



2023 Environmental Health Summit

North Carolina Water And Equity: Addressing Water Infrastructure Needs And Funding In Disadvantaged Areas

January 12, 2023
In-person/Virtual

Introduction

The North Carolina General Assembly appropriated close to \$2 billion from the state's share of the American Rescue Plan Act for drinking water, wastewater and stormwater investments. In addition, the federal Infrastructure Investments and Jobs Act will provide over \$1 billion in funding for North Carolina to supplement existing State Revolving Fund programs. There are focused efforts to ensure that funding is made available to address the needs of disadvantaged, underserved communities. Stakeholders include community members, local, state and federal government, and technical service providers.

A one-day Summit was convened in January 2023 involving appropriate stakeholders, thought leaders and experts across North Carolina (state/federal/local government, academia/research, community groups, business) to:

1. Learn about priorities and concerns of a) communities and b) local governments on projects regarding providing service in disadvantaged areas (as pertains to funding and infrastructure).
2. Develop resource documents and peer-to-peer networks to educate communities and local governments on next steps or considerations if interested in pursuing a project to provide service in disadvantaged areas.
3. Provide guidance to NCDEQ in identifying where such projects are needed to communicate funding opportunities to communities and to local governments. ✖

Opening Plenary

David Hinton of Duke University (retired) delivered the opening plenary. He emphasized that the potential to collaborate with others comes through learning to listen to others, remembering that:

- ▶ We need to listen to what others are doing.
- ▶ We need to remember that everyone has unique skills and background.

- ▶ We need to work as stewards of the land.
- ▶ We need to bring reliable water and sewer infrastructure to all communities.
- ▶ We need to ask: what are the priorities and concerns of our communities?
- ▶ We need to encourage communities and counties to band together to form councils to advocate for shared interests. ✖

UPDATE FROM NCDEQ

Shadi Eskaf, Director of the North Carolina Department of Environmental Quality's (NC DEQ's) Division of Water Infrastructure, delivered an update on the state of available funding opportunities through the State Revolving Funds (SRF) programs. Eskaf provided an overview of the current concerns and needs of communities across the state.

In terms of SRF funds distribution, NCDEQ is prioritizing equity and fund distribution to underserved communities. He shared that NCDEQ recognizes that many residents are unable to afford repairs to home systems and wells. Forty percent of the overall benefits of federal funds will go to the

underserved population. Two billion dollars from North Carolina's share of the American Rescue Plan Act has been allocated to drinking water, wastewater, and stormwater investment.

To award funds, NCDEQ uses a rating system of its applicants. The rating system allocates more points to projects serving disadvantaged and underserved communities. Some priority is also given to repairing existing infrastructure. Shadi also discussed the need to increase awareness of funding opportunities among communities. NCDEQ wants to develop better ways to continue hearing what communities need. ✖

Community Panel Discussions

The Community Panel Discussion was moderated by Jackie MacDonald Gibson, Head of the Department of Civil, Construction, and Environmental Engineering at North Carolina State University. The panel featured Lethia R. Lee, Sampson County Commissioner; Ed Gillim, Ivanhoe community member; Mary Tiger, Strategic Initiatives Manager, Orange Water and Sewer Authority; and Sunshine Richardson, member of the Haliwa-Saponi Indian Tribe and resident of Hollister, NC. The panel was asked questions about their experiences with getting funding for

their communities, identifying the needs of their communities, and working with state funding agencies and utilities. Lethia R. Lee shared her experience as Sampson County Commissioner. Communities in Sampson County, which has a large elderly population, have been asking for water infrastructure improvements for more than twenty years. State-level government officials that serve and oversee funding opportunities for Sampson County and other communities like Sampson County often don't live in the areas they serve. This can create a disconnect and slow

down the process of connecting people in need with resources. The community's persistence in proactively reaching out to engineers and county commissioners eventually led to getting water connections to Sampson County.

Mary Tiger of Orange Water and Sewer Authority (OWASA) talked about her role in a water utility agency that serves a relatively affluent county. While Orange County median household income is higher than most other counties in North Carolina, there are communities within Orange County that still have water infrastructure needs. More than 20 percent of households in Orange County earn less than \$25,000/year. There are communities in OWASA's service area that are not connected to OWASA's service system. Tiger shared OWASA's goal of creating a strategic plan of stakeholders to decrease the number of homes not connected to their services and to create opportunities to proactively engage with those communities not currently connected to OWASA's services. Sunshine Richardson spoke about the needs, experiences, and obstacles of residents of Hollister, NC. She shared that 72 percent of the population of Hollister self-identify as Native American, and most are elderly and on a fixed income of less than \$900 / month. Most families in Hollister do not have running water or other basic utilities such as the internet. Many community members are scared of development, including water services provided by the government. There are trust issues with government-provided services, and many members feel that well water has served them and their ancestors and there is therefore no need to stop using well water. Richardson also spoke about the role of Haliwa-Saponi Tribal Council in communicating information to the community members, highlighting the importance of having trusted leaders that are able to reach their community members with important information. Ed Gillim


from Ivanhoe, NC talked about his experience as a law enforcement officer and community leader in Ivanhoe. He encouraged community members to reach out to county commissioners with their needs and concerns and capitalize on the relationships that communities and community members have with each other. He also shared that he heard many residents in Ivanhoe express that they didn't know they could be involved in sharing their needs and participating in community planning, highlighting the need for better communication with communities, and the opportunity for state agencies and consultant to take a more proactive role.

Following community panel introductions, Dr. MacDonald Gibson led a question-and-answer session. The questions included: how to identify a leader within a community, how to define "disadvantaged" and identify disadvantaged communities, and how to build trust with communities and empower those communities to seek solutions to their water system needs. Community panelists agreed that a good leader must first be a good follower and have a strong connection to the community. It's not enough to know the subject matter: a leader must know the people of the community and be able to explain to them the importance of the subject matter in their lives. The panelists also discussed the definition of "disadvantaged populations." Sunshine Richardson shared that from her experience, a community that does not have the same opportunities as neighboring communities is a disadvantaged community. Panelists also shared that on-the-ground community connection is of utmost importance, especially in communities that lack other utility services such as the internet. Institutional trust was also discussed among the panelists as an integral part of bringing services to underserved communities. ✂

Work Group Discussions and Recommendations

The first of the breakout sessions was designed so that Summit participants from similar working and experience backgrounds could group together and have open discussions about their perspectives on addressing the infrastructure needs of underserved communities. There were three break-out groups: Community Members and Leaders; Government Agencies and Utility Managers; and Stakeholders and Academics.

As NC DEQ and other state funding agencies work to prioritize funding underserved communities,

identifying those communities in need of water and wastewater infrastructure can be challenging. Technology and data gaps, and administrative capacity were identified across break-out groups as major obstacles to identifying underserved communities across the state. Identifying community leaders, developing effective communication, and connecting communities to the right resources were also identified across the break-out groups as imperative in supporting underserved communities and meeting their infrastructure needs. 

COMMUNITY LEADERS AND MEMBERS BREAKOUT

Water Infrastructure is essential to communities and the daily lives of residents. The quality and reliability of infrastructure can affect the health, safety, and economic well-being of communities. Therefore, it is important to identify a community's needs and help them obtain funding for infrastructure projects.

To identify community water infrastructure needs, it is important that communities are heard and acknowledged. Government agencies, utility managers, and other organizations seeking to support communities' infrastructure needs must be willing to listen and meet community members where they are. A community's water and wastewater infrastructure needs may not necessarily be addressed with a "one-size-fits-all" approach. Transparency in identifying the issue(s) and plans to address a community's needs are also crucial in meeting those needs.

Communities need reliable and up-to-date information about resources that are available to them. Sharing this information can be challenging, but creating comprehensive and accessible information is an important first step in connecting underserved communities with the resources they need to address shortcomings in their water infrastructure.

Churches and other faith centers can be great resources for disseminating information to communities. Online resources, hotlines, and print material available in public places such as libraries and county health facilities can also connect people to resources.

Communities can learn from successful endeavors such as the Ivanhoe community project that obtained water resources and funding. Collaboration and direct support from other communities can provide guidance and ensure a successful outcome. Knowing where to start is vital. Collaboration with engineers and technical experts is important so that communities can identify expected pricing of repairs, improvements, and/or installation of new technology.


Some communities are hesitant about well water testing, piped water, or upgrades to their existing water systems. Some community members are concerned that they won't be able to afford their homes if community water is introduced. Others don't know what options they may have. For example: if water quality testing occurs, and a community or household learns they have poor water quality, what are their options? There are tradeoffs between connection to community water

versus private water. The need for transparent and accessible information and resources is imperative in addressing communities' varying needs. It allows communities to identify the most appropriate solutions to their needs.

To find members with the energy and willingness to take on projects, newsletters and social media can be used to share information with community members. Mentorship for future generations is needed to ensure that projects and endeavors of the current generation can be continued. Door-to-door methods can be useful in informing households of community needs.

Community members need awareness of community issues, political will to act upon community needs, and technical support from engineers and grant proposal writers. The USDA has community liaisons to help community

leaders with issues via technical skills and support. However, cycling of organizations and government leaders can make community needs unmet over many years, eroding trust and creating barriers between communities and resources.

Key themes and recommendations: identifying community needs and obtaining funding for infrastructure projects is essential for the well-being of communities; collaboration and technical assistance are necessary to ensure successful outcomes; capacity-building and mentorship for future generations can help continue the projects and endeavors of the current generation; proactive measures taken to help underserved communities; streamlining information and shared resources/knowledge between counties can improve communication with local governments. 

GOVERNMENT AGENCIES AND UTILITY MANAGERS

Many communities across North Carolina struggle with maintaining reliable and affordable water and wastewater systems. State and local government agencies and water utilities can provide a unique perspective on social and technical solutions to water and wastewater issues.

As communities struggle with their current water rates, they worry that new infrastructure or system upgrades may increase their rates, making water even less affordable. Utility managers and local government agencies can help communities understand the balance between short-term costs and long-term savings. Although some communities may struggle to afford addressing issues such as infiltration, inflow and water loss, finding leaks and reducing water loss can help avoid the need for expanding water and sewer facilities. This can save communities money in the long-term. Helping homeowners find leaks can also lead to reduced utility costs and homeowner expenses. Communities that have experienced unnecessary rate increases due to

water loss highlight the need for better strategies from local government and water utilities for managing water loss and promoting efficient use of resources. Offering incentives to work with towns and citizens on simple things like in-home upgrades can have a significant impact on reducing water losses, maintaining infrastructure, and managing resources. Local governments can also promote resource management through grants that support "smart" water technology such as e-meters, which can provide alerts to citizens and utilities in real-time to prevent significant water loss and save time in reading meters. Communities and local governments can seek the assistance of the Council of Governments (COGs) to help develop plans and seek funding to address water and wastewater issues at the household-level.

Many rural and remote areas across North Carolina are experiencing low or decreasing populations, raising questions and concerns when the state recommends forming new authorities or partnerships to address such

issues. Managers of distressed water systems are often encouraged to seek partnerships as a way to reduce costs and increase efficiency. Collective resource management can provide economies of scale, which can promote effective and efficient water and wastewater management. However, concerns about giving up autonomy can arise, as some communities may feel they lose control over their resources through collective management. Local governments should provide community members with information and resources on collective resource management, communicating that this can provide economic relief to communities struggling with the expense of water and wastewater infrastructure upkeep. Residents in mountainous and rural areas also struggle with well permits for private wells and funding repairs and set-up costs. Households and communities who rely on private wells struggle with the cost of water testing, upgrades and mitigation. While the Department of Health and Human Services and the County Health Departments offer lab testing, and a new pilot

program helps fund septic tank rehabilitation, more support is needed to provide funding options to ensure private systems provide reliable and safe water.

Key themes and recommendations: addressing the challenges of water and wastewater management requires a multi-faceted approach that involves partnerships, economic analyses, incentives, and support for funding options for private systems; utility managers need to communicate the balance of short-term costs and long-term savings; collective resource management can reduce costs and increase efficiency, but can also foster concerns of autonomy and control; local governments should provide more information on collective resource management; households and communities need support in water quality testing and understanding and accessing mitigation options for poor water quality; Department of Health and Human Services and the County Health Departments offer lab testing of water quality. 🌿

STAKEHOLDERS, ACADEMICS AND STATE FUNDING AGENCIES

Stakeholders and academics can provide a technical and researched-based perspective on the opportunities to connect communities to resources, and state funding agencies have the unique position of overseeing most of the funding made available to communities in need of water and wastewater infrastructure. Together, these groups discussed some of the top-down approaches in supporting underserved communities, and the opportunities for collaboration in creating better systems.

Access to information is key to ensuring that underserved communities receive assistance from government and private organizations. Programs and funding opportunities may not always reach underserved communities due to a lack of comprehensive information on which communities are underserved, what resources are available to these communities,

and how communities can apply for and access these resources.

Many underserved communities do not have access to the Internet or digital technology. Traditional marketing methods such as U. S. Mail, postcards, and phone conversations can be effective in reaching these communities. The use of trusted institutions such as churches, recreation facilities, elected officials, libraries, and schools can also be beneficial. Churches, in particular, are often a central point of contact for communities and can help build trust and credibility between funding agencies and communities. Identifying leaders and institutions that have trust and credibility with communities can serve a significant role in reaching underserved communities. Councils of Government (COGs) have close ties with local communities and can provide valuable insights into the most significant needs of a community.

Engaging with environmental health extensions, local health directors, schools, libraries, and other trusted community institutions can help identify and close the gaps in how communities access information about funding opportunities. Graduate students can also be a cost-effective resource for reaching underserved communities. They can assist in community outreach and spend time with disadvantaged communities to understand their needs and how best to communicate about resources specific to their needs. Surveying underserved communities can also provide valuable information on how well the information is being received and where knowledge gaps exist. Testing the communication methods can help identify issues and areas for improvement of the resources provided to communities about funding opportunities. Additionally, translating program information into multiple languages can help reach non-English-speaking communities.

Comprehensive data on underserved communities and a systematic review of barriers to water and wastewater infrastructure can play a crucial role in connecting communities with resources. Researchers, consultants, and state agencies should collaborate on augmenting existing mapping resources, such as the NC DEQ Community Mapping Tool, the EPA's EJScreen, or the Southeastern Rural Community Assistance Project (SERCAP) GIS map to identify the status of water and wastewater infrastructure across the state. This tool could be used to identify all underserved communities and the potential barriers these communities may face in receiving grants for water and wastewater infrastructure. This would also create an opportunity for state agencies and consultants to proactively reach out to communities in order to assist them in seeking out funding opportunities. Consultants should work together to create a database of firms that are willing to provide grant-writing and grant management assistance. Other funding resources such as the UNC Environmental Finance Center and the Bernard Allen Emergency Drinking Water Fund could be coupled with a comprehensive

mapping tool to help identify resources available to different communities based on their needs.

Many resources available to underserved communities require grant applications submitted by a utility or local government entity. Writing and submitting funding applications can be a resource-heavy endeavor, especially for communities that are already lacking in resources. Many underserved communities lack access to personnel that are available and equipped to prepare a competitive grant application or manage grant funds if a grant is awarded. While these communities' water and wastewater infrastructure projects would be eligible to receive grant funding through NC DEQ, without support they are unable to complete competitive grant applications. Partnerships can be critical in assisting underserved communities with the grant writing process. NC DEQ could work with consultants to identify communities in need and assist with grant writing. NCDEQ could also continue and expand its work with COGs in providing support with grant writing and in ensuring that funds are reaching underserved communities. Consultants could also take a more active role in finding communities that need assistance with the grant application process and providing discounted or pro bono grant writing support. However, it is important to ensure that the community is involved in the process and that their needs and perspectives are considered.

Transparency and accountability are essential in building trust with underserved communities. Developing transparent evaluation criteria for grant applications and involving the public in the evaluation process can help ensure that communities feel that they can access the funding opportunities available to them. It is also vital to have a system in place to track the success of funded projects.

Key themes and recommendations: effective communication strategies are essential in ensuring that underserved communities have access to funding opportunities; traditional

marketing methods, trusted institutions and partnerships are key components in reaching these communities; we need centralized, comprehensive data to aid in identifying where the most significant needs are; NCDEQ should focus on developing transparent evaluation

criteria for grant applications; public involvement in the process of developing evaluation criteria for grants applications can help build trust with communities; communities need technical and monetary support in grant application process and in grant management. ✂

Afternoon Sessions- Mixed Participations

The second of the breakout sessions was designed so that Summit participants from different work and experience backgrounds could join together and openly discuss their various perspectives on addressing the infrastructure

needs of underserved communities. There were two break-out groups, each of which had a mix of community members and leaders, government agencies and utility managers, and stakeholders and academics.

GROUP 1

The state of North Carolina has prioritized providing financial aid to underserved communities to help improve infrastructure, water supply, and sanitation, and seeks to continue to prioritize funding underserved communities. How can we collaborate to support underserved communities and assist them in applying for and receiving grants through NCDEQ? In this session, participants discussed the structure, schedule, and availability of funds; potential barriers communities face before, during, and after the application; and how to prioritize funding.

With the stated intention of ensuring that 40 percent of the American Rescue Plan Act (ARPA) funds, and other funding opportunities managed by North Carolina, are distributed to address the needs of disadvantaged and underserved populations, many participants in this session suggested the need to better define “disadvantaged” and “underserved populations.” Other agencies and organizations such as the USDA Rural Partners Network and the HUD Opportunity Zone have different definitions, but their criteria could be incorporated into a standard used among different stakeholders to identify communities in most need of support in their water and wastewater needs. Other criteria were considered in defining “underserved” including: communities with >50 percent free or reduced

lunch, communities with >50 percent non-white population, communities with higher than average health needs, and communities without access to any water or sanitation services. Some challenges in creating an encompassing definition of “underserved” or “disadvantaged” are the potential for bias, language barriers, prioritizing different criteria, and identifying unique needs. The need for a comprehensive mapping tool to help identify underserved communities was echoed in this session.

The funding criteria for projects funded by North Carolina’s State Revolving Funds (SRF) include project purpose, project benefits, and management, legal requirements, affordability, and impact. Underserved communities may not be able to describe how they meet these criteria, which poses an additional barrier to addressing their water and wastewater needs. As discussed in other breakout sessions, Councils of Governments (COGs) can assist in securing and managing grants on behalf of communities. Larger utilities may help smaller utilities in managing funds and projects. Consultants and engineering firms can also support communities with technical assistance and with enumerating the project purpose, project benefits, and management criteria in grant applications.

Some communities may need funding but may not want it. It is essential to listen to their concerns, acknowledge complaints, and identify community leaders and champions. It is also important to track comments and complaints, identify decision-makers, and shift the cultural perspective at the government and utility level.

Key themes and recommendations: having a definition of “disadvantaged” and “underserved” can help identify those communities in most need; without support from other stakeholders, some communities may not be able to describe how

they meet the criteria for state revolving funds; Councils of Government, utilities, consultants and engineering firms should help communities access funding opportunities; a centralized place for information on communities in need, available resources for communities, and assistance in navigating various resources is needed; the NC DEQ website can be made easier to navigate; it’s essential to listen to the concerns of communities, identify community leaders and champions, and to shift the cultural perspective to prioritize underserved communities. ✖

GROUP 2

Ensuring access to clean and reliable water is a crucial part of building and maintaining healthy and sustainable communities. Identifying water infrastructure needs and getting funding to communities that need it are critical steps in addressing these disparities.

To identify needs for water infrastructure, it is important to work with local town councils and boards of commissioners. These groups can help identify the most pressing needs for their communities and provide valuable insights into the resources and capacity available to meet those needs. Reaching out to communities that may not be aware of funding opportunities can be challenging. To do so, we need to build trust, capacity, and funding by developing outreach programs that connect with trusted members of the community.

As discussed in other sessions, a major gap that needs to be addressed is grant writing support and communicating what funding is available and how it can be used. This includes making resources readily available that explain the various funding options and backup plans available. This role could be filled by consultants, cooperative extensions, or state agencies. Community leaders or other trusted institutions could be trained to disseminate information about available resources to their communities. It is important to use multiple avenues of outreach, such as TV and

radio ads, paper flyers, newspapers, Facebook groups, and other channels that are accessible to everyone, not just those with Internet access. In addition to connecting communities with more resources to undertake the application process, the funding agencies could restructure the application process to give smaller, underserved communities more time to identify partners and prepare their application.

Another roadblock in getting available funds to the communities that need them is the legacy of needs not being met, and the lack of trust in the system. Households may be skeptical of upgrades if they fear it will be more expensive than their existing system. It can be expensive and labor-intensive for a small community to apply for a grant. If they don’t receive it, trust can erode, and their needs remain unmet. Local governments can be a potential failure point, and there is a need for all layers to align to make funding happen, including a champion to spearhead efforts, utility buy-in, funding to pay for infrastructure, writing the application, capacity, and community buy-in. It is crucial to cater communication about available fundings to community members and local governments. Regional partners can be key to getting communities in touch with resources that can meet their needs. We need comprehensive information on what resources are available, which communities are in need, and a way to link communities in need with the specific resources

that could assist them. Resources such as pass-through funding, USDA funding, and the Bernard Allen Emergency Drinking Water Fund are available for private septic upkeep and drinking water remediation. These resources, among others, could be included in a comprehensive database made available to communities. This database could also include all funding streams from all organizations statewide in all regions, and the UNC System.

Providing a summit regionally to address different concerns around the state and developing a database of local organizations are potential opportunities to bring resources directly to communities. Providing training to Health and Human Services employees and other trusted community institutions could also bring resources directly to the community and build trust. Overall, a proactive approach is necessary to overcome challenges and get available funds to the communities that need them.

There is also a need for a dedicated phone number for issues, and it is important to educate office staff on common issues to help with phone calls.

Additionally, a resource for community members to share information with local governments could be beneficial. Cooperative extension, rural centers with alumni lists, and other leadership programs that interface with communities are also potential resources to utilize.

Key themes and recommendations: work with local town councils, county commissioners and COGs to identify unique needs of their communities; create outreach programs to connect directly with communities and build trust; communication of available resources and connecting communities to resources proves to be a big gap that needs to be addressed; communities need support in writing and managing grant applications; trust can be eroded if the grant application process is too difficult, expensive or not transparent; comprehensive database of all available funding would be useful in ensuring communities have access to information about funding opportunities; regional summit to bring resources directly to communities; dedicated hotline for information on funding and aid in dealing with issues during application process. ✕

Conclusion

Addressing the water and wastewater needs of disadvantaged and underserved populations in North Carolina requires a collaborative and multi-faceted approach. Community members and leaders; local, county and state governments; researchers, consultants, and engineers; and other stakeholders can all play a role in developing tools, resources, and better systems to support meeting the needs of underserved communities. While the needs of individual communities may be unique, there are comprehensive approaches to bringing communities closer to the resources they need. It is important to listen to communities,

to build trust, and to develop outreach programs to meet people where they are. Information itself is a powerful resource and endeavors such as a comprehensive database of funding options, and an interactive map of all communities across North Carolina and their infrastructure needs could be utilized in partnerships to bring water and wastewater funding to communities that need it. By fostering partnerships, promoting transparency and accountability, and listening to community concerns, we can make progress toward ensuring every North Carolinian has access to clean, reliable, and efficient water. ✕

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