNESDAY, MAY 31, 2023

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON FISHERIES, WATER, AND WILDLIFE,
Washington, DC.

The Committee met, pursuant to notice, at 2:43 p.m. in room 406, Dirksen Senate Office Building, Hon. Alex Padilla (Chairman of the Subcommittee) presiding.

Present: Senators Padilla, Lummis, Cardin, Whitehouse, Kelly, and Ricketts.

OPENING STATEMENT OF HON. ALEX PADILLA, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator PADILLA. Good afternoon, everybody. This hearing will come to order.

It is my honor to welcome everyone to the first hearing of this Congress for the Senate Environment and Public Works Subcommittee on Fisheries, Water, and Wildlife.

I apologize for the slightly delayed start of the hearing. They opened the Senate floor just a few minutes ago. I can attest that Senator Lummis and I were among the first to cast our votes so we could race over here and try to begin as on time as possible. We do expect additional colleagues to join us over the next several minutes.

Today, we will be examining the issue of water affordability and small water system assistance in communities across the United States. There is a reason why there is a saying in the West that, "whiskey is for drinking, and water is for fighting over." Access to water is the foundation for strong and healthy communities, economies, and families.

As a Californian, this topic is near and dear to me and to the 40 million Californians that I represent, as well as to all Americans who have ever had to worry about whether or not they could afford their next water bill or if their water would be shut off because they can't keep up with the bills.

In a country as wealthy as the United States, nobody should have to worry about whether aging, deteriorating pipes in rural communities will hold up, whether wells could run dry due to an extended drought, or whether the climate crisis and extreme weather will bring catastrophe to our water supply. It is only right that we take a close look at the state of our country's water systems and the Federal investments needed to make sure that all

Americans have access to safe, affordable, and reliable water supply. After all, it is not just about our economy and environmental protection. It is about fundamental health and human safety.

I want to thank our witnesses who are here today to discuss their experiences with America's aging water infrastructure, as well as with the families who are experiencing rising costs.

I also want to thank Chairman Carper, Ranking Member Capito, and my Subcommittee Ranking Member, Senator Lummis, as well as all of our hardworking Committee staff for making today's hearing a priority.

When it comes to clean water, Americans too often face a heartbreaking choice. Just last fall, the Los Angeles Times told the story of Rosario Rodriguez, a woman living in a rural community in western Fresno County in California. With bills to pay, a family to feed, and a skyrocketing water bill after a summer of drought, Rosario was forced to choose between paying the electric bill or the water bill, not to mention food, school supplies, clothing, and more.

Because there were few assistance programs available for water bills beyond one time payments, she was forced to pay the water bill in full and look elsewhere for electric rate assistance.

In 2012, California became the first State in the Nation to recognize in statute a human right to water, but California can't do it alone.

For the Rodriguez family and many families like them, extreme drought and the increasingly devastating impacts of our changing climate, combined with aging water infrastructure, have made access to clean, affordable water a privilege instead of a basic human right. This is the result, in large part, of decades of underinvestment in water infrastructure.

Water systems, especially those in small, rural, or disadvantaged communities, also frequently lack adequate staffing and the financial capacity to make necessary upgrades. As a result, the cost of maintaining and repairing water infrastructure has fallen on States, localities, and of course, ratepayers.

In fact, over the past 20 years, water rates have increased at three times the rate of inflation, significantly higher than the rate of energy bill increases, for example.

The American Water Works Association has found that one in three Americans struggles to pay their water bills on time, and the EPA projects that 36 percent of U.S. households will not be able to afford drinking water by next year. That is more than one in three.

This all points to an alarming water affordability crisis and an environmental justice crisis as well, with underserved communities who already struggle to afford utilities in rural, low income, and Tribal communities being hit hardest by rising water rates.

In this moment, we need a unified approach from the Federal Government to ensure that all Americans have access to affordable, clean drinking water.

Over the past few years, I have been proud to see Congress come together to provide over $1 billion to help low income households pay their water bills after the outbreak of COVID-19. I was proud to help pass the Bipartisan Infrastructure Law, the single largest investment in water infrastructure in our Nation's history, bringing

an unprecedented $55 billion to communities across the country to bolster drinking water and wastewater infrastructure, replace lead pipes, and address forever chemicals known as PFAS.

I was also proud to support this Committee's work to authorize a new EPA pilot program to help rural and low income households pay for water bills. Together, these are great first steps to lifting up families in need and investing in our Nation's clean water future, but these are temporary rate assistance programs, and investments that only begin to address the backlog of our deferred maintenance needs. We cannot stop there.

The $1 billion for utility assistance, for example, is set to expire this year, and despite the robust investments we made in LIHEAP, a permanent energy assistance program, we still do not have a permanent equivalent program for water assistance.

That is what today is all about: Working together to see how we can provide permanent water utility assistance to communities in need and how we can make sure that no American has to choose between putting food on the table or pouring water into their glass.

I am excited to hear from all of our witnesses about what families are still facing, what communities and utilities see as the most pressing challenges to delivering affordable water, and how we can best strengthen our Nation's water supply systems.

With that, I would like to turn to Ranking Member Lummis for her opening statement.

OPENING STATEMENT OF HON. CYNTHIA M. LUMMIS, U.S. SENATOR FROM THE STATE OF WYOMING

Senator LUMMIS. Thank you, Chairman Padilla. I look forward to working with you on the issues that we are discussing today, as well as other items, such as reforms to the Endangered Species Act and to our work to ensure the continued supply from the Colorado River.

I want to thank our witnesses for being here today. I especially want to thank Mark Pepper, who runs the Wyoming Association of Rural Water Systems. You are always such a help in informing me about what our small, rural water systems are facing, so I am deeply grateful for your being here today. You wear many hats in Wyoming. And I am deeply grateful that you took time out to be here today because I know you are super busy.

Water is the key to life. While this sounds like an overly simple statement, for many Americans, it is a harsh reality. From droughts that can strain the supply to ever increasing water bills, access to water is not universal across the country. In my home State of Wyoming, it is a constant struggle to keep water system operators to meet the needs of their communities, keep rates low, while simultaneously complying with complex and evolving regulatory requirements from the EPA, and that is a challenge to our systems as well.

Unfortunately, rural water systems have their own additional challenges. Small populations means less ratepayers, which means less revenue needed to make capital investments. I worked with my colleagues on this Committee to make significant investments in water infrastructure in the previous Congress, and I was pleased

to see that effort included the Infrastructure Investment and Jobs Act.

However, Congress failed to make the investments in that bill in a fiscally responsible manner. If we are to continue investing in the needed infrastructure, Congress must find ways to ensure that we are not simply transferring our obligations to future generations.

Outside of the capital investment needed, small systems also face difficulty finding, training, and retaining a work force. Some estimates suggest that one-third of the water sector work force will be eligible to retire in the next decade. That loss, not only of personnel, but institutional knowledge, will put tremendous strains on water systems across the country. Once again, rural America will be the first and hardest hit by these retirements.

In addition to these items, I would be remiss if I did not express my concern with EPA's actions as it relates to PFAS. PFAS compounds are designed to be durable and not break down naturally. As a result, these compounds can be found in water and soils across the country.

While we are working to better understand the science behind this class of chemicals, it is clear they do pose a threat to human health. So I support EPA's actions to establish a national primary drinking water standard for the most common PFAS compounds. Every single American deserves the peace of mind that their water is safe to drink.

But I am concerned that levels selected by EPA at four parts per trillion will represent an unfunded mandate on water systems while not being supported by the science. That level represents not a health based standard, but instead the level at which these compounds can reasonably be detected. For reference, four parts per trillion is roughly the same as four droplets in an Olympic sized swimming pool.

As one might guess, the detection and treatment technology needed to handle something at that scale will be costly, and those costs will be borne by the communities these systems serve. EPA must evaluate the academic literature from across the world when selecting the levels for these standards and not just rush to the costliest option.

EPA is also proposing to designate those same PFAS compounds under CERCLA, the Superfund law. If finalized, water systems that are treating for PFAS may be held liable under CERCLA, again, at the expense of the ratepayer.

When CERCLA was first written, it was done using the "polluter pays" model. Water systems, however, are not polluters of PFAS, as they have never used those compounds. As such, it is imperative that we work here in Congress to pass legislation that clarifies that entities such as water systems are not held liable for pollution to which they did not contribute.

Thanks again for calling this hearing, Mr. Chairman. I look forward to hearing from our witnesses.

Senator PADILLA. Great, thank you.

Now, I would like to turn to our witnesses. First, I would like to introduce Kyle Jones, who serves as Policy and Legal Director for the Community Water Center, an environmental justice nonprofit organization that works in rural and low income commu-

nities in places like the San Joaquin Valley, which many refer to as the salad bowl of America. Mr. Jones has a background in environmental law, land use law, and local government advocacy.

Mr. Jones, you are a long way from Visalia, but we know that you truly understand the impact that the policies that we enact here in Washington have on the folks back home. And your voice, and the voices of the communities you work with, must be a part of this conversation.

Let me also introduce Rosemary Menard, the Water Director for the city of Santa Cruz. Ms. Menard has served for over 40 years in public service, holding several water utility leadership positions in Seattle, Washington; Portland, Oregon; and Washoe County, Nevada.

As Water Director in Santa Cruz, Ms. Menard has helped guide the Santa Cruz Water Department through multiple droughts, wildfires, repair and replacement of aging infrastructure, a pending water treatment plant upgrade, meter replacements, and a plan to supplement the city's water supply and prepare for the ongoing effects of our changing climate.

Thank you for testifying today. I look forward to hearing about the particular challenges and solutions water utilities are thinking about in the short, medium, and longer term.

I now, once again, turn to Senator Lummis to introduce Mr. Pepper.

Senator LUMMIS. Mr. Pepper has over 43 years of finance and administration experience, 34+ years in senior management positions, and 8+ years in public accounting. He has been involved in surface and groundwater issues in Colorado, Nevada, Texas, and Wyoming during his career.

Mr. Pepper chairs the Casper Area Economic Development Joint Powers Board. He also serves on the Wyoming Water Association Board of Directors, and was appointed by the Governor to the following current commissions or task forces: The State Emergency Response Commission, the State Qualification Review Committee, Governor's Non-Point Source Task Force, Governor's Small System Task Force, Governor's Special District Task Force, and he is a member of the Governor's Solid Waste Citizens Advisory Committee.

I don't know how you have time to do anything but go to meetings.

He heads the State of Wyoming's largest utility membership organization that administers training and technical assistance programs, enabling Wyoming's community water industry systems to meet the requirements of the Safe Drinking Water Act, Clean Water Act, and the Resource Conservation and Recovery Act.

Mark Pepper is a very knowledgeable and busy man.

Thank you again for coming to Washington.

I yield back.

Senator PADILLA. Thank you, Senator Lummis.

In this Subcommittee, there is no requirement that we swear in witnesses, but we trust that the testimony shared today will be the truth, the whole truth, and nothing but the truth.

With that, Mr. Jones, your testimony, please.

STATEMENT OF KYLE JONES, POLICY AND LEGAL DIRECTOR, COMMUNITY WATER CENTER; SACRAMENTO, CALIFORNIA

Mr. JONES. Good afternoon, Chair Padilla, Ranking Member Lummis, and members of the Subcommittee.

My name is Kyle Jones. I am the Policy and Legal Director with Community Water Center.

For background, Community Water Center started in Visalia, California, organizing nitrate impacted residents to help them understand what is in their water and what they can do about it, and has since expanded to focus on advocacy and direct technical assistance to support long term, community driven solutions for the drinking water crisis in California.

We also serve as a core member of the Water Equity and Climate Resilience Caucus, a caucus focused on water equity nationally. As noted, in California, we recognize the human right to clean, safe, and affordable drinking water for all. This is a necessary condition in order to ensure that there is economic development and self-determined futures for the communities that we work in.

Many of the communities that we work in, unfortunately, are disproportionately challenged. Many are small communities that are often failing to meet basic drinking water needs. California alone has 395 failing water systems serving over 800,000 people. Almost 3 million others are in systems that are either at risk of failing or potentially at risk of failing. These systems disproportionately serve small, rural communities and low income communities of color.

The residents we work with are also faced with increased levels of contamination. Residents that we work with cannot use their taps for drinking water, and some can't even take hot showers without fear of getting sick or having increased risk of cancer.

A particular challenge in the West is the increasing aridification and droughts fueled by climate change that is pushing us to have to rely more and more on less and less groundwater that is already being over pumped by agriculture.

As noted, many of these systems lack the technical, managerial, and financial capability to access resources that are out there. These systems don't have the staff or expertise necessarily to navigate funding streams like the State Revolving Funds. And even if they could, State Revolving Funds and bonds often can't provide a full solution, as oftentimes operation and maintenance requirements can't be funded unless they make solutions too costly for communities.

All of this leads to more unaffordable water. The small communities with small ratepayer bases face the highest rates. One community, El Porvenir in Western Fresno County that our partner organization, Leadership Council for Justice and Accountability works at, has a fixed rate every month of $280. And that is before any volumetric charge for the use of water.

Further, because of contamination, our communities are paying twice for water: Once for the tap they can't use and again for the bottled water they need to survive. It is unconscionable.

Treatment costs are also going up, and we are facing a situation where communities are either forced to choose between water that is safe or water that is affordable, but we believe in the United

States that we can provide both. Affordability programs are not universal like they are for other utilities like energy, gas, food. Safe drinking water is a necessity, and whether or not a family can afford their water should not be based on their ZIP code.

The affordability crisis really came to a head during the pandemic. California had over $1 billion in water debt as a result of the pandemic, and wasn't alone. And while we have been successful in crafting some solutions focusing on debt, we are not addressing the root of the problem, which is unaffordable water rates.

What are the solutions? We believe there needs to be continued and expanding investments in water infrastructure, with a focus on removing barriers that limit access for small water systems. And this includes things like expanded outreach and engagement to ensure that small, rural communities have projects that are ready to be funded when infrastructure programs are available, and also funding to solve operations and maintenance.

We also encourage Congress to look at other ways to fund drinking water, such as rural development at USDA, the Bureau of Reclamations programs. We also need a low income water assistance program. We need sustained funding to make sure that water is affordable so that folks don't fall behind and get into debt.

We can't create a program alone as a State. We need support from the Federal Government. So we urge the creation of a LIRA program this year, and in addition, extension of LIHWAP to ensure that in the meantime, there is still some assistance for families in need. We also ask for reforms to the LIHWAP program to ensure it can be more successful for States like California.

We recognize that there is a human right to clean, safe, and affordable drinking water for all. And we urge Congress to join us and work toward fulfilling this human right. Thank you.

[The prepared statement of Mr. Jones follows:]

COMMUNITY WATER CENTER
EL CENTRO COMUNITARIO POR EL AGUA

Testimony before the U.S. Senate Committee on Environment and Public Works, Subcommittee on Fisheries, Water, and Wildlife

May 31, 2023
Water Affordability and Small System Assistance

Kyle Jones
Policy & Legal Director

Community Water Center
222 North Garden Street, Suite 130
Visalia, CA 93291

Introduction and Background on Community Water Center

Chair Padilla, Ranking Member Lummis, Members of the Subcommittee, thank you for the opportunity to present testimony as part of this informational hearing.

I am here today to share with you information and our perspectives of the challenges and solutions regarding access to safe drinking water and sanitation for small and rural communities and the water affordability crisis impacting low-income residents across the country.

As background, Community Water Center (CWC) is an Environmental Justice nonprofit founded in 2006 who works on the ground in Visalia, California, in the Southern San Joaquin Valley and Watsonville, California on the Central Coast. The vision of CWC, is to ensure all communities have access to safe, clean, and affordable water. CWC works as a catalyst for community-driven water solutions through organizing, education, and advocacy in California's San Joaquin Valley and Central Coast. We build grassroots capacity to address water challenges in small, rural, low-income communities and communities of color, and also engage on state and federal drinking water policy. CWC also serves as a core member of the Water

Equity and Climate Resilience Caucus, a national network of organizations who work to build a shared analysis and understanding of the problems, codify policy strategies, and enable members to deliver on water equity results for their communities.

CWC believes that access to safe and affordable drinking water is a basic human right, not a privilege. Yet each year, more than one million Californians are exposed to unsafe drinking water from the taps in their homes, schools, and communities. In addition, high water bills, debt, and loss of access are a growing challenge for many of the 13 million low-income Californians. Although water problems exist statewide, they disproportionately impact low-income communities and communities of color. Without access to safe and affordable drinking water, communities do not have the opportunity to develop and grow like other communities across the country.

Challenges Faced by Small, Rural, and Low-Income Water Systems

Small, rural, and economically disadvantaged water systems face many challenges in providing safe and affordable drinking water for residents across the country. In California, 395 small water systems, providing water to 808,875 people are failing due to contamination, inadequate supplies, or unaffordable water rates.[1] Hundreds of other systems serving just under three million Californians are either at-risk of failing or potentially at-risk of failing.[2] A 2021 analysis found that California needed almost $10 billion. Those numbers are likely much greater today due to inflation and the increased number of failing and at-risk systems.[3]

Often, failing and at-risk small water systems disproportionately serve low-income communities and communities of color, who are forced to deal with higher water rates and poorer health outcomes. We routinely work with community partners who face nitrate contamination, which is undetectable by sight or smell and can lead to the fatal blue baby syndrome. Other community partners' water sources have been polluted with 123-TCP, which is a carcinogen that increases in toxicity when heated and inhaled, making daily showers toxic. It is unconscionable that these communities suffer such high health impacts for basic services we take for granted daily.

Droughts, climate change, and other water supply stressors only exacerbate the challenge. Water supplies have become more scarce and costly. The west is undergoing aridification that is depleting groundwater supplies that were already being overpumped by unsustainable agricultural practices. And new studies are demonstrating that water shortages concentrate

[1] State Water Resources Control Board, SAFER Dashboard, (2023), *available at* https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/saferdashboard.html.
[2] *Id.*
[3] State Water Resources Control Board, 2021 Drinking Water Needs Assessment, (Apr. 2021), p. 22, *available at* https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2021_needs_assessment.pdf.

pollutants.[4] California has found that small water systems will require over $4.5 billion in additional infrastructure upgrades to ensure that they will be resilient in the face of the changing climate.[5]

Despite the massive infrastructure needs for small water systems to address contamination and water supply issues, these systems often struggle to access state and federal resources that can help make water safe and affordable. **While we appreciate the historic investments from the Bipartisan Infrastructure Law, we note that there's an annual need of $109 billion for the next 20 years to meet all of the water infrastructure demands in the United States.**[6] Further, state and federal infrastructure funding tends to be easier to access by larger water systems who can more readily develop shovel-ready projects, leaving small water system needs unmet.

Many small water systems, particularly those who are at-risk of failing or failing, lack technical, managerial, or financial capacity to operate their systems safely and effectively. If these systems have identified water solutions, technical assistance is critical to ensure they can navigate funding processes for their projects. However, many systems lack the ability to even develop long-term solutions and more assistance is needed so that a pipeline of projects to benefit small water systems can be developed to receive funding. In fact, many water systems in this country only have 1-4 employees and lack the capacity to develop needed projects.

Further, traditional infrastructure funding methods, such as the Clean Water and Drinking Water State Revolving Funds (SRFs) or general obligations bonds, do not fund ongoing operations and maintenance (O&M) costs. In 2019 in Lanare, California, the community received funding to construct a treatment plant to address the high levels of arsenic in the community's groundwater. Unfortunately, funding did not cover O&M and the community lacked the resources to keep the plant going, forcing it to be shuttered while the community went back to untreated tap water.

Finally, the communities most impacted by unsafe drinking water were for decades continuously and deliberately excluded from full participation in their local water decision-making governance. And there are still challenges in ensuring adequate participation by local communities in water governance, resulting in solutions that may not meet all community needs. We know through

---

[4] Levy, Jurgens et al., Critical Aquifer Overdraft Accelerates Degradation of Groundwater Quality in California's Central Valley During Drought, Geophysical Research Letters, (Sept. 1, 2021), *available at* https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GL094398.

[5] State Water Resources Control Board, 2022 Drinking Water Needs Assessment, (April 2022), p. 22, *available at* https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/needs/2022needsassessment.pdf.

[6] Emily Simonson, What it Means to Support Equitable State Investments in Water Infrastructure, US Water Alliance, (May 16, 2022), *available at* https://uswateralliance.org/resources/blog/what-it-means-support-equitable-state-investments-water-infrastructure.

experience that if you give communities a seat at the table, and empower them with the information they need, that they can meaningfully participate in the decision-making process -- and that the solutions that result will better reflect the needs of communities.

The Water Affordability Crisis

In addition to the health risks associated with water contamination and a lack of adequate water infrastructure, many communities are also facing a crisis of water that is unaffordable. Residents are often forced to pay twice for water, having to purchase bottled water to supplement the unsafe tap water delivered to their homes. These drinking water costs alone can amount to as much as 10% of a household's income. In other words, those most affected by the lack of safe water are also those least able to afford the extra cost of alternative water sources. Water rates are already rising faster than the rate of inflation, and will continue to rise as communities need to address emerging contaminants like PFAS, or build resiliency against impacts of climate change. **Communities should not be forced to choose between water that is toxic and water that is unaffordable. In the United States, we can provide both.**

The water affordability crisis is particularly acute in small, rural, and low-income communities. One of our ally organizations, Leadership Counsel for Justice & Accountability, works in the community of El Porvenir in Fresno County, where families receive a water bill of $280 dollars a month, just for the fixed costs that do not include actual water usage. This water still fails to comply with drinking water standards.

Small, rural communities tend to have higher water rates because those communities lack a large base of ratepayers to spread fixed costs for infrastructure to bring safe water into homes. Infrastructure and treatment costs, including fixed costs to pay for infrastructure and operations and maintenance, have to be paid for by fewer households, ensuring higher per household rates. While grants and low-interest loans can help offset some of these costs, as noted above, ongoing operations and maintenance costs cannot be covered by existing infrastructure sources, like the State Revolving Funds or bonds and many small water systems are disadvantaged when it comes to receiving these funds.

While small water systems face the brunt of the affordability crisis,millions of low and moderate income Americans served by large systems are not unscathed. Economic challenges, such as inflation and income inequality, lead to increasing water rates impacting family finances. In California, there is a state constitutional prohibition that prevents public utilities from offering a Low-Income Water Rate Assistance Program (LIRA). Thus, while Californians are able to access assistance for other utilities, like energy, gas, and communications, water assistance remains a patchwork at best. **Safe drinking water is a necessity and whether or not a family can afford their water should not be based on their zip code.**

Existing California and Federal Water Rate Assistance Programs Do Not Address the Crisis

The water affordability crisis expanded dramatically during the COVID-19 Pandemic, where California water and wastewater bill debt topped $1 billion. California was not alone in facing high levels of water debts. In response, California committed $985 million to addressing water and wastewater arrearages from the American Rescue Plan Act. This program was able to quickly provide $301 million in aid in the form of direct credits to water customers. While the streamlined process that delivered assistance directly through the water utilities created an efficient program, the lack of universal participation limited who was able to receive assistance.[7]

The federal government responded by creating the Low-Income Household Water Assistance Program (LIHWAP) to address water utility debt as well. While many states have been successful in implementing LIHWAP, California has been struggling to get funds to customers due to onerous program requirements. Additionally, existing LIHWAP resources are insufficient to meet the debt levels held by communities across the country.

Further, addressing utility debts does not address the root cause of the problem, which is unaffordable water rates. Families do not want to fall behind on their water bills and do not want to be at risk of having their vital services shut off. Unfortunately, unaffordable water bills leave families with increasingly tough choices. Put yourself in the shoes of a person who is having to choose between bills and basic necessities. Do you prioritize paying your rent or do you pay your water bill? Do you pay for child care so you can go to work, or do you pay your water bill? Do you pay for your prescriptions, or do you pay your water bill? These are choices that no American family should make.

LIHWAP and other debt programs also do not meet the affordability need because they offer one time assistance. In the above scenario, imagine having to make hard choices for so long that you end up in debt with your water provider and are facing shutoff. You hear about LIHWAP and successfully apply and are no longer in water debt. But the bills remain too high, and once again you fall behind and can no longer rely on LIHWAP to help.

Solutions to Help Small Water Systems Succeed

Securing safe and affordable drinking water for everyone who lives in the United States of America is not out of reach and will require focused leadership at all levels of Government.

In order to fulfill the Human Right to Water, we must expand federal support for small water systems to fund needed upgrades through existing programs, rather than by already

[7] The Water Foundation, Lessons Learned From the California Water Arrearage Payment Program, (2022), *available at* https://waterfdn.org/wp-content/uploads/2022/04/Lessons-Learned-from-the-California-Water-Arrearage-Payment-Program_final.pdf.

overburdened ratepayers. This means we must continue to provide ongoing significant investments beyond the Bipartisan Infrastructure Law through the United States Environmental Protection Agency's (USEPA) SRFs and the United States Department of Agriculture's (USDA) Rural Development Water Program and Emergency Community Water Assistance Grants (Rural Development). Regularly increased funding is critical to close the existing gaps in providing safe drinking water for all.

We also need to continue to evaluate existing programs to ensure funding is reaching the communities who need it most. As noted above, programs like SRFs are difficult to access for small water systems. While SRFs contain set asides for technical assistance, that assistance is not reaching every community and is insufficient to ensure long-term solutions are community-driven. In California, we established the $130 million annual Safe and Affordable Funding for Equity and Resilience Program (SAFER). SAFER funds community outreach and engagement to allow water systems to work with their communities to develop projects that meet community needs. By frontloading this assistance across California, we are beginning to develop projects in the neediest communities to create a pipeline of projects eligible for funding and ensure more of these projects are being funded through the SRF. This early outreach to communities to build local support is absolutely crucial to ensure projects for small and rural communities can be competitive in the SRF process. Congress should follow California's leadership and expand SRF set asides to cover these types of successful activities funded by the SAFER program.

The SAFER program also authorizes funding for O&M costs that have traditionally been omitted. Funding O&M will be critical to avoiding situations where communities like Lanare have to choose between toxic water and affordable water. By ensuring funding to cover all costs of long-term solutions, we can avoid impacts to affordability. Congress should explore expanding the SRFs to fund O&M funding for projects necessary to bring disadvantaged communities into compliance with drinking water standards.

Other programs that provide water solutions should also be evaluated to determine whether they are prioritizing the neediest communities. Rural Development at USDA, is a critical source of funding for drinking water solutions. However, a recent report found that only 15 percent of funds were going to communities of color, which are already disproportionately impacted by a lack of safe drinking water.[8] Congress should direct USDA to increase reporting on how the Rural Development program is meeting the needs of communities of color and expand the Interagency Working Group on Cooperative Development to include impacted community residents so their needs are being directly heard by USDA.

Finally, the Bureau of Reclamation (BoR) funds numerous projects throughout the western states that could be utilized to support drinking water needs in disadvantaged communities. For

[8] Amanda Fencl and Jenny Rempel, The Rural Water Gap, Community Water Center, (2023), *available at* https://static1.squarespace.com/static/5e83c5f78f0db40cb837cfb5/t/64557993b897093b469b0f6b/1683323286732/Rpt_USDA_05.05.23a_Full+%281%29.pdf.

example, projects to create small storage could prioritize projects that measurably and demonstrably provide benefits to disadvantaged communities, such as groundwater recharge projects designed to improve water quality for groundwater-dependent communities. Similarly, the aging infrastructure funds could be authorized to provide benefits to drinking water for disadvantaged communities who traditionally have not been served by BoR projects. Congress should explore how these existing programs can center community drinking water needs.

Solutions to the Water Affordability Crisis

Even if we could prioritize and fund small and rural water system infrastructure needs, water rates will not be affordable for all. To that end, Congress must pass and fund a LIRA program. If Congress does not pass a LIRA program this year, it should extend the LIHWAP program and fund the authorized pilot program at USEPA to ensure that communities receive critical assistance and USEPA develops capacity to administer a LIRA program that works in concert with other water sector assistance programs, such as the state revolving funds. Families are continuing to face unaffordable water rates, high levels of debt, and shutoffs. Many states have already spent down their LIHWAP allocations and others are increasing the rate of spending as the program becomes more well known. We support the efforts of Senator Padilla and Representative Tlaib to extend LIHWAP and provide an additional $1 billion to support families.

Finally, we believe that LIHWAP could be reformed to reach more households in need. LIHWAP is modeled after the Low-Income Household Energy Assistance Program, which has resulted in implementation challenges. For example, in California there are 44 publicly-owned electric utilities and over 2,700 water systems. This means that California has had to expend significant time providing outreach to utilities to enroll them in the program. We have also heard about challenges imposed by Local Service Providers, such as paper applications and limited hours to apply that limit a family's ability to participate. Congress should streamline the LIHWAP process and requirements for easier access. Possible reforms include data sharing with other state and federal assistance programs coupled with automatic enrollment of eligible families, expanded outreach to utilities and to customers, easier applications that include online enrollment and self-attestation of eligibility, and inclusion of all families who live in the United States.

Conclusion

Access to safe, clean and affordable drinking water is a basic human right. Securing this right is within reach if we muster the political will and back it with needed funding investments and prioritize small and rural water systems. We urge Congress to join with us to ensure that all Californians, and Americans, have access to safe and affordable drinking water. We cannot continue to fail to meet everyone's basic needs.

This means Congress must provide more funding for the SRFs and Rural Development this year and ongoing new allocations each year for these programs, extend and improve the LIHWAP

program to be more successful, and finally establish a LIRA program to end the water affordability crisis.

Thank you again for the opportunity to present as part of this hearing, and please do not hesitate to reach out if we can ever be a resource or of assistance.

Thank you.

7/10/2023

Senate Environment and Public Works Committee
410 Dirksen Senate Office Building
Washington, D.C. 20510

RE: Community Water Center Response to Senator Cardin's Question Following the 5/31/23 Subcommittee Hearing

Community Water Center received the following questions from Senator Cardin:

1. How are the affordability challenges small systems face similar to or different from urban (large) water systems?

a. What lessons on solutions can we apply from one category to the other?

Affordability challenges in the United States are universal and affect all water systems, although the causes are not always the same. Larger systems can face expensive water rates due to a lack of state and federal investment, expensive treatment options, a lack of low-cost source water, and legal prohibitions on providing ratepayer assistance. Even well-managed systems can have inequitable water rates if the cost of providing water is simply more than what low-income customers can afford, especially smaller systems that lack a significant customer base to spread costs. Large systems also have further challenges in that they tend to serve areas with higher costs of living compounding water affordability issues with issues of housing affordability and energy affordability.

For large systems, in contrast to small systems, there does tend to be a more efficient ability to access needed resources to address issues. However, without addressing legacy issues that gave rise to high rates in the first place, there will not be affordable water. Therefore, all water systems, large and small, will need support through a federal Low-Income Water Rate Assistance Program.

There are general lessons that we have learned that can apply to all systems. All water systems need continued investment from the state and federal governments to ensure that projects needed to keep water flowing and safe can be affordable by communities. More funding will be needed for technical assistance to ensure that projects are community-driven and meet the needs of specific communities. Further, Congress should consider how grants can be provided specifically for operations and maintenance funding to prevent communities from having to

choose between water that is safe and water that is affordable. This would ensure that infrastructure projects that provide safe water will not have an impact on rates that could lead to residents falling behind.

Finally we have seen that large systems can fare better due to their larger ratepayer base. In California, we are working to accelerate consolidations and regionalization of water systems to help make some systems more sustainable. With more resources to conduct outreach and design consolidations that meet community needs and preserve public oversight and governance, more small systems can better access pots of funding like larger systems.

Sincerely,

Kyle Jones
Policy & Legal Director
Community Water Center

Senator PADILLA. Thank you, Mr. Jones.
Ms. Menard.

STATEMENT OF ROSEMARY MENARD, WATER DIRECTOR, CITY OF SANTA CRUZ WATER DEPARTMENT; SANTA CRUZ, CALIFORNIA

Ms. MENARD. Chairman Padilla, Ranking Member Lummis, and members of the Subcommittee, my name is Rosemary Menard, and I am the Director of the Santa Cruz Water Department. Thank you for the opportunity to share with you my perspective on the important issue of the affordability of water and wastewater rates.

The Santa Cruz water system serves just under 100,000 people through 27,000 connections. We own, operate, and maintain a complex water system to produce and deliver treated drinking water that is both groundwater and surface water from those sources.

Most of the system's major facilities were constructed before 1960 and have reached the end of their useful life. In addition to our aging infrastructure, we are challenged with the impacts of our water supply and infrastructure from climate change fueled extreme drought conditions and severe storms while maintaining compliance with the State and Federal drinking water standards. Meeting these various responsibilities comes with a cost that is ultimately borne by our water customers who pay their bills.

To ensure uninterrupted, quality service for our customers, Santa Cruz has developed a multiyear capital investment program, or CIP, that currently has a $650 million price tag. To pay for the CIP in 2016, a long range financial plan was developed that had a project funding strategy that was heavily focused on debt financing.

To cover the costs of the CIP, the Santa Cruz City Council unanimously approved significant rate increases in 2016 and again in 2021. The 2021 rate increase schedule is now being implemented and includes a 16 percent rate increase in both July 2023 and July 2024. Looking ahead, we expect to have continued rate increases through at least the next decade to address the issues in our water system as they continue to age and we deal with the climate challenges.

While our investment and rate increases to pay for them are necessary to maintain and upgrade Santa Cruz's water system, we recognize their effects on our customers, particularly those at the lower end of the income scale. Today, our data show that about 20 percent of the households we serve are already heavily financially burdened by their water and wastewater rates due to about a 250 percent increase in the cost of water since 2014 and also an anticipated additional 50 percent increase by 2026.

This is where the Federal Low Income Water Customer Assistance Program could play a vital role. Santa Cruz is unable to provide rate assistance through a statutory requirement in the State of California that prohibits us from using rate revenues from one set of customers to provide resources to subsidize the cost of service to another set of customers. We are one of many States that have that prohibition, and there are a number of other States in the country where there is a gray area, legally, about whether utilities can actually use that form of rate revenue to provide rate assist-

ance. So it discourages water utilities from attempting to stand up such programs.

This is why the Low Income Household Water Assistance Program, LIHWAP, that you just heard about, was so critical when Congress established it during the pandemic. For the first time, the Federal Government offered direct support to help low income households maintain essential water service, just as for years, the LIHEAP Program has provided for heating and cooling assistance.

In Santa Cruz, as of January 2023, the LIHWAP program provided nearly $580,000 in funds to offset utility arrearages to about 800 customers. In the recent lifting of the California COVID area prohibitions against disconnections for nonpayment, an additional 44 customers have received some one time assistance. These are really important benefits, but one time assistance only solves part of the problem, and we need ongoing assistance.

Looking forward, I would really ask Congress to consider multiple options, starting with extending LIHWAP through the next fiscal year 2024, so that critical assistance can occur, and also additionally to consider how the bipartisan legislation that allowed for the EPA pilot program to develop might be funded and provide an opportunity for there to be some exploration of that program.

I appreciate the opportunity to share Santa Cruz's affordability challenges with you today, but please remember that virtually every community in the country also has customers with similar water related assistance needs. Now is the time to act to ensure their ability to access essential water services and wastewater services, and are not threatened due to the cost.

I thank you for the opportunity to share my testimony today. I will be happy to answer any questions.

[The prepared statement of Ms. Menard follows:]

Rosemary Menard
Water Director,
City of Santa Cruz Water Department

Testimony before the Senate Committee on Environment and Public Works, Subcommittee on Fisheries, Water and Wildlife
On
Water Affordability and Small System Assistance

2:30pm on May 31, 2021

Chairman Padilla, Ranking Member Lummis and members of the Subcommittee, my name is Rosemary Menard. I am the Water Director for the City of Santa Cruz Water Department located at the north end of Monterey Bay on California's central coast. Thank you for the opportunity to share with you my perspective on the important issue of the affordability of water services.

The Santa Cruz water system serves just under 100,000 customers and all water supply is locally sourced; we are not connected to any of California's federal or state water supplies or infrastructure. We own, operate, and maintain a water system with a replacement value of over $1 billion and that includes a dam and reservoir in the Santa Cruz mountains, 50-plus miles of untreated water transmission pipelines, several water diversion structures, a large surface water treatment plant, two well fields, more than 250 miles of distribution system pipelines, and 15 treated water storage tanks. We protect public health by treating the water we produce and deliver to our customers to comply with state and federal drinking water standards covering dozens or contaminants, and we routinely monitor for dozens more.

Santa Cruz's water customers already face challenges related to water affordability, and the key driver of that issue is our need to make major reinvestments in our water system to address aging infrastructure, adapt to climate change, and comply with current and anticipated regulatory mandates. Most of the water system's major facilities were constructed before 1960 and have reached the end of their useful lives. And Santa Cruz is already experiencing significant impacts of changing climate in the form of longer, deeper, and more frequent drought conditions that put us at risk of running out of water and extreme wet weather events that result in crippling damage to water infrastructure such as we experienced throughout this past winter as well as in the winter of 2017.

Adding to our infrastructure and climate challenges is the cost of complying with California and federal water quality regulations, including the forthcoming National Primary Drinking Water Regulation for PFAS, anticipated revisions to the Lead and Copper Rule, and potential changes to the Microbial and Disinfection Byproducts rules currently being explored by EPA. As part of Santa Cruz's commitment to meeting all current and future regulatory requirements, we are currently working on a project with an estimated construction cost of $158 million that will upgrade our water treatment process and facilities. This project is just one example of a driver of

increasing costs that will ultimately be borne by our customers further exacerbating water affordability challenges for those least able to pay.

Santa Cruz initiated its water system reinvestment initiative in 2016 with the development of a Long-Range Financial Plan. This plan included a project financing strategy heavily dependent on debt financing and developed recommendations for significant rate increases to support implementing our Capital Investment Program (CIP). The Santa Cruz City Council unanimously approved a five-year rate increase schedule in August 2016. With funds generated by these rate increases we moved forward with more than $200 million in large construction projects to rehabilitate, replace, and climate-proof critical elements of the water system. We applied for and received $150 million in funding from the California Drinking Water Revolving Loan program to fund two of the larger projects that are already under construction.

In 2021, the Long-Range Financial Plan was updated, and a second five-year rate increase schedule was recommended, unanimously approved by the Santa Cruz City Council, and is now being implemented. These new rates are supporting an additional $370 million in capital reinvestment in the Santa Cruz water system. In addition to the water treatment plant upgrade mentioned earlier, other projects being funded include replacing critical water transmission pipelines and providing significant resources to develop additional water supply to improve supply reliability in the face of more frequent drought. A recently closed federal Water Infrastructure Finance and Innovation Act loan of $128 million will support some of the planned work in the coming five-year period. Still, at the end of this five-year rate increase schedule, continuing rate increases are expected for at least another decade to replace and climate-proof other elements of the water system that have reached the end of their useful life.

From the customer perspective, the result of our work to begin addressing water system reliability and resiliency issues is reflected in the steadily increasing cost for water service. Specifically, the cost of water for essential indoor use for a typical single family residential customer has increased from about $30 per month in 2014 to about $80 per month in 2023 – an increase of more than 250%. And we know that by 2026 this cost is going to increase to $120 per month or a further 50% increase over the current cost.

Given the trends for rising costs of water service in Santa Cruz, and for utility customers around the country where costs are or will be increasing to address aging infrastructure, emerging contaminants, and climate change, we must ask how we will maintain equitable access to water service for those customers least able to pay those higher costs.

To better understand how rising costs are impacting Santa Cruz's customers, the utility has commissioned several detailed analyses of water and wastewater affordability looking at census block group level data. Attachment 1 provides summary level details of this work. These analyses show that about 20% of the households in our service area are already heavily financially burdened by the water and wastewater rates they're being asked to pay; these impacts will only grow over time. To mitigate these conditions and maintain access to water service for all our customers some form of ongoing water rate assistance is necessary.

Unfortunately, providing adequate ratepayer assistance to our low-income customers is not something that Santa Cruz can do on its own. California is one of a handful of states that statutorily prohibits publicly owned water systems from using rate revenues to support rate assistance programs for low-income customers. Without access to these rate revenues, we simply do not have the resources to offer meaningful assistance on our own to our customers who need it.

Nationwide, according to a 2017 analysis commissioned by the Association of Metropolitan Water Agencies and other water sector organizations, very few states expressly permit publicly owned water systems to support customer assistance programs with ratepayer revenue, and in many states the question falls into a legal gray area.[1] This discourages water systems from pursuing such programs, and demonstrates the need for a federal initiative such as the Low-Income Household Water Assistance Program (LIHWAP), or other potential approaches.

Still, to support our low-income customers Santa Cruz has actively accessed available federal and state resources focused on addressing pandemic impacts. For example, through our participation in LIHWAP, 858 water service account holders received $579,583 from utility arrearage funding through January 2023. An additional 582 customers received $217,802 in assistance for past due costs of wastewater services. And, with the recent lifting of California's Covid-era prohibition on water service disconnections for non-payment, 44 additional customers received one-time support from the LIHWAP program. These one-time payments are helpful but are only a short-term fix. Just as the federal Low-Income Household Energy Assistance Program is a longstanding initiative to help qualifying households maintain home heating and cooling service, a similar permanent federal program is needed to ensure that all customers can continue to maintain water service.

It is also important to recognize that as part of the Bipartisan Infrastructure Law, Congress authorized the Rural and Low-Income Water Assistance Pilot Program at EPA, representing another initiative that holds promise in addressing the water affordability challenge. That program will allow EPA to award grants to support public water and wastewater affordability programs nationwide, thus providing funding to communities like Santa Cruz that are barred from using their own ratepayer dollars to fund local-level customer assistance programs. This EPA pilot is still awaiting funding, so I hope Congress will provide the necessary resources to make it operational as soon as possible.

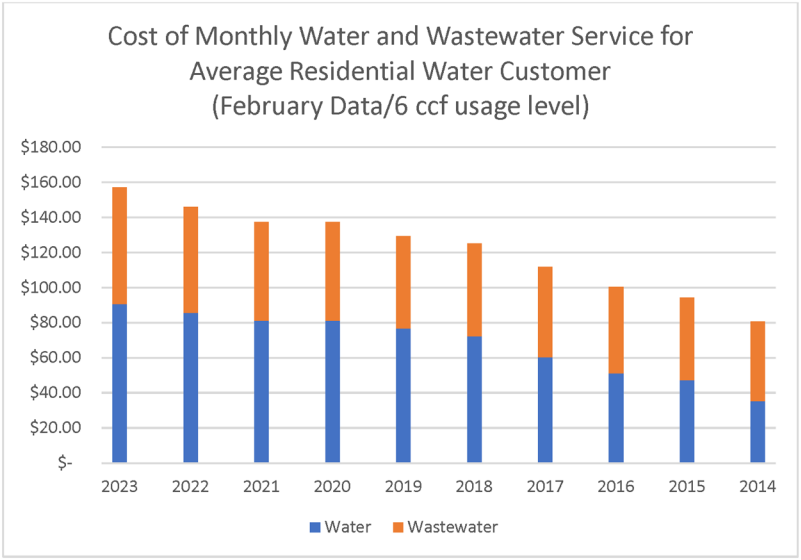
I appreciate the opportunity to share Santa Cruz's affordability challenges with you today, but I do not want to leave you with the idea that Santa Cruz's needs or circumstances are in any way unique. We have stepped up to the challenge in undertaking a major reinvestment in our water system, but I know that many of our nation's water utilities are facing similar reinvestment needs. Ongoing funding for a federal water rate assistance program will help both utilities and customers alike as we make these investments in our nation's critical infrastructure and continue our important work to protect our citizen's public health.

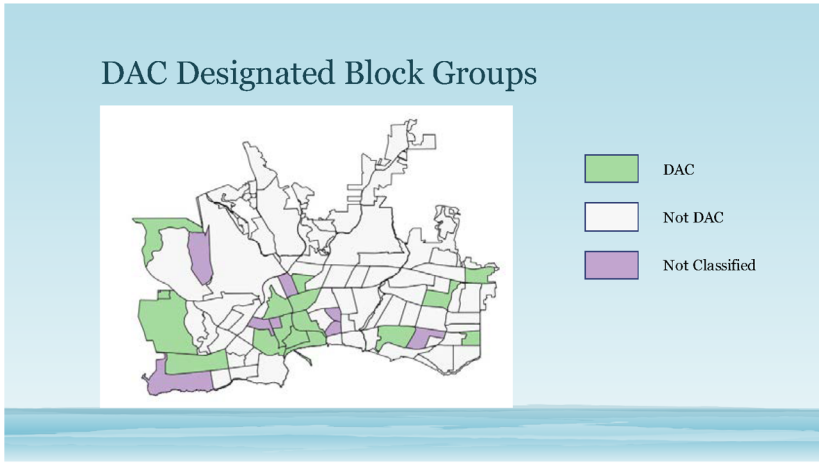
---

[1] *Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities.* https://www.amwa.net/publication/navigating-legal-pathways-rate-funded-customer-assistance-programs-2017.

Attachment 1

Water and Wastewater Affordability in Santa Cruz





DAC: Disadvantaged Community

Rosemary Menard, City of Santa Cruz Water Director, rmenard@santacruzca.gov

Scoring Affordability with the Financial Burden Matrix

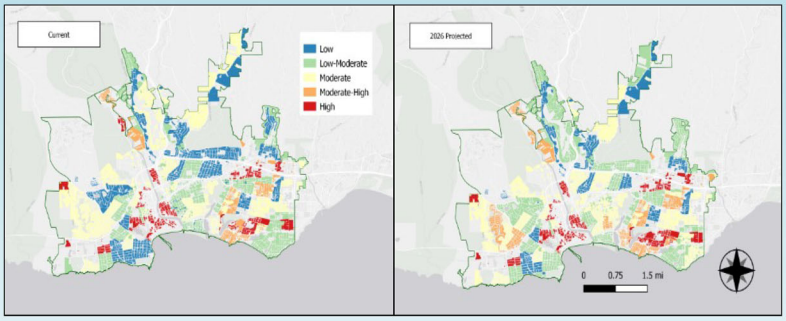
$AR_{W\&S}$	Poverty Prevalence Indicator (PPI)			
	< 10%	10 – 30%	30 – 50%	> 50%
< 1.5%	Low	Low	Low-Moderate	Low-Moderate
1.5% - 2.5%	Low	Low-Moderate	Moderate	Moderate
2.5% - 3.5%	Low-Moderate	Moderate	Moderate	Moderate-High
3.5% - 4.5%	Moderate	Moderate	Moderate-High	High
> 4.5%	Moderate-High	Moderate-High	High	High

Notes:

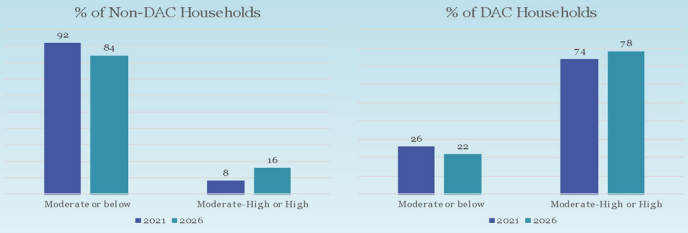
$AR_{W\&S}$: Combined water and sewer cost at essential level of service as a percentage of MHI adjusted for housing costs

PPI: Percentage of households in block group with income less than 200% FPL.

Change in Financial Burden Scores



Change in Financial Burden Scores



Senate Committee on Environment and Public Works
Subcommittee on Fisheries, Water and Wildlife
Hearing Entitled, *"Water Affordability and Small System Assistance"*
May 31, 2023
Questions for the Record for Rosemary Menard

Senator Cardin:

1. Water affordability continues to be a growing concern for water systems across the country, including those serving small and disadvantaged communities. What types of actions has the City taken to address these challenges?

   RESPONSE: The City of Santa Cruz maintains strong relationships with our ratepayers, plans and develops changes to water rates in a transparent manner, and leverages federal funding assistance opportunities when available.

   Santa Cruz began its water system reinvestment initiative in 2016 by developing a Long-Range Financial Plan. The plan was developed in collaboration with the City's City Council appointed Water Commission and covered both what work needed to be done and laid out the financial strategy and water rate increases needed to begin the work. The Santa Cruz City Council approved the Long-Range financial Plan in June of 2016 and adopted a five-year rate increase schedule in August 2016. In September 2021, an updated Long-Range Financial Plan was approved by the City Council and a second five-year rate increase schedule in was adopted in November 2021.

   The financing strategy underlying the City's water system reinvestments is heavily focused on using debt-financing. The facilities being developed typically have very long lives and debt-financing provides opportunities to mitigate near term rate impacts on current customers and address inter-generational equity by having future beneficiaries pay their fair share of the facility and infrastructure costs. To minimize the impact of the cost of borrowing on water rates, the City has worked very hard, and quite successfully to fund its major projects with EPA and state DWSRF loans, and more recently with a $128 million loan from EPA's WIFIA program. This assistance has made our projects more affordable, lessening the cost burden on our ratepayers.

   Specifically, the City has financed $150 million in loans for two major projects with 2019/2020 DWSRF loans at a 1.4% interest rate. Being ready to move projects to construction during the very low interest rate period that occurred over the last several years will save local ratepayers millions over the live of these loans. This very favorable outcome was only possible because of the work we initiated in 2016 to complete project planning, designs, and environmental reviews.

   As water rates have risen, Santa Cruz has also offered several forms of rate assistance for qualifying customers. Included are two rounds of Covid arrearage payments, Covid rent relief (including utility costs), and the Low-Income Household Water Assistance Program (LIHWAP). Santa Cruz further offers payment arrangements for qualifying low-income

customers. Non-low-income customers facing extenuating financial circumstances, such as unexpected costs due to storm damage, are also offered payment plans on a case-by-case basis.

Finally, Santa Cruz has completed a system-wide meter replacement program that provides customers with real-time access to their consumption data so that they have the information available to actively manage consumption to keep their costs as low as is feasible. The new system also provides leak alerts to support prompt leak repair that can reduce exposure to high bills caused by leaks. And, to take full advantage of the capability of new metering technology to support efficient water use, Santa Cruz Water Department has created a new Customer Assistance Program that is designed to help customers understand and use the new metering information to improve water use efficiency and reduce their bills.

a. How would permanent federal resources make them more sustainable?

RESPONSE: Santa Cruz is already making significant investments and reinvestments in its water system infrastructure and supply to improve resilience and reduce vulnerability to longer and more frequent droughts that we are already experiencing. The work already completed or underway has resulted in more than a 250% increase in the cost of water for an average single family residential customer since 2013. To complete the planned and necessary work, water rates are projected to continue to rise at about 10% per year through at least the next decade. To maintain equitable access to water service for our low-income customers, some ongoing form of water rate assistance is needed now and into the future.

Santa Cruz's situation is not unique. Water utilities throughout the country are addressing aging infrastructure, replacing lead pipes and service lines, improving water treatment to address critical needs like PFAS remediation, and investing in projects to make their systems resilient to the impacts of climate change.

Public utilities in California and several other states face a particularly acute challenge in dealing with rising rates and customer affordability issues because California statutorily prohibits publicly owned water systems from using rate revenues to support rate assistance programs for low-income customers. Without access to these rate revenues, we simply do not have the resources to offer meaningful assistance on our own to our customers who need it. And, without some ongoing form of a low-income water rate assistance program, many utilities will continue to defer necessary investments to avoid needing to raise rates. The consequence of continuing to defer needed investments in local water infrastructure is increasing risk of water system failures.

The temporary LIHWAP program helped fill the gap to assist ratepayers who are otherwise struggling to pay their water bills. When that program ends, Santa Cruz low-income customers will be left once again having to make tough choices

about how to balance maintaining water and wastewater services, paying the rent, and keeping food on the table. Given the importance of water and sanitation services to our community's public health and safety, establishing, and funding an ongoing water and wastewater services safety net program such as those provided for home heating and cooling and nutrition offers significant promise in meeting the need of low-income customers in Santa Cruz and elsewhere for affordable water and sanitation services.

2. EPA's Needs Assessment for Nationwide Rural and Urban Low-Income Community Water Assistance and Rural and Low-Income Water Customer Assistance Pilot Program were authorized as part of the Drinking Water and Wastewater Infrastructure Act, which was enacted through the Bipartisan Infrastructure Law. Why is it urgent that EPA implement these provisions?

   RESPONSE: Given the research that Santa Cruz has already performed to better understand the burden that increased water rates have on our ratepayers, we believe additional support is needed by the federal government to ensure that low-income ratepayers can continue to afford their water service. It is essential that EPA implement its pilot program given that water rates will continue to increase overtime – both because of the need to upgrade existing infrastructure, and to address the threat of the changing climate and its implications for water quality and quantity.

   Existing and new regulatory requirements are key drivers of cost increases for Santa Cruz and drinking water systems around the country. Systems must comply with EPA's proposed regulations for PFOA/PFOS and GenX chemicals, revised rules for lead and copper that will come out next year and likely upgrade treatment and monitoring programs to for microbial and disinfectant byproducts as well. Anticipated treatment processes and monitoring program improvements being proposed and explored by EPA not only require capital investment, but they also increase ongoing operating costs, both of which affect what customers pay.

   The combination of concerns about regulation, aging infrastructure, and future challenges make completion of the rural and urban low-income water rate assistance needs assessment an urgent priority. The results from this work are needed to inform design of the pilot programs Congress identified in the Bipartisan Infrastructure Law that, when completed, will inform design of an ongoing program to help offset the increasing burden on ratepayers as water systems plan and implement critically necessary improvements. Santa Cruz and other water systems nationwide need to have assurance that the necessary investments we must make will not negatively impact our most vulnerable ratepayers and eliminate or curtail their access to water and wastewater services. To do the jobs that water utilities face in the years to come, our country's water utilities require that customers trust and have confidence in those who provide this critical service. A key condition of maintaining that trust is having a safety net that assures ratepayers that critical water service will remain affordable and accessible to them in the years ahead.

Senator PADILLA. Thank you.
Mr. Pepper, your testimony, please.

STATEMENT OF MARK PEPPER, EXECUTIVE DIRECTOR, WYOMING ASSOCIATION OF RURAL WATER SYSTEMS

Mr. PEPPER. Good afternoon, Chairman Padilla, Senator Lummis, and members of the Subcommittee. It is an honor to appear before you today on behalf of small and rural communities.

I am Mark Pepper, the Executive Director of the Wyoming Association of Rural Water Systems, a nonprofit association representing all small water and wastewater systems in Wyoming.

I am also here to testify on behalf of the National Rural Water Association, which represents over 31,000 small and rural water systems across the country. Our member utilities have the very important responsibility of complying with all applicable Environmental Protection Agency regulations and ensuring the provision of safe drinking water and sanitation services to the public all day, every day.

The State Revolving Funds, which provide Federal dollars to small towns for building, expanding, and maintaining their drinking water and wastewater infrastructure were authorized by this Committee, and thank you. One of the key aspects of our work at Rural Water is to provide direct assistance to small and rural communities in operating, governing, financing, upgrading, and maintaining their water and wastewater infrastructure.

Local governments and nonprofit water utilities exist solely to serve the public's interest. They are directly accountable to their local citizens through local elections and are often governed by duly elected volunteer citizens.

For the next few minutes, I would like to discuss some of the most important issues facing small water systems right now, including affordability, the implementation of the Infrastructure Investment and Jobs Act, personnel challenges, and PFAS regulatory burdens.

First, the two largest costs of most utilities are personnel costs and energy costs. Compounding these expenses are supply chain issues impacting access to chemicals for water treatment, the replacement expansion parts, and scarcity of qualified professionals like engineers and contractors.

Inflationary pressures are also hampering affordability. This has had a stagnating pressure on personnel costs as operating costs have taken precedence.

The SRF set asides help to fill the technical gap by allowing qualified professionals to provide onsite assistance, comply with the myriad of Federal Safe Drinking Water and Clean Water Act regulations, as well as access to supply chains and troubleshooting advice, which is helping to keeps rates affordable. Should SRF's set asides be reduced or eliminated, I would suspect many systems will turn to unaffordable quickly.

As for the Bipartisan Infrastructure Law, rural water systems are grateful to this Committee and Congress for the enactment of this landmark legislation. However, we are hearing from a lot of systems and States that the funds provided in the bill have been

slow to be implemented due to lack of supplies and engineers to do the work.

Another quandary in Wyoming is that operators and agencies have questions with the definition of disadvantaged community. With the bulk of Wyoming systems serving under 1,000 people, they are at a socioeconomic disadvantage due to size, expertise, work force, and a limited budget. We believe these communities should qualify as disadvantaged under the bill.

We also believe an extension of time to get the money out based on the lack of supplies and engineers is warranted. We would also like the State match to remain at 10 percent for at least 5 years instead of just years 1 and 2. The 20 percent match for years 3 and on may make spending difficult in meeting the match requirement.

Regarding personnel, the water sector is facing critical staffing shortages with up to 50 percent of the work force expected to retire in the next decade. The NRWA Apprenticeship Program is an essential tool being used right now in 35 States to address this critical issue. This novel initiative was specifically designed by industry leaders to attract, train, and retain the next generation of the water work force. These strategic partnerships have already created over 600 jobs for the water industry.

Regarding PFAS, NRWA and WARWS share the Committee's goal of eliminating PFAS from the public's drinking water and environment. However, the looming threat of EPA's proposed PFAS MCLs and the liability costs associated with having certain PFAS compounds designated under CERCLA could price small water utilities out of existence, which is why we are extremely grateful and express our strong support for S. 1430, introduced by Senator Lummis. The bill will preserve a fundamental element of environmental law, which is the important "polluter pays" principle for cleanups of PFAS designated under CERCLA.

Finally, access to certified labs and Subtitle C disposal facilities and the associated costs will further put strain on very thin operating margins.

In closing, Mr. Chairman, small and rural communities thank you for the opportunity to testify before the Subcommittee today to express our thoughts, reservations, and acknowledge the numerous opportunities this Committee has provided rural America in the crafting of Federal water and environmental legislation. Thank you.

[The prepared statement of Mr. Pepper follows:]

Testimony of
Mark Pepper, Executive Director
Wyoming Association of Rural Water Systems
And on behalf of
The National Rural Water Association
Before the
Subcommittee on Fisheries, Water, and Wildlife
Senate Committee on Environment and Public Works
Subject
Water Affordability and Small System Assistance
May 31, 2023

Good afternoon, Chairman Padilla, Ranking Senator Lummis, and Members of the Subcommittee. It is an honor to appear before you today on behalf of small and rural communities like mine. I am Mark Pepper, the Executive Director of the Wyoming Association of Rural Water Systems (WARWS), a nonprofit association representing all small water and wastewater systems in WY. I am also here to testify on behalf of the National Rural Water Association (NRWA), which represents over 31,000 small and rural water systems across the country. Our member utilities have the very important responsibility of complying with all applicable Environmental Protection Agency (EPA) regulations and ensuring the provision of safe drinking water and sanitation services to the public all day, every day.

This Environment and Public Works Committee Subcommittee plays a vital role in shaping water and environmental policies that directly impact America's small and rural communities. The State Revolving Funds (SRF), which provide federal dollars to small towns for building, expanding, and maintaining their drinking water and wastewater infrastructure, were authorized by this committee. We are extremely grateful for the Committee's efforts to include rural America, and the small water systems that serve it, in federal water and environmental policy.

One of the key aspects of our work at Rural Water is to provide direct assistance to small and rural communities in operating, governing, financing, upgrading, and maintaining their water and wastewater infrastructure. This includes ensuring compliance with numerous federal Clean Water and Safe Drinking Water Act regulations and providing training to keep local officials and operators certified and up to date with the latest rules, regulations, and technologies.

Local governments and nonprofit water utilities exist solely to serve the public's interests. They are directly accountable to their local citizens through local elections and are often governed by duly elected volunteer citizens. To provide safe drinking water to the public, local governments must make countless decisions regarding operations, treatment, disinfection, safety, management, financing, distribution, and emergency supply. These decisions require a delicate balance between the public's ability to afford the service and the cost of providing it.

For the next few minutes, I'd like to discuss some of the most important issues facing small water systems right now including Affordability, the Implementation of the Infrastructure Investment and Jobs Act (IIJA), Personnel Challenges, and PFAS Regulatory Burdens.

Affordability

First, the two largest costs of most utilities are personnel costs and energy costs. And compounding these expenses are supply chain issues impacting access to chemicals for water treatment, the replacement/expansion parts and scarcity of qualified professionals like engineers and contractors. Inflationary pressures are also hampering affordability. Energy costs have increased over 30% since 2020 while costs for supplies year over year are up similarly since 2020. This has had a stagnating pressure on personnel costs as operating costs have taken precedence.

The SRF set asides help to fill the technical gap by allowing qualified professionals to provide onsite assistance, comply with the myriad of federal Safe Drinking Water Act and Clean Water Act regulations, as well as access to supply chains and troubleshooting advice which is helping to keep affordability indexes within reason. Should SRF set-asides be reduced or eliminated, I would suspect many systems "affordability index" will turn to "unaffordable" quickly.

NRWA and WARWS supports EPA's SRF water and wastewater programs and technical assistance for small and rural communities within the Safe Drinking Water Act and Clean Water Act regulatory structure. Small and rural communities must have the ability to set affordable water rates to maximize the protection of public health and the environment, while avoiding over-regulation.

IIJA implementation

As for the bipartisan infrastructure bill, rural water systems are grateful to this Committee and Congress for the enactment of this landmark legislation. It is one of the most significant public drinking water and wastewater initiatives this country has ever undertaken. However, we are hearing from a lot of systems and states that the funds provided in the bill have been slow to be implemented due to lack of supplies and engineers to do the work. Last week, Wyoming Department of Environmental Quality announced $140 million in IIJA funding for 97 projects, $51 million was for one wastewater treatment facility for a community of about 9000.

Another quandary in Wyoming is that Operators and Agencies have questions with the definition of “disadvantaged community.” With the bulk of Wyoming’s systems serving under 1,000 people, they are at a socio-economic disadvantage due to size, expertise, workforce, and a limited budget. We believe these communities should qualify as “disadvantaged” under the bill. We also believe an extension of time to get the money out based on the lack of supplies and engineers is warranted. We would also like the state match to remain at 10% for at least 5 years instead of just years 1-2. The 20% match for years 3 and on may make spending difficult in meeting the match requirement.

Workforce

Regarding personnel, the water sector is facing critical staffing shortages, with up to 50% of the workforce expected to retire within the next decade. This trend is already having significant ramifications in rural California and Wyoming. The National Rural Water Apprenticeship Program, created in collaboration with EPA, is an essential tool being used right now in 35 states to address this critical issue. This novel program was specifically designed by industry leaders to attract, train, and retain the next generation water workforce. These strategic partnerships have already created over 600 jobs for the water industry. But far more are needed to meet the expected demand. Our program aims to attract, train, and retain skilled water and wastewater workers to ensure clean and safe water for the public and maintain the water infrastructure necessary for rural service areas' economic viability. We just kicked this program off in Wyoming, and interest is steadily growing in rural and tribal communities for our next enrollment period beginning in October 2023.

PFAS Regulatory Burdens

NRWA and WARWS shares the Committee's goal of eliminating PFAS from the public's drinking water and environment. However, the looming threat of EPA’s proposed PFAS MCLs, and the liability costs associated with having certain PFAS compounds designated under CERCLA could price small water utilities out of existence. Given the cost of testing for PFAS and treatment, the disposal costs if designated under CERCLA will further add to financial instability or insolvency.

Which is why we are extremely grateful and express our strong support for S. 1430 the “Water Systems PFAS Liability Protection Act” legislation introduced by Ranking Senator Lummis. The bill will preserve a fundamental element of environmental law which is the important “polluter pays” principle for cleanups of PFAS designated under CERCLA.

Small and rural communities that rely on traditional revenue models such as agriculture, extractive minerals or tourism are not responsible for introducing PFAS into the environment or public drinking water. Extending CERCLA liability to small and rural communities that are not responsible for PFAS contamination will have unintended consequences, penalizing these communities. Economically disadvantaged

communities in Wyoming with a decline in agriculture production or an exodus of the extractive minerals industry, already hampered by inflationary factors, will be particularly affected by the financial burden of CERCLA liability.

Finally, access to certified labs and Subtitle C disposal facilities and the associated costs will further put strain on very thin operating margins. The closest approved disposal site for Wyoming is in Salt Lake City, which depending on where you are in Wyoming could be anywhere from 3 hours transport to 12-15 hours.

In closing, Mr. Chairman, small and rural communities thank you for the opportunity to testify before the Subcommittee today, express our thoughts, reservations and acknowledge the numerous opportunities this committee has provided rural America in the crafting of federal water and environmental legislation.

Additional comments for the record:

Small and rural communities have the very important public responsibility of complying with all applicable federal Safe Drinking Water Act and Clean Water Act regulations and for supplying the public with safe drinking water and sanitation every second of every day. Over 91% of the approximately 50,000 community water systems serve fewer than 10,000 persons and 81% serve fewer than 3,300 persons. Small and rural communities often have difficulty complying with complicated federal mandates and providing safe/affordable drinking water and sanitation due to limited economies of scale and lack of technical expertise. This difficulty is eased due to ongoing and continuing support offered through rural water training and technical assistance programs.

The affordability of water service is a critical issue for all communities, but it has a disproportionate impact on small and rural water and wastewater systems. Affordability is a fundamental factor that affects every aspect of a water system's ability to operate. However, it is small and rural water systems that bear the brunt of this challenge, as they already face funding limitations and operate on thin profit margins.

Rural communities face multiple challenges in achieving water service affordability. Factors such as high water rates, limited funding, aging infrastructure, low population density, and the lack of economies of scale contribute to this complex issue. Moreover, supply cost inflation further exacerbates this challenge, leading to operational expense increases that are ultimately passed on to ratepayers.

The financial viability of a water system is intrinsically tied to rate payments, making affordability and financial sustainability inseparable. To address these challenges, a holistic approach is needed which includes federal resources in the form of technical assistance and targeted funding, like the technical assistance set-asides in the Environmental Protection Agency's (EPA) State Revolving Funds (SRF), to ensure affordable rates.

Approximately 72% of clean water SRF funding is awarded to large communities (EPA's Clean Water State Revolving Fund Annual Review) and approximately 71% of drinking

water SRF funding is awarded to large communities (EPA's Drinking Water State Revolving Fund National Information Management System). Within the SRF framework, the EPA subsidization options, including principal forgiveness, negative interest loans, grants, or a combination thereof, are of utmost importance. These measures help alleviate the burden on small and rural water systems to keep service affordable and communities economically viable.

National Rural Water Association (NRWA) and Wyoming Association of Rural Water Systems (WARWS) fully support EPA's SRF water and wastewater programs, as well as the provision of technical assistance to small and rural communities within the regulatory structure of the Safe Drinking Water Act and Clean Water Act. It is essential to empower small and rural communities to set affordable water rates, ensuring the protection of public health and the environment while avoiding unnecessary over-regulation.

Another daunting challenge currently facing the water sector is that up to 50% of the workforce is expected to retire within the next decade. This trend is already having significant ramifications, especially in rural Wyoming.

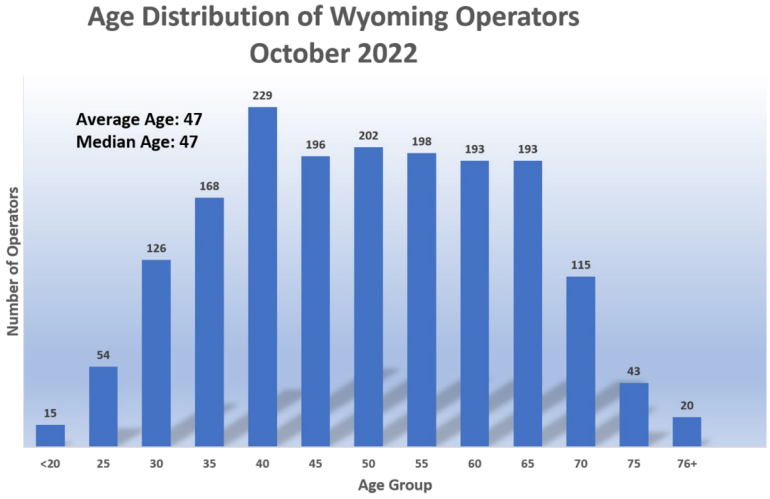
To address this critical issue, the National Rural Water Apprenticeship Program was created in collaboration with the EPA. This program, currently implemented in 35 states, is an essential tool being used to attract, train, and retain the next generation water workforce. Designed by industry leaders, this novel program aims to fill the growing workforce gap in the water and wastewater sector. Through strategic partnerships, over 600 jobs have already been created in the water industry by this revolutionary program. However, much more is needed to meet the expected demand.

The National Rural Water Apprenticeship Program focuses on attracting, training, and retaining skilled water and wastewater workers. Its goal is to ensure clean and safe water for the public and maintain the water infrastructure necessary for the economic viability of rural service areas. In California and Wyoming, rural and small community water systems have struggled to attract and retain the next generation of workforce due to various factors, including the lack of an identifiable career path, low salary levels, and low population density.

To address this urgent need, Wyoming Rural Water has taken proactive measures by partnering with the National Rural Water Association and Wyoming's Department of Labor to initiate the Water and Wastewater Systems Operators Apprenticeship Program. This program provides a systematic apprenticeship model that combines on-the-job training, formal classroom instruction, and guidance from WARWS subject matter experts. The WARWS Apprenticeship Program offers several benefits, including expanding job opportunities in rural Wyoming, establishing a systematic training method for water and wastewater utilities, improving workforce participation and retention in small communities, and protecting the federal investment in critical infrastructure.

To encourage young people to pursue careers in water utility operations, Rural Water Associations across the country have developed crucial partnerships with educational institutions such as high schools, community colleges, and vocational training schools. These partnerships are raising awareness about the stable and rewarding nature of careers in the water industry.

By addressing the workforce shortage and providing critical technical assistance, small communities can assure access to quality water and maintain compliance with the myriad of federal water regulations. This, in turn, will help them avoid fines, maintain drinking water and wastewater service, and preserve this modern, basic civic necessity. The value proposition of the Rural Water Apprenticeship initiative is to overcome the water industry workforce challenge, enhance water and wastewater quality in small communities and ensure safe and reliable water services for generations to come.



Finally, regarding PFAS contamination, NRWA and WARWS want to emphasize the significant financial burden that testing and treatment costs already place on our communities. If PFAS is designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the disposal costs associated with PFAS would further exacerbate financial instability and potentially lead to insolvency. This burden cannot be overlooked, and equitable solutions must be identified.

NRWA and WARWS also want to express our strong support for the "Water Systems PFAS Liability Protection Act" legislation, S 1430, introduced by Ranking Senator Lummis. This legislation aligns with the goal shared by small and rural communities

across the country to eliminate PFAS from the public's drinking water and environment while preserving the essential "polluter pays" principle for cleanups under CERCLA.

It is crucial to recognize that small and rural communities are not responsible for introducing PFAS into the environment or public drinking water. Extending CERCLA liability to these communities, which are innocent bystanders of PFAS contamination, would have unintended consequences and unjustly penalize them. This approach would disproportionately impact economically disadvantaged communities and populations with limited resources, further exacerbating financial burdens.

Instead, it is imperative to hold responsible parties accountable for the remediation, treatment, and provision of alternative sources of safe drinking water for the affected communities. They should bear the responsibility for the consequences of their actions, rather than shifting the burden onto innocent parties.

Our members and affected communities need assistance in various forms, including funding for treatment, monitoring, on-site technical assistance for immediate response, credible public health information, emergency access to safe drinking water, and compensation from the responsible parties.

The EPA's focus on reporting costs vastly underestimates the overall expenses incurred by water systems. These include biosolids management, disposal of PFAS-laden media, legal fees, fines, and potential cleanup costs, which water systems cannot absorb.

Public drinking water systems could face an estimated $52 billion in treatment costs for managing PFAS-laden media alone. Biosolids management costs have already increased by approximately 37% due to PFAS concerns. In Maine, biosolids disposal costs have increased by an average of 170%, reaching up to 455% in some cases. The designation of PFAS as a hazardous substance under CERCLA could result in a 27-fold increase in annual disposal costs for water treatment residuals nationally, exceeding $3.7 billion per year. Transporting residuals to hazardous waste facilities would require significantly longer distances, increasing costs. Additionally, installing PFAS-specific GAC treatment for a public water system serving about 10,000 people in New Jersey is estimated to range from $500,000 to $1,000,000, with operating costs of approximately $80,000 per year. (Water Coalition Against PFAS Talking Points, attached)

In conclusion, the financial implications of PFAS contamination cannot be underestimated. It is imperative to differentiate between responsible parties and innocent communities. NRWA and WARWS ask this Committee to enact legislation that provides necessary assistance to affected communities, protects small and rural water systems from liability, and ensures that the "polluter pays" principle is upheld.

April XX, 2023

The Honorable Cynthia Lummis
United States Senate
Washington, DC 20510

Dear Senator Lummis,

The Water Coalition Against PFAS writes to express our strong support for the "Water Systems PFAS Liability Protection Act," legislation that will preserve the important "polluter pays" principle for cleanups of Per- and Polyfluorinated Substances (PFAS) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Last year, EPA formally announced plans to designate two of the most common PFAS – Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) – as hazardous substances under CERCLA. While EPA has stated that this action will help ensure that manufacturers and users of these chemicals are held responsible for the cost of remediating contaminated sites, without congressional action drinking water and clean water utility customers—the same American public that was unwittingly exposed to these chemicals now contaminating their water supplies—will also be at risk of incurring the significant cost of cleaning up sites that are tainted with these chemicals.

This is because drinking water and clean water systems are innocent receivers of PFAS contamination from upstream polluting industries and PFAS-laden products. This causes the water system to possess residuals that contain those PFAS, which are disposed of in accordance with applicable law. However, should disposal be to a landfill or other facility that ever became a Superfund site, then the water system could be treated as a PFAS polluter — and be responsible for a portion or even all of the cleanup costs — forcing local ratepayers to cover the cleanup bill after they already paid to remove the contaminants from their source water. This challenge will become even more acute as EPA has proposed a National Primary Drinking Water Regulation for six different PFAS – which if finalized will require communities to remove these substances through treatment processes that will capture and concentrate PFAS in filtration media.

Wastewater and stormwater utilities would face similar liability through no fault of their own because they either receive PFAS chemicals through the raw influent that arrives at the treatment plant or through the municipal stormwater runoff that they manage. These flows can come from domestic, industrial, and commercial sources and may contain PFAS constituents ranging from trace to higher concentrations, depending on the nature of the dischargers to the sewer or stormwater system. These flows are not generated by the utility; rather, the utility provides the critical human health and environmental service of managing and treating this influent to meet all the requirements of the Clean Water Act. Congressional action is necessary to distinguish these utilities from the entities responsible for introducing PFAS into the environment.

We appreciate that EPA is pursuing an "enforcement discretion" policy that intends to concentrate the Agency's CERCLA enforcement activities related to PFAS on the polluters that have long profited from PFAS and are responsible for the contamination these chemicals have caused. However, any such policy will be wholly insufficient to ensure that drinking water and clean water utility customers will not be faced with potentially catastrophic CERCLA legal defense costs and cleanup liability for PFAS.

Not only could such a policy easily be changed by future administrations, but, more pressingly, industry has already publicly indicated that it will use every legal means available to it to require public agencies to pay for PFAS cleanups. As they have done countless times in the past, corporate polluters will use the extensive means provided to them by CERCLA to defray the costs of the pollution they created directly onto the backs of the communities they have harmed by dragging public agencies into CERCLA litigation. And, unfortunately, these communities are often those that have been the most overburdened with pollution and are therefore the least able to afford such costs. As well-intentioned as EPA is, the Agency simply cannot legally stop this from happening.

Passage of the "Water Systems PFAS Liability Protection Act" is therefore necessary to guarantee drinking water, wastewater and stormwater system ratepayers are entirely protected from incurring the likely billions of dollars of costs of cleaning up environmental PFAS pollution caused by others.

As the Senate debates this issue in the coming months, we will be eager to work with you on any necessary revisions to the scope of the bill, such as to ensure that the bill's definition of covered PFAS fully captures all PFAS that EPA may choose to designate as hazardous substances under CERCLA.

Removing harmful chemicals like PFAS from drinking water, wastewater and stormwater is central to the public health and environmental protection mission of our members. The "Water Systems PFAS Liability Protection Act" will support this mission of supporting clean and safe water while ensuring that water system ratepayers are not burdened by unwarranted liability through a misapplication of CERCLA's "polluter pays" principle. We support this legislation, and we thank you for your leadership on this important issue.

Sincerely,

American Water Works Association
Association of Metropolitan Water Agencies
National Association of Clean Water Agencies
National Rural Water Association
Water Environment Federation

RE: Water Coalition Against PFAS Talking Points

Cost-Specific Talking Points

- Public drinking water systems could incur $52 billion in treatment costs associated with management of PFAS-laden media *(Black & Veatch, page 6)*.
- In a study of 29 solids management facilities conducted in 2020, average biosolids management cost increased by approximately 37% in response to PFAS concerns. Notably, these cost spikes to public utilities were incurred prior to newer policies and regulations taking effect over the last two years – these impacts are anticipated to only grow. (*NACWA/NEBRA/WEF 2020 study, page ES-2*).
- In Maine, biosolids disposal costs have seen an increase of anywhere from 37% to 455%, with the latter resulting in a jump from roughly $74M to $410M. Ultimately, based on reported data from a number of utilities, biosolids disposal costs are increasing or have increased by an average of 170%, and this data does not even reflect all costs associated with biosolids management changes when PFAS screening levels were initially adopted.
- The designation of PFAS as a hazardous substance under CERCLA could result nationally in a 27-fold increase in annual disposal costs for water treatment residuals, from $138 million per year to over $3.7 billion per year *(Hazen & Sawyer, page 7)*.
  - Other costs include the handling charges for hazardous waste generators and per mile surcharges for transport based on the quantity of hazardous waste generated.
  - Transportation of residuals to hazardous waste facilities require much farther travel distances relative to a non-hazardous disposal site. On average, the transport distance increases from 10 to 200 miles.
- New Jersey estimates the cost of installing PFAS-specific GAC treatment for a PWS serving about 10,000 people ranges from $500,000 to $1,000,000, with estimated operating costs of approximately $80,000 per year" (Environmental Council of the States).
- Cost of non-hazardous disposal in a Subtitle D municipal landfill: $64.41/ton *(Hazen & Sawyer) (Page 6)* (Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances)
- Cost of hazardous disposal: The EPA unit cost for Hazardous Waste Incineration from the 2020 Interim PFAS Destruction and Disposal Guidance was used at $1,738/ton *(Hazen & Sawyer) (Page 6)*.
- EPA's Drinking Water Treatment Technology Unit Cost Models has a report on 'Reverse Osmosis/Nanofiltration Drinking Water Treatment' (which includes membrane treatment).

Senator PADILLA. Thank you, Mr. Pepper, and all three of you for your testimony.

We now turn to questions from the Committee. I get to begin.

Aging infrastructure and deferred maintenance have left our water systems vulnerable, as I think we have all laid out here. And we unfortunately saw the worst of that play out last year in Jackson, Mississippi, a disaster which was decades in the making. Unlike other forms of infrastructure like bridges and roads, clean drinking water is not primarily funded by taxes. Instead, more than 90 percent of the average utility's revenues comes directly from constituents' water bills.

Ms. Menard, I commend you for your efforts to secure various forms of Federal and State funding, including through a WIFIA loan, LIHWAP, SRFs, rate increases, and other sources. But not every water agency is as adept as you have been in Santa Cruz, often due to staff and other capacity challenges.

Can you speak to the challenges of accessing funding from so many different sources? Is it time for maybe a new paradigm for how we finance and fund water infrastructure?

Ms. MENARD. Thank you for the question, Senator Padilla. I would be happy to speak to that question.

One of the things I think is really important for us to think about as we think about affordability today and going forward is, how are we going to cover these very big costs and for spreading out over a relatively small rate base, whether you are one of the rural systems that was spoken of by one of my colleagues, whether you are a small system, spoken of by Mr. Jones, these are big questions.

Even in Santa Cruz, the number I gave you of $650 million for a capital program to rehabilitate, replace, and climate proof our water utility is a pretty darn big number when you spread it across 27,000 accounts. And it results in the kind of rate increases that we have been seeing that are really creating these problems for our low income customers.

I do think that, unlike so much of our other infrastructure, we do need to think about whether or not the business model we are using to fund water utilities, local water utilities, is really broken and can get us where we need to go through this next cycle of reinvestment. If it is not, then what is the right solution?

I think that there needs to be more State and Federal funding that comes in to help us with these things. Some of that is loan funding, and it is great, and we have obviously accessed that. We have gone from about, say, $14 million in debt in 2014 to now, Santa Cruz has about $370 million in debt, and more coming because of the funding strategy.

That is a very significant debt burden for a community to take on, and a lot of communities simply won't do it because of fear of how that will require rates to increase. I think it is time for us to be looking at new paradigms.

Senator PADILLA. Thank you.

My next question is in the area of rising costs of water. The graph behind me illustrates how household water and wastewater bills have increased by 160 percent since 1998. That is a greater rate of growth than electricity bills, rent, or medical bills.

The burden of unsafe and unaffordable water disproportionately impacts lower income communities and communities of color. As Mr. Jones shared in his testimony, many rural communities, including Tribal communities, farmer group communities, and communities near sites of legacy industrial contamination in reality pay twice for safe drinking water: Once for the contaminated water flowing from their taps, and once again for the cost of bottled water that they must rely on.

As the disparity between water rate increases and income growth has increased, so too have household water affordability issues.

Mr. Jones, ratepayers, especially low income households, cannot continue to bear the burden of deteriorating infrastructure. Federal investment in water infrastructure has declined by 77 percent since its peak in the 1970s.

How critical, in your opinion, is Federal investment in water infrastructure for supporting water affordability?

Mr. JONES. Thank you for that.

It is absolutely critical that we continue and expand the overall investment, and also prioritize making sure that those investments can reach the communities that need it most, that have had the biggest challenges in accessing funding, historically.

Part of the work we do through some of the expanded community outreach and engagement projects is do the work of organizing community residents to really understand what water solutions are and get them in support of that.

A lot of the work we do focuses on consolidations, which honestly, is some of the most cost effective ways to ensure we can build a stronger ratepayer base to be able to cover these costs. And in order to get a consolidation going, you really have to get two communities who have historically not been working together to work together. And that takes a lot of work on the ground.

Making sure that the funding sources are being paired with the right types of outreach and engagement can be, is absolutely critical to make sure that these solutions that we are funding are making the most impact.

Finally, I think, as we have all said, that there needs to be a focus on affordability when it comes to funding these projects. Because even with some of these solutions, there are going to be increases in rates. And that is hard for customers, especially if you are a low income farm worker or undocumented community, like we work with, to understand that this solution comes at a cost.

Making sure we have a program to ensure water is affordable is absolutely critical to make sure that we can get to these solutions for contamination and other issues.

Senator PADILLA. Thank you.

Senator Lummis.

Senator LUMMIS. Mr. Pepper, again, thanks for being here. As you know, I have been focused on concerns about PFAS. I want to ask you about that, as well.

How are the regulatory requirements from EPA driving up operating costs for water systems? So this is PFAS and other ways in which EPA regulations drive up costs.

Mr. PEPPER. The regulatory environment right now is expanding. The Lead and Copper Rule has been revised, requiring that we get

lead service lines out. We all appreciate that that has to happen, but it is very expensive, and the amount of money that has been designated for lead line replacements is woefully inadequate.

I think that you throw in PFAS on top of that, both at the MCL level, as well as at the CERCLA level, and that becomes an unsustainable perfect storm. It just can't. And we all want clean water, and we want safe, affordable drinking water, but there has to be an approach that allows that.

I make this statement a lot, and I will go on the record. No system in the United States is sustainable on rates alone. It has to include funding from other sources, whether that is other taxes, the loan grant programs, all of that. The regulatory environment just adds that additional cost layer.

A lot of the systems, especially that we work with in Wyoming, with the pertinent number being under 500 in population, just do not have the expertise to address a lot of that. So that is where our technical assistance comes in and helps, because we are able to provide that gap, if you will, of people who can fill in and do the work, help and assist in doing that, as well as keeping it affordable, because all of our services are provided free of charge to the systems.

I do think that the regulatory environment, if you look at the old public health advisory for PFAS being at 70 parts or 90 parts per trillion, dropping it to 4 parts, we have had a couple rounds of testing in Wyoming that were done when the protocols were not that great, and so there were a lot of lab errors and what not. But we did have some detects under the public health advisory level.

Senator LUMMIS. So were the detects at 40 to 70 parts per trillion, or were they at the 4 parts per trillion?

Mr. PEPPER. Both. We had some that were detect, and so you have to assume they were low enough to have a detect.

Senator LUMMIS. And if something is detected, does it have to be addressed?

Mr. PEPPER. Well, that is the million-dollar question. We don't know. Not all the PFAS, PFOA, PFOS compounds cause health issues. I think they have identified six that have that they are going to try and create the MCL for. Our focus on the MCL is that it will then cause the ratepayers to pick up the tab to cure that violation.

Senator LUMMIS. So, you mentioned the MCLs, but you also mentioned CERCLA. The role of CERCLA in this is that water systems could bear the liability costs, correct, if EPA moves forward with designating certain PFAS compounds as hazardous substances?

Mr. PEPPER. Correct, and that is if we look at it as a hazardous waste product, the cost to do that is severe.

In Wyoming, the closest lab that would be able to do any of that testing is Cincinnati. So you have the shipping costs, you have the hold times, you have all the issues of lab testing.

The closest Subtitle C hazardous waste disposal site is in Utah. There isn't anything close enough, so I can use this, when Sundance, from Sundance to Salt Lake is a heck of a trek, so all that hazardous material would be expensive as all get out to transport, and the liability to clean it up then, marked as a hazardous

waste site, would be astronomical. And like I said, it would probably price those communities out of existence.

Senator LUMMIS. And normally, under CERCLA, the polluter pays, but if the substance is there, and the polluter can't be identified, the ratepayer could pay. Correct?

Mr. PEPPER. Correct. That is where we run into nonpoint source pollution, when you can't find that person. There are some programs out there.

As indicated, I sit on the Governor's Nonpoint Source Task Force. We do 303(d) funding and 219 funding to help clean up some of those issues. But the State of Wyoming gets about $700,000 a year from those two programs. It wouldn't touch having to try and do PFAS if that gets thrown into the mix.

Senator LUMMIS. Thank you for your testimony.

Mr. Chairman, I yield back.

Senator PADILLA. Thank you.

As everyone can see, members are coming in and out of the Committee, eagerly trying to time their opportunity to pose questions to our witnesses.

I recognize Senator Kelly, if he is ready, or if he needs a minute?

Senator KELLY. Ready to go.

Senator PADILLA. Senator Kelly.

Senator KELLY. Thank you, Mr. Chairman, and thank you to our witnesses for being here today.

Mr. Chairman, thank you for holding this hearing on this important topic, certainly for Arizona and California and the West, we are facing serious challenges with drought and climate change. And our access to reliable supplies of water and water affordability is directly related to these challenges.

As sources of water become more scarce, the price is clearly going to go up. For example, I live in Tucson, Arizona, where the average water bill increased by 118 percent between 2010 and 2018. In some cases, these increasing water rates can drive more conservation. I have been told it is the one thing that actually works well.

But increasing water bills also has a significant impact on households who are living paycheck to paycheck. Folks are really struggling with this.

Ms. Menard, I understand that your community has faced water supply challenges due to drought. How has the city of Santa Cruz balanced the challenges of needing to increase rates as water supply costs increase with the need to ensure that water remains affordable to your residents?

Ms. MENARD. Thank you for that question, Senator Kelly. I think that really important thing that we have done in Santa Cruz is acknowledge, once we initiated our major capital reinvestment cycle, including the infrastructure side as well as the supply side, that we were potentially going to be negatively impacting some of our folks in our community who are least able to pay.

One of the things that we have done is we have really studied that problem and gone into detail to try to understand not just what is occurring, but what will occur as we continue to make these really necessary reinvestments in systems and facilities and supply.

I think another thing we have done is we have recently completed an advanced metering infrastructure implementation in our community that has allowed us to help people, particularly focused on low income customers, look at and be notified immediately when they start having a leak so that we can assist them with getting that leak repaired.

We have redirected our conservation programs. Santa Cruz has a very strong ethic for water conservation, and our customers, indoor and outdoor use averages about 44 gallons per person per day, which is probably the lowest or near the lowest in the State and maybe lots of other places. But one of the results of that is that we have been able to redirect some of our resources internally to supporting this advanced metering infrastructure initiative to communicate to customers immediately when a leak is occurring so that they can get that fixed.

We are looking at opportunities to support helping people get those leaks fixed and dealing with the fact that, in rentals for example, the tenant is responsible for the bill, and then it is not incentivized for the owner to actually pay to fix the leaks. We have been working on some ways to deal with that as well.

Senator KELLY. I recently added one of those to the water meter in my house that will detect and give you a lot of data on water usage, so thank you.

Mr. Jones, one way that we can address rising rates for those with difficulty making ends meet is through some Federal water assistance programs. And that is why I supported the creation of a water assistance pilot program for rural and low income communities in the Bipartisan Infrastructure Law. In my remaining time here, Mr. Jones, can you speak to how water affordability assistance programs can help to ensure increasing water rates do not push families into poverty or cause them to lose access to drinking water?

Mr. JONES. Yes. I think the situation we have right now, and thank you for that, in California and across the country, is that with water rates ever increasing, that folks are continuing to face shut offs and losing access to water entirely without assistance. All we have so far established on the Federal level is the Low Income Household Water Assistance Program, LIHWAP, which is addressing debt and only addressing debt, at least in California, one time. And that can be a big challenge. Going through the journey and what it takes for a customer, a family, to go through the process of having to choose between paying their water bill to avoid shut off or maybe not paying rent or not paying for as much food, that is a challenge that none of us should have to face.

While it is great that we have debt assistance so far, without a long term program that actually makes water affordable in the first place, folks aren't ever going to be made whole, and we are going to continue to face challenges. I think the support for that pilot and really getting that program going is going to be absolutely critical to ensure that folks aren't getting shut off as we continue to invest in water and make it safe for all.

Senator KELLY. Thank you.

Senator PADILLA. Thank you, Senator Kelly.

Senator Ricketts.

Senator RICKETTS. Thank you, Chairman Padilla and Ranking Member Lummis, for holding this hearing today on water affordability.

I want to thank all of our witnesses for coming here today to talk to us about it, and for all of your support for water infrastructure projects across the country.

I have heard from Nebraskans who have concerns about the costs that local water utilities and ratepayers will bear with regard to PFAS monitoring and remediation. I understand the importance of making sure we have clean water for everybody, but the concerns, especially for the cost burden in our rural and more remote water utilities.

I am going to ask the entire panel to weigh in on this. I am going to start with you, Mr. Pepper. What tools would be helpful for testing and compliance, especially to water infrastructure in rural and remote communities? What are some of the things that these communities can look for?

Mr. PEPPER. As far as testing goes, thank you, Senator, for that, the access to additional labs would be one thing that we can use that would allow for more appropriate or quick testing, so we know where we are.

PFAS is a new animal. It has been around for a long time, but the testing is not where we would like it to be yet. I think the labs that are starting to do that have indicated that they have gotten much better at the detections and being able to isolate which compound they are dealing with. But those are few and far between, and the costs are exorbitant.

We understand some of the PFAS tests can be anywhere from $1,500 to $10,000. If they are required to be done on a periodic basis or a monthly basis, that could just ruin a small community.

I understand that the treatment, of course, treatment is everything. We don't know what is the best treatment. There are a lot of scientists that are working on methodologies to try and deal with the treatment to remove PFAS or PFOS, PFOA, from the drinking water.

We don't have it yet, as far as I know, in a usable form. I have heard that there is some costs in, I want to say Pennsylvania, maybe the State, that has a community that did put in a UV type reactor that is able to incinerate the PFAS, but it was a cost of, I want to say, it was a town of 10,000 and the cost was $25 million or $30 million. We just can't afford it. We need a lot of R&D and testing and treatment.

Senator RICKETTS. Thank you, Mr. Pepper.

Ms. Menard.

Ms. MENARD. Thank you for that question, sir.

One of the things that is going on in Santa Cruz is we are making this massive generational reinvestment in our water system as we are working on a major water treatment plant upgrade. Our treatment plant is from 1960. It hasn't really had major money put in it since before the 1986 Amendments to the Safe Drinking Water Act. So it does its job now, but it is not going to be the water system, water treatment process for the future.

We are looking at a number of opportunities to use that treatment plant upgrade to prepare us, future proof our water system

against the incremental changes that occur in water quality regulations over time.

PFAS is one of the issues we are looking at. Obviously, disinfection biproducts is another one that we are working on.

We are looking at granular activated carbon, which is one of the best available technologies that EPA has identified. The issue with that one is not so much a huge capital cost, at least not in the system we are looking at, of about $158 million construction costs for this treatment plant that we are looking at. And the capital for the GAC contractors is maybe around $5 million, so it is not a huge, big, it is not nothing, but it is not the hugest part of the deal.

But the operating costs of that part of the system is anticipated to increase our ongoing operating costs by potentially as much as 500 percent, so that is a big issue for us. And I think that one of the things that we are all looking at as we look at these really tiny numbers is, how do we best balance that question of what to do with the treatment process versus how to make sure that we don't put so much treatment in place and then drive our operating costs, which go on forever, up to a place where we maybe balance one thing, but we cost something else.

Senator RICKETTS. Great, thank you.

Mr. Jones, I am out of time, so please, can you weigh in, but just briefly?

Mr. JONES. Thank you, Senator. I will be quick.

I think a lot of what everyone mentioned, and in addition, making sure there is technical assistance for testing out there. We have over 2,700 water systems in California. A lot of them are small and rural; they will need assistance, and also assistance for domestic wells.

A recent study showed that 40 percent of pesticides used in California actually end up having PFAS in them, and as that percolates in the groundwater, we need to make sure that everybody is protected, including domestic well owners.

Senator RICKETTS. Great. Thank you very much.

Mr. Chairman, thank you.

Senator PADILLA. Thank you, Senator Ricketts. You may be out of time in this first round of questions, but we have a second round for additional responses or additional questions.

Once again, I get to begin.

During the COVID pandemic, and you addressed this in your earlier comments, Ms. Menard, Congress recognized the risk of impending water shut offs and growing debt nationwide and provided more than $1 billion to cover water debt and restore connections for low income households. To do this, Congress created the Low Income Household Water Assistance Program. For folks watching at home, when you hear LIHWAP, that is what we are talking about, the first Federal program to assist low income families with their water bills.

That program expires this year, as does the one time funding provided by Congress to cover water debt. It covers reconnection services; it covers late fees and reduces water rates.

I have advocated for additional funding and an extension of the program as a bridge to a permanent water assistance program that several of you have suggested.

Ms. Menard, I was glad to hear that Santa Cruz participated in LIHWAP to help your customers access one time payments and temporary support. What will happen if LIHWAP expires, and we don't replace it with a permanent water assistance program?

Ms. MENARD. That is a great question. Thank you for that.

One of the things that we are concerned about is that we won't have the one time funding to help particular people who get in arrears, which if you are low income and you are making this trade off every month, it is pretty easy even once you get the help of having your slate cleaned to find yourself back there again. But I think that we would find ourselves in a situation where setting people up for down payment or giving people payment arrangements is something that would become much more frequent.

One of the things we have done about, just in the last couple of weeks since the COVID era prohibition against disconnections has occurred, actually expired in California, is we have had just 50 payment arrangements that were set up just in the last couple of weeks. The average amount of those payment arrangements is $198 a month for 12 months.

So that is going to be a really big burden for someone who is already struggling to be able to pay in order to clear that arrearage. I think the bottom line for us is that we would have a lot more people facing shutoffs for non-payment.

Senator PADILLA. Mr. Jones, a brief response, if you would. Do you think it makes sense that we have a permanent energy assistance program, LIHEAP, I referenced that earlier, but not a permanent program for water?

Mr. JONES. Absolutely not. We need support for water assistance.

Senator PADILLA. Anybody disagree with that?

All right, thank you. Let the record reflect all witnesses' heads nodded no.

One additional question, and then I will recognize Senator Lummis again.

Mr. Jones and Mr. Pepper, both of you, in your written testimonies, discussed the challenges that small, rural, or disadvantaged water systems face to develop solutions and create needed projects to deliver and to treat water. And that is just to develop the pipeline of projects that could potentially receive Federal or State funding. You discussed issues related to economies of scale and the lack of a large ratepayer base to spread costs.

Could you each expand on the challenges communities face in accessing infrastructure dollars, and what are some of the solutions that you have seen, particularly if it sheds light on what Congress can do to help in this regard?

Mr. JONES. Thank you.

Some of the challenges we are facing, like I said, a lot of times, projects need a lot more technical assistance, not only to understand what a long term solution is that works for the community, but also gets community support and buy in, which is absolutely critical.

I think the famous story in California is about Lennar, California. That is a community that faced arsenic in their drinking water. They funded a treatment project for that community, but unfortunately, because it wasn't right sized for the community, that

project was shuttered when the community couldn't afford operations and maintenance costs.

One thing we are doing in California is looking at starting to fund operations and maintenance for certain projects to actually make it so that solutions are affordable for communities. And so I think, going forward, that has to be part of the conversation to figure out how making sure that communities are able to run systems is part of the solution.

Mr. PEPPER. Thank you, Mr. Chairman.

In Wyoming, I know we have a myriad of funding programs in addition to the Federal programs, the State Revolving Funds. I think the State Revolving Funds were a great addition to the funding mechanisms. Giving the States the opportunity to design their own rules and regulations around the SRFs is critical.

Every State is a little different, which does make it a little tough to go from State to State to State, which makes in State technical assistance so critical. But I do think that some of the timelines that come with that funding need to be addressed and need to be looked at a little bit differently.

Like I said, the SRF, the infrastructure bill, some of those funding sources and timelines are just unrealistic, given the supply chain issues, given the technical abilities of having enough engineers and contractors who can do the work, and then also having the work force that can then maintain it after everything is all done.

Senator PADILLA. I know my second round 5 minutes are up, but if you will indulge me, I have one specific follow up question for Mr. Jones. And I believe it is a timely one.

As we speak, I believe the House of Representatives is taking up this debt limit deal. Now, the debt limit deal currently under consideration rescinds unobligated LIHWAP funds from the American Rescue Plan. Funds to States and Tribes have all been obligated; that is the good news, but this will impact the HHS budget for staff time and for expenses.

So how will this impact, question for Mr. Jones, the ability of communities to implement their LIHWAP funds if HHS has decreased capacity for staffing?

Mr. JONES. I think it is certainly going to pose a challenge. In California, there has been a lot of conversation between our State agencies that are implementing the program and HHS and a lot of assistance coming from HHS on how to better structure California's program. And unfortunately, California hasn't been as successful as other States in getting funding out the door. So certainly, making sure that HHS has the ability to support States in getting resources to families is going to be absolutely critical.

Second, there is a lot of important work being done on reporting and getting data out there so that we can understand who is doing what work and why. And as I look to think about how California could do a better job, I see States like Pennsylvania, Michigan, doing fantastic, and that makes me want to learn about them.

So I worry that if we are not going to have the ability to data share and staff to help, that we are not going to be able to improve upon the program and the model of delivery going forward.

Senator PADILLA. Thank you. I just wanted to underscore that, because I think part of the dynamic we are facing here for small, for rural, for resource limited water utilities and communities, sometimes reliance on the Federal Government for some of that technical assistance and support is part of getting to a solution. So if that is limited on the Federal side, separate and apart from a dollar, a grant, or a favorable loan, this is hurting more than it is helping.

Senator Lummis, thank you for your patience.

Senator LUMMIS. Thank you, Mr. Chairman.

I have a question for Ms. Menard. My line of questioning for Mr. Pepper dealt mostly with maximum contaminant limits and CERCLA. Could you address those questions as well, please, from your community's perspective?

Ms. MENARD. Thank you, yes. I think the CERCLA question in our community is mostly on the wastewater side. And to some degree, we have it in our surface water, but at a really, really low level, so I am not too concerned about the CERCLA issues for solids coming from the water treatment plant, but obviously we are looking at that.

Also, on the wastewater side is one of the places where the CERCLA liability is really getting looked at, because they obviously get water coming from households and businesses, and those sources can often have other additional adds of the PFAS.

I think on the question of the impacts, I mentioned in my earlier comments about looking at granular activated carbon and its capital costs plus its operating costs, that does potentially represent a long term concern. But I also know that it is really important in my community for there to be a strong commitment and strong action on improving the quality and being good stewards of the quality of the treated water that is delivered.

In my community, we have a strong preference for doing what we can to deal with these issues that come, including other constituents of emerging concern, pharmaceuticals, personal care products, those kinds of things, that fall in the source waters that we use, and those things are being planned for as part of our treatment plant upgrade.

Senator LUMMIS. Thank you.

There are other committee hearings going on this afternoon. We have some members of the Committee that are elsewhere, but wanted some questions asked for the record.

This one is for Mr. Pepper. There are concerns within the water sector that funding decisions that are prioritizing environmental justice factors are unrelated to water quality and health. This could potentially impact the affordability of water services for rural communities, which already face unique challenges, such as limited funding, technical expertise, and resources.

The question is this: Do you believe the emphasis on non-water infrastructure policies and potential biases that are related to environmental justice decisionmaking might affect affordability of water services in rural areas?

Mr. PEPPER. Thank you for that question.

Yes. I guess, from the West, and from my perspective, a lot of the issue that we have is defining disadvantaged or environmental

justice centers or constituents. I would contend that a lot of rural America, whether it is north, east, south, or west, works with those.

We have a declining population base in a lot of those areas, which further puts strain on affordability in those small communities, aging communities, and disadvantaged, I believe, can be socioeconomic. That crosses all races and goes into, how do we look at that on a countrywide basis, as opposed to certain pockets.

Yes, some of those biases, I think, can play into the affordability index and makes it far more difficult to define more than anything.

Senator LUMMIS. The question comes from someone who is concerned that environmental justice is being used as a term to steer resources toward low income urban areas at the expense of rural areas. Mr. Jones, do you see that?

Mr. JONES. I haven't seen that so much in California. I think the communities we work with are certainly both rural and environmental justice communities.

Senator LUMMIS. So you distinguish it, you separate it? There is rural, and there is environmental justice communities?

Mr. JONES. A community could be both, for sure. Maybe the disadvantaged community definition we use in California is 80 percent State-wide income level. So certainly for the valley and areas that we primarily work in, most communities are able to qualify, unfortunately, just because of the level of income inequality in the State. But I haven't seen so much of a dynamic there in California, at least.

Senator LUMMIS. Mr. Pepper, any closing remarks on that point?

Mr. PEPPER. I think he hit it very well. It just depends on the level of income in any area. In our State of Wyoming, there are several counties that are impacted and low income, but define lower income, a lot of those are ag related, so there is a different accounting in an ag business than there is in residential.

I think there is, again, it comes back down to definitions. I would say that it does appear, in some respects, even in Wyoming. Some of the urban thrust versus the rural thrust is there, so that should be addressed.

Senator LUMMIS. Thank you.

Mr. Chairman, I yield back, and I want to thank the witnesses for attending today and providing their expertise to the Subcommittee.

Senator PADILLA. Thank you to you, Senator Lummis, and to our witnesses, once again, for being here today and for sharing your experiences to help us improve the lives of countless Americans who are still struggling to afford something as fundamental as their water.

Again, I want to thank Chairman Carper and Ranking Member Capito, as well as our Subcommittee staff, for all the preparation that went into holding today's hearing which, I think, just for the record, that we have established a success.

In the end, we can't be truly an equal society, we can't truly call ourselves a compassionate country, and no one can truly pursue life, liberty, and the pursuit of happiness unless every family has the dignity of safe drinking water and proper sanitation.

The issue of water affordability in America could not be more important and more timely. That is why it has been a defining feature of many of the major funding bills that Congress has passed over the last few years. We have recognized the problem of deteriorating infrastructure, rising prices, and an economic crunch. And we have stepped in to help the American people.

That is the good news. But the bad news is, as we have heard from our witnesses today, we still have much more work to do. What we heard from Mr. Jones, for example, should leave no doubt that families are still struggling to stay afloat.

While recent laws have made a difference, one time assistance is not a solution for a family sitting at the kitchen table deciding between the next grocery store trip or next month's water bill. And unfortunately, as we learned from Ms. Menard and Mr. Pepper, the conditions of our aging infrastructure, combined with the increasingly devastating effects of climate change and the challenges posed by emerging contaminants, including PFAS, mean that none of this will be resolved on its own. Congress needs to step up.

But I am hopeful that previously approved water assistance funding and the permanent energy utility assistance programs that were referenced earlier today have enjoyed bipartisan support. Congress has recognized the threat of rising costs of home energy bills. So in 1980, we established a permanent Low Income Home Energy Assistance Program for families in need. There is no reason that we can't do the same for water rate assistance. I believe we can and we must come together in a bipartisan fashion to make these meaningful investments.

Countless families across the country are counting on us to do just that, because for them, this isn't just about policy. It is about the dignity of having clean water to wash your dishes and bathe your children. It is about the peace of mind knowing your kids have clean water to drink at school, and it is about making sure that every American, no matter the ZIP code or your paycheck, has access to safe, affordable water.

Before we adjourn, just a bit of housekeeping. Senators will be allowed to submit written questions for the record by 4 p.m. on Wednesday, June 14th, which is 2 weeks from today. We will compile those questions, send them to our witnesses, who we will ask to reply by Wednesday, June 28th.

I want to thank you all again for being here this afternoon. With that, this hearing is adjourned.

[Whereupon, at 3:57 p.m., the hearing was adjourned.]

[Additional material submitted for the record follows:]

ASSOCIATION OF METROPOLITAN WATER AGENCIES

LEADERS IN WATER

1620 I Street NW, Suite 500
Washington, DC 20006

P 202.505.1565
amwa.net

May 31, 2023

The Honorable Alex Padilla
Chairman
Fisheries, Water, and Wildlife Subcommittee
United States Senate
Washington, DC 20510

The Honorable Cynthia Lummis
Ranking Member
Fisheries, Water, and Wildlife Subcommittee
United States Senate
Washington, DC 20510

Dear Chairman Padilla and Ranking Member Lummis,

Thank you for the opportunity to submit this statement for the record of today's hearing on "Water Affordability and Small System Assistance." We appreciate the subcommittee taking the time to focus on this important issue.

AMWA represents the nation's largest publicly owned drinking water systems, and our members pride themselves in providing their customers with clean, consistent, and affordable drinking water. However, there are significant costs associated with obtaining, treating, and delivering water to the tap, and these costs are ultimately borne by our ratepayers. As a nation, we must do everything we can to ensure that options are in place so that no household loses access to drinking water because of their inability to pay.

Last month, AMWA was one of five water sector organizations to release a landmark report[1] on policy options to consider when developing a federal low-income water customer assistance program. This report included a first-of-its-kind needs assessment that found that as many as 21.3 million household nationwide may have trouble paying their water and wastewater bills. To fully meet the needs of these "water burdened" households, up to $7.9 billion in water bill assistance would need to be provided, every year.

Given the nation's aging drinking water and wastewater infrastructure, expanding federal regulations aimed at protecting public health and improving water quality, and inflationary pressures affecting water treatment chemicals, AMWA expects the cost of needed water system investment to increase in the future. Upward pressure on local water rates will likely intensify in the coming years as drinking water and wastewater systems undertake projects to repair aging water infrastructure and comply with expanded regulatory mandates related to PFAS, perchlorate, lead, and other

[1] "Low-Income Water Customer Assistance Program Assessment," April 20, 2023. https://www.amwa.net/index.php/publication/low-income-water-customer-assistance-program-assessment.

contaminants. Again, these are costs that will ultimately be passed on to all ratepayers but will be felt most severely by those at the lower end of the income scale.

The impact of rising rates on the most economically vulnerable is why AMWA strongly supports creation of a permanent, federal water assistance program to benefit low-income households. Just as existing federal programs are available to help qualifying low-income households heat their homes or purchase food, AMWA believes assistance to ensure continued water and wastewater service should be a fundamental part of the federal safety net.

AMWA appreciates that Congress has recognized this need over the past several years. In particular, AMWA and other stakeholders worked with members of the Environment and Public Works Committee during development of the Drinking Water and Wastewater Infrastructure Act (DWWIA) of 2021 to establish the Rural and Low-Income Water Assistance Pilot Program at EPA. The program authorizes the agency to award up to 40 grants to support municipally operated water and wastewater affordability programs across the country through direct aid to eligible households, lifeline rates, bill discounts, and other hardship provisions. Importantly, the pilot's funding assistance will be distributed evenly to a cross-section of small and large drinking water and wastewater systems so the EPA can identify which affordability aid approaches work best for different types of communities.

AMWA understands that EPA is currently in the process of carrying out a needs assessment on the prevalence of local or tribal governments with water service providers that serve a "disproportionate percentage … of households with qualifying need," as well as the prevalence of local or tribal governments that "have taken on an unsustainable level of debt due to customer nonpayment" for drinking water and wastewater service. DWWIA requires the completion of this needs assessment before the pilot program can become operational, so we urge EPA to complete this task as soon as possible, and for Congress to appropriate adequate funding to allow the agency to do so. The sooner the pilot program is up and running, the sooner it can begin delivering on its promise of helping the nation's neediest households remain connected to essential water service.

Additionally, AMWA recognizes and supports Congress' action during the pandemic to avoid water service shutoffs by establishing the Low-Income Household Water Assistance Program (LIHWAP) at the Department of Health and Human Services. This was the first time that Congress directly provided funding to address the burden that rising water and sewer bills have on lower income households, and as of the first quarter of 2023 HHS reports that the program's $1.138 billion appropriation has helped more than 636,000 households maintain access to essential water service.[2]

Congress established LIHWAP as a temporary program and, without further action all, program funds must be obligated by September 30 of this year. Notwithstanding, LIHWAP has proven to be a valuable resource over the past two years, and AMWA believes Congress should consider it as a model for a permanent low-income customer water assistance program. In the interim, as Congress

[2] https://lihwap-hhs-acf.opendata.arcgis.com/pages/quarterly-reports

debates a path forward, AMWA supports providing LIHWAP with an additional $1 billion so the program can remain operational through the 2024 fiscal year.[3]

Extending LIHWAP will maintain this essential assistance for at-risk households, which otherwise would abruptly be put at risk of losing their water service once the program's funding runs out. Extending the program will also provide Congress with additional data about its potential as a model for a permanent low-income water assistance program and offer an opportunity to refine the program to ensure the federal government, states, and local water systems develop best practices for delivering this aid to eligible households in a timely and efficient manner.

Gathering data about where LIHWAP has worked well, as well as areas where it could be improved, will result in valuable insights to inform whatever approach Congress takes to a permanent federal aid program for low-income water ratepayers. For example, several AMWA member utilities have noted limited participation in LIHWAP among eligible customers so far, with factors including lack of awareness of the program, burdensome enrollment requirements, and state-level water service disconnection moratoriums that depress demand for water bill assistance. Our members have also noted inefficiencies in some states' processes for notifying local water systems when a household has enrolled in the LIHWAP program, and for crediting LIHWAP funds to the proper utility accounts.

AMWA also recognizes that a number of states have been very successful at quickly standing up LIHWAP, promoting the program to eligible households, and working with water systems to apply the funds to the correct accounts. Just as we believe that LIHWAP's implementation challenges could be managed and overcome if the program is given a chance to mature, we also believe that states and communities can learn from the program's successes and duplicate those best practices across the country. This is why AMWA again urges Congress to continue funding for LIHWAP in the interim as a permanent model for low-income water ratepayer assistance is developed.

Today's hearing will help policymakers and stakeholders alike better understand national low-income water assistance needs, and identify the best policy options to address these needs. As such, AMWA appreciates the opportunity to offer its perspective. AMWA supports the establishment of a permanent federal program to help low-income households maintain drinking water and wastewater service, and we believe Congress has two promising paths forward in the Rural and Low-Income Water Assistance Pilot Program and the Low-Income Household Water Assistance Program. AMWA stands ready to work with the subcommittee to secure the place of water ratepayer assistance in the federal safety net.

Sincerely

Thomas Dobbins
Chief Executive Officer

[3] https://www.amwa.net/index.php/letter/letter-support-fy24-low-income-assistance-funding

May 31, 2023

U.S. Senate Committee on Environment and Public Works,
Subcommittee on Fisheries, Water, and Wildlife
340 Dirksen Senate Office Building
Washington, DC, 20510

RE: Comments on Water Affordability and Small System Assistance

Honorable Members of the Committee:

We are writing in regard to the Senate Subcommittee on Fisheries, Water, and Wildlife hearing scheduled for May 31, 2023. The undersigned organizations strongly advocate for universal access to safe and affordable drinking water. Our state and local governments rely heavily on federal funding for critical projects, including updating aging infrastructure, supporting underserved communities, and developing long-term solutions to address drinking water contamination. Families across the United States are currently having to choose between water that is toxic and water that is unaffordable. We urge this committee to recognize that the Human Right to Water is essential for all Americans, and that it is entirely possible to provide water that is clean, safe, **and** affordable.

I. Communities Should Receive Safe AND Affordable Water

Our organizations work in a range of communities, both rural and urban. Water and wastewater systems across the country struggle in serving residents efficiently after years of underfunding. Utility costs continue to rise beyond communities' ability to afford and faster than the rate of inflation. Many communities face high water rates for water they cannot drink, leaving families exposed not only to the threat of contaminants, but the threat of utilities shutting off their water supply and the potential loss of their homes. These rising costs disproportionately affect communities of color and perpetuate the existence of underserved BIPOC communities.

Amid the federal response to the pandemic, Congress created the Low-Income Household Water Assistance Program (LIHWAP) so that $1.14 billion was awarded to state, Tribal Nations, and territories in order to support low-income households in paying water or wastewater bills, or counteract utility shutoffs. However, this assistance is expected to end this year. Moreover, we urge this committee to consider that **utility debt assistance is a short-term solution**. Local and state governments require stronger federal support in order to address rising utility costs, update infrastructure, and continue to support low-income families. We strongly urge Congress to cooperate with all levels of government in order to protect LIHWAP funding, and work towards achieving water **affordability**, not just water assistance.

II. Small Systems Require Federal Assistance to Combat Decades of Disinvestment

Within the ongoing affordability crisis, small systems are vulnerable to remaining underserved because they cannot access funds. While the intent of federal funds like the State Revolving Fund, is that states can equitably distribute resources, small systems face real challenges in accessing this funding and need greater support. Small systems **need** to be prioritized in considering funding for drinking water solutions. There needs to be cooperation at the local, state, and federal levels amongst stakeholders to ensure that these systems do not fall behind. We recommend that Congress evaluate existing programs that are authorized to serve small systems in order to ensure that disadvantaged communities are able to access long-term solutions. By developing long-term solutions, small systems out of compliance can be brought to drinking water standards and direct focus on making water for residents more affordable.

* * * * *

We thank you for the opportunity to provide feedback on the ongoing water affordability crisis and how small systems can be prioritized in receiving assistance. We hope that our insight can urge Congress to recognize that access to clean, safe, and affordable water is a human right that all Americans deserve.

Sincerely,

Community Water Center

Earth Chaplain, Louisiana

Earth Ethics, Inc.

Earthjustice

Food & Water Watch

GreenLatinos

Louisiana Bucket Brigade

Louisiana Just Recovery Network

Milwaukee Water Commons

PolicyLink

River Network

Social Eco Education

Sageville LLC

San Diego Coastkeeper

San Luis Valley Ecosystem Council

The Center for Water Security and Cooperation

The Water Collaborative of Greater New Orleans

Union of Concerned Scientists

Verde

We The People of Detroit

West Street Recovery

Woven Roots Community Garden

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460
Analytical Chemistry Branch
701Mapes Road
Ft. Meade, Maryland 20755-5350

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

5/18/2023

MEMORANDUM

SUBJECT: **Verification Analysis for PFAS in Pesticide Products** (ACB Project B23-05b)

FROM: Yaorong Qian, Senior Chemist
David French, Chemist
Analytical Chemistry Branch (ACB)
Biological and Economic Analysis Division (BEAD)
Office of Pesticide Programs (OPP)

5/18/23

THROUGH: Thuy Nguyen, Branch Chief
Analytical Chemistry Branch (ACB)
Biological and Economic Analysis Division (BEAD)
Office of Pesticide Programs (OPP)

TO: Anne Overstreet, Director
Biological and Economic Analysis Division (BEAD)
Office of Pesticide Programs (OPP)

BACKGROUND

Perfluorooctanesulfonate (PFOS) was reported at concentrations between 4 parts-per-million (ppm) and 19 ppm in six of ten pesticide products tested by Lasee et al. and published in "Targeted analysis and Total Oxidizable Precursor Assay of Several Insecticides for PFAS" (*Journal of Hazardous Materials Letters*, 2022, 3, 100067) [1]. The list of pesticide products tested and the reported PFOS concentration are listed in **Table 1**.

The Analytical Chemistry Branch (ACB) obtained aliquots of the same ten pesticide products listed in **Table 1** from the study author. ACB was also able to purchase four of the six pesticide products from the open market that were reported by Lasee et al. to contain PFOS. Those purchased product brands are marked with an '*' in **Table 1**. All samples were tested by ACB for the presence of perfluoroalkyl substances (PFAS), especially PFOS, using two methods. First, ACB analyzed the pesticide samples utilizing the method described in Lasee's paper (Lasee's method). A second method, one recently developed and validated by ACB (ACB's method), was also utilized to test the same samples (see **Attachment I**).

Table 1. Pesticide products tested by Lasee et al. (2022) and reported PFOS concentration [1]

Pesticide Product	Manufacturer	Active ingredient(s)	PFOS found (mg/Kg, or ppm)
AVID 0.15 EC*	Syngenta	Abamectin	3.92± 0.51
Pedestal*	Chemtura	Novaluron	9.18± 0.34
Ultra-Pure Oil	BASF	Mineral oil	8.64 ±0.67
Marathon 1%*	OHP	Imidacloprid	13.3± 1.4
Oberon*	Bayer	Spiromesifen	19.2± 1.2
Malathion 5EC	Drexel	Malathion	17.8± 0.7
BotaniGard 22WP	LAM International Corp	Beauveria bassiana	ND
Overture 35WP	Valent	Pyridalyl	ND
Conserve	Dow AgroSciences	Spinosad	ND
XXpire	Dow AgroSciences	Spinetoram, Sulfoxaflor	ND

*ACB also purchased these four products from open market and tested for the presence of PFAS, particularly PFOS: AVID 0.15 EC, Pedestal, Marathon 1%, and Oberon.

ND – Not Detected

OBJECTIVES

The primary objectives of this study were:

- To screen for and quantify the potential presence of twenty-nine (29) PFAS compounds (see **Table 2** for the targeted analytes list**)** that might be present in these products
- To verify the presence of PFOS as reported by Lasee et al., in the aforementioned pesticide products

Table 2 - List of twenty-nine (29) PFAS analytes screened in this study utilizing both the Lasee et al. method and ACB's method with the exception of those noted with an *

PFBA	PFOS	PFTeDA	4:2 FTS*
PFBS	PFNA	PFHxDA	6:2 FTS*
PFPeA	PFNS	FOSAA	8:2 FTS*
PFPeS	PFDA	N-MeFOSAA	
PFHxA	PFDS	N-EtFOSAA	
PFHxS	PFUdA	9Cl-PF3ONS	
PFHpA	PFDoA	11C-PF3OUdS	
PFHpS	PFDoS	NaDONA	
PFOA	PFTrDA		

*These three compounds were not analyzed with the dilution method but analyzed in the ACB's pesticide extraction method.

STUDY RESULTS

As mentioned above, all samples in this study were analyzed by two different methods, Lasee's method and ACB's method, for presence of PFAS, especially PFOS. The main difference between the two methods is in the sample preparation step. The sample preparation step in Lasee's method is a simple dilution in a solvent/water solution to dilute the matrix using a single instrument for analysis. ACB's method involves a more intense extraction and clean up procedure to isolate PFAS compounds from the sample matrix before instrumental analysis, thus reducing matrix interference which results in better/more accurate detection limits. Instrumental analysis for both methods is based on the EPA SW 846 method 8327.pdf (epa.gov)[2] for detection of PFAS, which calls for using isotopically labeled (mass labeled) surrogates (standards added during sample preparation step) and isotopically labeled internal standards (standards added prior to instrument analysis). A mass labeled compound contains one or more carbon (^{12}C) atom(s) which is replaced by ^{13}C isotope atom(s). Since their molecular masses are slightly different, the mass spectrometer can differentiate the mass labeled from the non-labeled PFAS during sample analysis. Use of mass labeled PFAS is to monitor the performance of the method and to accurately quantify the recovery of non-labeled PFAS. Instrument response of an identified non-labeled PFAS compound is compared to the response of its isotopically labeled analog for quantification. Finally, ACB utilized two instruments to identify and quantify targeted analytes using liquid chromatography / tandem mass spectrometry (LC/MS/MS) and liquid chromatography/high resolution accurate mass spectrometry (LC/HRAMS) techniques.

LASEE'S METHOD:

A. Methodology

The analytical procedures described in the published paper (Lasee et al., 2022) followed a simple solvent/water dilution technique for sample preparation, and the SW846 method 8327 for instrumental analysis of the prepared samples.

The ACB tested the samples using the same procedures, except for the final product solution, which was made at 100 µg/ml in methanol. The 100 µg/ml solution is 10x more concentrated than that of Lasee et al. (2022) and would ensure that the PFAS compounds, if present as reported, would be detected.

Three different sets of samples were prepared, and mass labeled PFAS (surrogates), including mass labeled PFOS, were fortified in each sample to measure the recovery of PFAS. In addition, ACB spiked both mass labeled and non-labeled PFAS (including PFOS) in two sets of samples as additional measurements for the detection and recovery of PFAS by the method.

While Lasee's paper only discussed the use of an LC/HRAMS instrument for their samples, as noted above, ACB used two different analytical instruments, an LC/HRAMS and an LC/MSMS for confirmation of results, and mass labeled internal standards for quantification.

B. Results and Comments

None of the 29 PFAS compounds (**Table 2**), including PFOS, was detected in any of the samples above the instrument's background levels, either in those obtained from Lasee or in those purchased on the open market by ACB, by either LC/MSMS or LC/HRAMS. The method's background level of each PFAS is 10 parts per trillion (ppt) or less (not taking the dilution factor into consideration).

As part of our quality control, two sets of QC samples were fortified/spiked with PFAS at known concentrations (1 and 9 ppm equivalent in the products), either with mass labeled PFAS standards (a total of 12, including two differently labeled PFOS) or non-labeled PFAS (a total of 26, including PFOS). Recoveries of PFAS in samples were greater than 60% for the 9 ppm spiking level, and greater than 40% for the 1 ppm level, using both analytical instruments (LC/MSMS and LC/HRAMS). Presence of the matrix in the diluted samples did not affect the detection of the spiked PFAS. The techniques used by ACB would have detected the PFAS if any of the pesticide products contained reported PFAS.

The method detection limits ranged from 0.2-1 ppm (0.5 ppm for PFOS, based on sample weight) for different PFAS in these pesticide products, taking into consideration of the dilution factor.

The reported PFOS levels by Lasee et al. ranged from 3.9 ppm to 19.2 ppm in the tested products (**Table 1**). These levels are well above the estimated method detection limit of 0.5 ppm for PFOS, and the spiking levels of our QC samples. If present, PFOS would have been detected in these products.

ACB'S METHOD:

A. Method

All the pesticide products listed in **Table 1** were processed and analyzed with a pesticide extraction method recently developed and validated recently at ACB for PFAS. This method is specific to these products, which are formulated in non-volatile oil and contain non-ionic surfactants. Aliquots of purchased pesticide products were also spiked at about 0.5 ppb by ACB with PFAS to monitor the performance of the method. All sample extracts were analyzed using the SW846 method 8327 and the same LC/MS/MS and LC/HRAMS as with Lasee's dilution method. This pesticide extraction method has a detection limit of approximately 0.2 ppb, which is more than 1000x lower than that of the dilution method. Both mass labeled surrogates and internal standards were used.

B. Results and Comments

None of the 29 PFAS compounds, including PFOS, was detected in any of the samples above the method detection limits, either in those obtained from Lasee or in those purchased by ACB, by either LC/MSMS or LC/HRAMS.

As part of our quality control, samples were fortified/spiked with known concentration of PFAS (2 ppb), either with mass labeled PFAS standards (a total of 12, including two differently labeled PFOS) or with non-labeled PFAS (including PFOS), then processed and

analyzed using the ACB's method. All spiked compounds were successfully recovered (greater than 50% of the fortification level) from the extracts of the pesticide products in the analyses with both analytical instruments (LC/MSMS and LC/HRAMS). These techniques used by ACB would have detected the PFAS if any of the pesticide products contained reported PFAS at or above 0.2 parts per billion (ppb) levels.

Detailed information on ACB's method is in **Attachment I**

CONCLUSION

BEAD's Analytical Chemistry Branch could not confirm the presence of PFOS as reported in Lasee's publication (3.9 ppm to 19.2 ppm), nor detect any PFAS above the method detection limits (0.2 ppb) in those pesticide products. Some background levels of PFAS were seen at less than 10 ppt (based on instrument response only, and not taking into consideration any dilution factor or sample preparation factor).

Although the SW846 Test Method 8327 is applicable for analyzing PFAS in samples that have been previously prepared using solvent dilution or extraction, due to the complex nature of pesticide products, preparation by solvent dilution is not an appropriate method. A more robust preparation method is necessary. Furthermore, since low amounts of PFAS are readily observed in the environment, incorrectly interpreted background data could be multiplied by a large dilution factor (if dilution was used as sample preparation), resulting in reporting of an overexaggerated concentration of a background PFAS or a false-positive identification. These large dilution factors utilized by Lasee et al. could have contributed to the high results obtained in that study.

REFERENCES

1. *Steven Lasee, Kaylin McDermett, Naveen Kumar, Jennifer Guelfo, Paxton Payton, Zhao Yang, Todd A. Anderson,* Targeted analysis and Total Oxidizable Precursor assay of several insecticides for PFAS - ScienceDirect. *Journal of Hazardous Materials Letters*, 2022, 3, 100067

2. EPA Method 8327. Per- and polyfluoroalkyl substances (PFAS) by Liquid Chromatography/ Tandem Mass Spectrometry (LC/MS/MS). https://www.epa.gov/system/files/documents/2021-07/8327.pdf

ATTACHMENT

ATTACHMENT I – ACB Method for Pesticide Formulation Containing Non-ionic Surfactants and Non-volatile Oils

Scope of Method and Application

This method is for the analysis of poly- and per-fluorinated alkyl substances (PFAS) in pesticide formulations containing non-ionic surfactants and oil. It is based on a QuEChERS (Quick, Easy,

Cheap, Effective, Rugged and Safe) extraction approach, followed by Solid Phase Extraction (SPE) cleanup to remove excess oily substances, and analysis using Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS). This method is not applicable if formulations contain ionic surfactants (such as sodium lauryl sulfate, quaternary ammonium compounds, etc.) or only organic solvents/liquids (petroleum distillates, mineral oil, etc.). A different method Analysis of PFAS in Oily Matrix (epa.gov) can be used for pesticide products formulated in organic solvents/oils.

Note: Due to the wide occurrence of PFAS in the environment, it is highly recommended to verify that all supplies and equipment are free of PFAS above the limit of detection. Certain PFAS compounds have been found in SPE cartridges, SPE manifold, and filters during the method development.

This method is intended for use by analysts skilled in the performance of solid phase extractions, the operation of LC-MS/MS instrumentation, and the interpretation of the associated data. EPA has validated this method through the Analytical Chemistry Branch (ACB) of the Biological and Economic Analysis Division, Office of Pesticide Programs.

Sample Preparation

Solvents:

- Milli-Q water
- Ethyl acetate
- Hexane
- Methanol

Materials:

- QuEChERS salt mix (6 g $MgSO_4$/1.5 g NaCl)
- Ammonium acetate
- Solid Phase Extraction cartridge –Florisil 1 g/6 mL column
- Polypropylene test tubes 15 and 50 mL

Solutions:

- Mobile phase A: Aqueous 20 mM ammonium acetate
- Methanol/water (99/1, v/v)
- Hexanes/ethyl acetate (9/1, v/v)

Standards:

- Extraction Standard: Mixture of isotopically labeled PFAS standards, different from injection standards
- Injection Standard: Mixture of isotopically labeled PFAS standards, different from Extraction standards
- Native PFAS standard: Mixture of all the target PFAS compounds.

Equipment:

- Geno/Grinder or equivalent
- Centrifuge
- N-Evap or equivalent
- Sonicator
- Liquid chromatography/tandem mass spectrometry (LC-MS/MS)

Extraction Procedure:

1. Weigh approximately 4 grams of pesticide products into 50 mL polypropylene centrifuge tubes.
2. For the procedural blank, transfer approximately 4 grams of Milli-Q water into a 50 mL tube.
3. For blank spikes and matrix spikes, weigh approximately 4 grams of Milli-Q water and pesticide product, respectively, into 50 mL tubes.
4. Add appropriate amount of "Extraction Standard" into each sample.
5. Add appropriate amount of spiking solution containing PFAS to spike samples.
6. Mix by vortexing or shaking and then let samples equilibrate after addition of PFAS standards for 15 minutes.
7. Add 5 mL of Milli-Q water and 25 mL of ethyl acetate to each sample.
8. Shake each sample on Geno/Grinder for 20 minutes at 1000 rpm.
9. Add QuEChERS salt mix (6 g MgSO4/1.5 g NaCl) to each sample, shaking by hand to break all salt clumps.
10. Shake all samples on Geno/Grinder for 20 minutes at 1000 rpm, followed by centrifugation for 10 minutes at 4000 rpm.
11. Transfer 20 mL of organic supernatant to a new 50 mL centrifuge tube and concentrate to dryness under N_2 flow at 50°C-60°C. *Note*: Some oil may remain after concentration depending on product formulation.
12. Add 20 mL of hexane/ethyl acetate (9/1, v/v) to the dried extracts and sonicate for 30 minutes, followed by a round of brief hand-shaking and then centrifugation at 4000 rpm for 10 minutes.
13. For solid precipitates: Decant entire supernatant into a new 50 mL tube.
14. For biphasic layers: Carefully transfer 20 mL of organic supernatant to a new 50 mL tube.
15. Concentrate samples as much as possible as in Step 11. Then combine with 5 mL of hexane/ethyl acetate (9/1, v/v) and proceed to SPE cleanup.
16. Attach Florisil SPEs to manifold and condition with 10 mL of methanol, followed by 10 mL of hexane/ethyl acetate (9/1, v/v).
17. Load sample onto SPE, and wash with 10 mL of hexane/ethyl acetate (9/1, v/v). Do not let the column run dry.
18. Place collection tubes under the manifold and elute samples with 10 mL of methanol.
19. For all samples: Add appropriate amounts of "Injection Standard" mixture to all solutions.
20. Concentrate all samples to dryness. Reconstitute with 1 mL of methanol/water (99/1, v/v). *Note:* If precipitate is visible in tube, centrifuge the tubes.
21. Transfer the solutions to LC vials for instrument analysis with LC-MS/MS.

Sample Analysis and Procedure

Calibration:

- Prepare a calibration curve of at least 5 levels in the range of 0.02 – 20 ng/mL of "Native" compounds.
- Each calibration point should also have "Extraction Standards" and "Injection Standards" at, for example, 0.50 ng/mL.

Data Analysis Note:

- Quantitation calculations are based on the response ratio of "Native PFAS" signal to "Extraction Standard" signal.

- Matrix effects can be assessed by comparing responses of "Injection Standards" in samples and calibration sets.

LC-MS/MS Specifications/Parameters

Equipment: Agilent 6470 LC-MS/MS or Equivalent
Mobile Phase A: Aqueous 20 mM Ammonium Acetate
Mobile Phase B: Methanol
Flow Rate: 0.400 mL/min
Solvent Gradient: 70% Mobile Phase A to 5% Mobile Phase A in 13 min.
Total Run Time: 26 minutes + 5 minutes Post Time Equilibration
MS Operation Mode: Electrospray Negative Ionization (ESI-) mode

List of Analyzed PFAS Compounds

Acronym	Chemical Name	Limits of Quantitation (ppb)	Comments
PFBA	Perfluoro-n-butanoic acid	0.40	High background
PFPeA	Perfluoro-n-pentanoic acid	0.40	High background
PFHxA	Perfluoro-n-hexanoic acid	0.40	
PFHpA	Perfluoro-n-heptanoic acid	0.40	
PFOA	Perfluoro-n-octanoic acid	0.40	
PFNA	Perfluoro-n-nonanoic acid	0.40	
PFDA	Perfluoro-n-decanoic acid	0.40	
PFUdA	Perfluoro-n-undecanoic acid	0.40	
PFDoA	Perfluoro-n-dodecanoic acid	0.40	
PFTrDA	Perfluoro-n-tridecanoic acid	0.40	
PFTeDA	Perfluoro-n-tetradecanoic acid	0.40	
PFHxDA	Perfluoro-n-hexadecanoic acid	0.40	
PFODA	Perfluoro-n-octadecanoic acid	2.00	Low recovery
PFPeS	Perfluoro-1-pentanesulfonate, Potassium Salt	0.40	
PFHxS	Perfluoro-1-hexanesulfonate, Sodium Salt	0.40	
PFHpS	Perfluoro-1-heptanesulfonate, Sodium Salt	0.40	
PFOS	Perfluoro-1-octanesulfonate, Sodium Salt	0.40	
PFNS	Perfluoro-1-nonanesulfonate, Sodium Salt	0.40	
PFDS	Perfluoro-1-decanesulfonate, Sodium Salt	0.40	
PFDoS	Perfluoro-1-dodecanesulfonate, Sodium Salt	0.40	
FOSAA	Perfluoro-1-octanesulfonamidioacetic acid	2.00	
N-MeFOSAA	N-methylperfluoro-1-octanesulfonamidoacetic acid	0.40	
N-EtFOSAA	N-ethylperfluoro-1-octanesulfonamidoacetic acid	2.00	
11Cl-PF3OUDS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonate, Potassium Salt	0.40	
9-CL-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonate, Potassium Salt	0.40	

Acronym	Chemical Name	Limits of Quantitation (ppb)	Comments
4:2 FTS	1H, 1H, 2H, 2H-perfluorohexanesulfonate, Sodium Salt	2.0	
6:2 FTS	1H, 1H, 2H, 2H-perfluorooctanesulfonate, Sodium Salt	2.0	High background
8:2 FTS	1H, 1H, 2H, 2H-perfluorodecanesulfonate, Sodium Salt	0.40	
ADONA	Dodecafluoro-3H-4,8-dioxanonanoate, Sodium Salt	0.40	

Note: PFBA, PFPeA, and 6:2 FTS have high background levels in this procedure. PFODA have low recovery by this extraction procedure.