

2021 WARN Chairs Meeting Summary

Date and Time: November 16 – 17, 2021 · 12:00 - 4:00 PM Eastern each day

Location: Virtual event using the Microsoft Teams platform

Objectives:

1. Discuss current initiatives.
 2. Identify future capabilities of the WARNs and resources needed to accomplish them.
 3. Identify emerging issues and potential solutions.
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Overall Meeting Action Items

WARNs

- Let Jim Wollbrinck (CalWARN) know if you want him to present tips and tricks for conducting a full-scale exercise at a bi-weekly WARN meeting.
- Let EPA know if interested in conducting a functional exercise in 2022 with associated improvement planning sessions.
- Let EPA know if interested in joining a National WARN website workgroup.
- Provide updated snapshots for the 2021 WARN Progress Report, when requested.
- Brian Weir (NJWARN) to reach out to Steve Bieber (NCRWARN) on what supermarkets are participating in the emergency water pilot program.

AWWA

- Continue to share information nationally about COVID-19 and potential water sector needs during emergencies.
- Continue bi-weekly WARN meetings in 2022.
- Investigate the possibility of an AWWA video being produced on the topic of WARN outreach to local and state emergency management.

EPA

- EPA shared the following resources to all WARN Chairs following the meeting:
 - Seattle Public Utilities (SPU) Emergency Drinking Water Provisioning System: <https://www.waterworld.com/drinking-water/article/16191203/mobile-system-designed-to-provide-emergency-drinking-water>
 - EPA 2011 “Planning for an Emergency Drinking Water Supply” Document: https://www.epa.gov/sites/default/files/2015-03/documents/planning_for_an_emergency_drinking_water_supply.pdf
 - California Law Requiring Mutual Aid/Assistance Membership (Senate Bill SB-522): https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB552
 - FEMA EMI Independent Study Course (IS-553.A: Coordination between Water Utilities and Emergency Management Agencies): <https://training.fema.gov/is/courseoverview.aspx?code=IS-553.a>
 - EPA 2018 “Connecting Water Utilities and Emergency Management Agencies” Factsheet: https://www.epa.gov/sites/default/files/2018-05/documents/water_emaconnection.pdf

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- DHS CISA “National Infrastructure Advisory Council Workforce and Talent Management” Study and Factsheet: <https://www.cisa.gov/publication/national-infrastructure-advisory-council-workforce-and-talent-management-study>
- EPA will also share any other relevant resources with the group as they are received (e.g., COVID-19 resources, recruitment letters and packages).
- EPA will establish a National WARN website workgroup.
- EPA will consider the development of a water mission flowchart that could be shared with state primacy agencies and EMAC coordinators for them to reference during a water incident.
- EPA will consider how water sector system impacts could be presented as maps or charts based on the information shared from the states following an incident.
- EPA would like to work with WARNs in the future to share information on supply disruptions and welcomes any ideas on how EPA, WARNs, and water systems can best share information.

WARN Chairs Meeting Presentations – Day 1 – November 16, 2021

WARN Incidents and Lessons Learned

The WARN Chairs discussed water sector initiatives, lessons learned, and 2021 WARN activations:

- Jim Wollbrinck (CalWARN) discussed the following topics:
 - The state has been using different resources to develop a common operating picture during the 2021 fire season. One resource available is a Geographical Information System (GIS) map that overlays wildfire burned areas and smoke patterns. That resource, combined with a California State Water Resources Control Board Division of Drinking Water GIS layer of water system service area boundaries, has been used to determine the wildfire risk to water systems. Jim also detailed other resources that have been used that included power company cameras, as well as the CalFire Incident Map: <https://www.fire.ca.gov/incidents/2021/>. A future goal is to develop a website that links to or consolidates all these resources.
 - California recently passed a law that requires all water systems, beginning no later than January 1, 2023, to maintain membership in CalWARN or similar mutual aid organization as a drought resiliency measure. This is part of Senate Bill SB-522: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB552
 - With regards to the 2021 fire season, the Calder Fire nearly forced the evacuation of Lukins Brothers Water Company in South Lake Tahoe, and that utility is currently considering CalWARN membership.
 - San Jose Water is working with a boxed and bagged water manufacturer to test how quickly the resources can be filled up using a table and manifold system. Many water systems see boxed and bagged water as a good alternative to storing bottled water or maintaining water trailers.
 - Some of the small utilities in the state have been doing a lot of planning and were ready to respond to incidents due to CalWARN training and coordination so are now big proponents of WARN.
- Brian Weir (NJWARN), with American Water, described how a California American Water system had to quickly establish an alternate to the alternate utility Emergency Operations Center (EOC) when the primary one lost power during an incident and then the secondary one ran out of gas

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and was unusable. This incident illustrated the importance of pre-establishing multiple (secondary and tertiary) EOCs in varying locations.

- Jim Wolbrink (CalWARN) mentioned that maintaining fuel is critical and that San Jose Water has access to all the fuel they need unless the county EOC determines there is a larger priority. San Jose is working to have a county fuel plan so all critical lifelines such as water, power, and telecommunications are all coordinated and encouraged other water systems to do the same in their counties.
- Shelly Roberts (IdWARN) shared that the number of incidents in the state continues to rise. Many utilities choose to use bottled water during incidents since approved water haulers are expensive and there are only a few in the state. To help address this, two portable water trailers were purchased through a partnership between Idaho Rural Water Association (IDRWA) and the Idaho Department of Environmental Quality (DEQ). DEQ purchased the trailers and pays IDRWA to store and maintain them. One full use of the trailer is equivalent to 8,000 bottles of water so it is a cheaper and environmentally sustainable option. The trailers have already been used by a community that was impacted by drought and a well with high nitrates.
 - Tom Barger (CtWARN) shared that Connecticut has recently passed legislation that requires water systems to provide alternate water to impacted consumers when there is a service interruption lasting more than 12 hours.
 - Corey Ross (NvWARN) shared that the Las Vegas Valley Water District is looking into collapsible onion tanks that can be filled by a potable water truck, as a backup for a small community system. More information about onion tanks is available at: <https://www.sei-ind.com/products/onion-tank/>.
 - Steven Bieber (NCRWARN) shared that grant funding has been used in the National Capital Region to purchase water bladders, pumps, and other equipment for acute care hospitals as an alternate water supply. These resources may not be suitable for every situation but is a good choice for some critical facilities.
 - Ned Worcester (WAWARN) noted that Seattle Public Utilities has a mobile system to provide emergency drinking water.
 - Kevin Morley (AWWA) noted that “the responsibilities of state primacy agencies are specified in 42 U.S.C. 300g–2, which provides, in part: “A State has primary enforcement responsibility for public water systems during any period for which the Administrator determines...that such State... has adopted and can implement an adequate plan for the provision of safe drinking water under emergency circumstances including earthquakes, floods, hurricanes, and other natural disasters, as appropriate” (42 U.S.C. 300g-2(a)(5)).” This information is available at https://www.epa.gov/sites/default/files/2015-03/documents/planning_for_an_emergency_drinking_water_supply.pdf. Kevin then encouraged WARNs and their members to engage with their primacy agency to discuss the state emergency water supply plan. He shared calculations that show how expensive it is to provide bottled water on a large scale.
 - Brian Weir (NJWARN) shared that American Water is developing a partnership with local supermarkets as part of an emergency water supply pilot program. As part of the program, American Water would notify customers experiencing a water outage that they could go to a specific supermarket and receive a \$7 gift card to purchase ice and bottled water, as an alternative to American Water setting up a water distribution site. Following an incident, the supermarket would submit an invoice to American Water for how many gift cards were distributed. American Water is also looking into the feasibility of using bagged water rather than bottled water.

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- Jim Wolbrink (CalWARN) shared that they are looking into water trucks for emergency water as well as a boxed water solution with a reusable bag in a box. Approximately 120 bags can be filled every hour and provided to a customer, who is given instructions to clean and re-use for next time. This solution is easily stackable and reusable, which is not the case with bottled water.
- Corey Ross (NvWARN) described the response to the July 2021 Tamarack Fire which impacted Topaz Ranch Estates. The community was evacuated, and power was shut off throughout the community, but the water system needed to keep operating to maintain fire flows and did not have a generator. Hawthorne, a neighboring community, unhooked and hauled a generator to help, but the one that was brought was not the right size. NvWARN representatives worked overnight to acquire a larger generator, but power was restored before another one could be transferred. There was little state agency familiarity with NvWARN prior to this response, so NvWARN representatives were able to build new relationships.
 - Dawn Ison (EPA) share that EPA has developed a Power Resilience Guide for Water and Wastewater Utilities that details how to conduct an emergency power assessment at a utility. The guide is available for download at https://www.epa.gov/system/files/documents/2021-09/062021_powerresiliencguide508c.pdf.

Emergency Management Assistance Compact (EMAC) and Resource Typing

Kevin Morley (AWWA) and Brian Pickard (EPA) provided an overview of the ongoing work that is being done related to water missions, EMAC, and water sector resource typing.

AWWA, EPA and FEMA continued to have discussions related to updates to the National Response Framework. Currently, the water missions are still separated across multiple Emergency Support Functions (ESFs). EPA had suggested the following updates for ESF #3:

- Change ESF #3 to Public Works, Engineering and Water Infrastructure.
- Elevate EPA to a Primary Agency rather than a supporting agency.

Unfortunately, FEMA and the Army Corps of Engineers did not submit any structural changes as part of a report produced by an ESF Corrective Actions Group. EPA still plans to provide informational sessions to state EMAs and ESF #3 coordinators to promote the importance of improving coordination between agencies when there is a water incident. One goal is to standardize the execution of water missions across EPA regions in a more consistent and uniform manner. Other suggestions related to this topic included:

- State EMAC coordinators tend to change frequently, so while EPA has conducted EMAC workshops around the country with a few regions involved every year, there needs to be a more effective way to reach them. Two possibilities are an annual training or a just-in-time training for emergency managers and EMAC coordinators. The unfamiliarity with how to use EMAC for a water mission may deter its use as well.
- State primacy agencies need to know what EMAC is and how to use it during an incident.
- Develop a water mission flowchart that could be shared with state primacy agencies and EMAC coordinators for them to reference during a water incident.

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- Conduct training for emergency managers on the water sector and EMAC.
- Conduct more training for WARN representatives so there is more familiarity with the level of detail that needs to be included with requests and responses.
- Educate WARNs regarding the use of EMAC so they could be a conduit of resources the state could tap into during an incident. This would involve more adoption of resource typing among water sector utilities, so they are prepared to offer resources when asked.
 - The National Emergency Management Association (NEMA) has a new training package that takes about 30 minutes to complete.
- Kevin Morley (AWWA) noted that AWWA is in the final stages of finalizing the resource typing toolkit and expects it to be fully released in early 2022. There will be training associated on its use before next hurricane season.

Critical Issue Roundtable Discussion

Topic 1: How are states tracking utility status after an incident and is the information collected meaningful to determine the needs that may be facing the community?

- There was a consensus that all states seem to capture and provide data differently, but EPA Regions have to consistently provide a list of the same information (e.g., water systems on a boil water advisory [BWA], systems out of service) to EPA Headquarters following an incident. EPA regional staff work throughout the year with their state contacts to improve information sharing and confirm the types and format of the information that will be provided to them. EPA Headquarters is interested in revising how information is provided to other federal agencies. This could include mapping the PWSIDs that have been impacted as the result of an incident. Reported information could also be shown in a chart to likely show that a situation is improving (e.g., decreasing number of systems under BWAs as recovery continues).
- Kevin Morley (AWWA) suggested a work group of state and EPA Regional representatives to define a set of parameters that states should provide and the best way to collect the information.

Topic 2: How are WARNs tracking their response activity?

- Shelly Roberts (IdWARN) noted that IdWARN representatives and member utilities have access to the state's WebEOC and can share information with county coordinators through it, but in general member utilities do not use WebEOC. During most incidents, IdWARN member utilities will contact the IDRWA through phone or email and a representative will post incident information and resource needs into WebEOC on behalf of the member utility.
- Dave Aucoin (RIWARN) shared that RIWARN representatives have access to WebEOC.
- Mike Howe (TXWARN) noted that TXWARN utilizes a Response Manager System to track resource requests and will also add information if a member contacts TXWARN by phone or email to report a need.
- Tom Barger (CtWARN) noted that CtWARN members can share information via the WARN website, but most members prefer to coordinate utility-to-utility.
- Tim Hewett (MnWARN) noted that the MnWARN website can be used to track requests, response, and after-action if the members choose to share the information.

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Multiple WARN representatives are interested in exploring a national website template and the representatives would be interested in the ability to use the website to track resources. EPA plans to convene a working group in 2022 to discuss the possibility for a national WARN website.

WARN Chairs Meeting Presentations – Day 2 – November 17, 2021

SDWARN Exercise Presentation

Brad Lawrence (SDWARN Chair) discussed lessons learned from the June 30, 2021, EPA-sponsored SDWARN Functional Exercise (FE) and Lake County Full-Scale Exercise (FSE). The training event was developed within a short timeframe due to the need to schedule the FSE prior to July 1st due to grant funding. This led to a short advertising period and lower than expected participation. The virtual SDWARN FE utilized a severe weather outbreak scenario that impacted most of the state, while the in-person FSE utilized a tornado scenario that severely impacted the city of Madison to set up the following scenarios for the participants:

- Vehicle Extrication from Height: Participants had the opportunity to practice vehicle extrication, while simulating that the car was in a tree. This process would involve using a 4 – 6-person team to climb up and lower patients from height.
- Anhydrous ammonia tank release: Participants had the opportunity to put down a gas cloud simulated using a large tank and a fog machine. This process would involve using 6 – 8-person fire department teams.
- Van rollover simulation: Bethel Lutheran Community and Madison Regional Health System participants simulated the response to a van rollover with multiple occupants inside. The simulation used manikins and a prop van to go through the process of triaging multiple patients and bringing them to the hospital.

Both the SDWARN FE and the Lake County FSE resulted in a number of action items, but the actions related to SDWARN in particular include:

- Review the current SDWARN structure and operations.
- Increase coordination between SDWARN representatives and response partners.
- Continue to promote SDWARN membership to non-member water sector utilities.

Since Brad Lawrence (SDWARN Chair) is also the Utilities Director for Madison, South Dakota, the exercises also illustrated the need for WARNs to identify a backup to the WARN Chair (e.g., Vice Chair, Regional Chairs) in case the WARN Chair must address impacts to their jurisdiction and are not able to coordinate WARN-related responses during exercises or real incidents.

Finally, Brad mentioned that four months after the exercise an actual anhydrous ammonia leak occurred, proving the need and benefit of having these types of exercises on a regular basis.

Chemical Supply Issues for the Water Sector

Steve Allgeier (EPA) provided an overview of the recent and ongoing chemical supply disruptions for water and wastewater systems, as well as observations and lessons learned. Community Water Systems

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(CWSs) are also experiencing chip shortages for smart meters and material supply chain disruptions, but chemical supply chain issues were the focus of the presentation. Steve opened the presentation by sharing the following case studies:

- In 2020, there were widespread carbon dioxide (CO₂) gas shortages across Florida. The shortages were due to decreased demand and production of ethanol and CO₂ gas produced as part of ethanol production.
- In 2021, there were widespread Liquid Oxygen (LOX) shortages across Florida. The shortages were due to a sharp increase in demand for LOX due to rising COVID cases and the widespread use of high-volume oxygen therapy for treating COVID patients. Also, there were inefficient transportation services of cryogenic tankers, combined with a limited number of drivers with commercial driver's licenses (CDLs) with a hazmat endorsement and experience handling LOX.
- Beginning in the summer of 2021, phosphate-based corrosion inhibitors (PBCI) were identified as a potential, emerging supply issue nationwide. There is limited supply of the precursors to PBCI production, as well as strain on the importation of those precursors to PBCI producers who rely on imports due to primary domestic use of PBCI precursors for fertilizer production.
- From late 2020 through the present, chloralkaline chemicals (e.g., Cl, NaOH, KOH) have been in short supply across the country. The initial shortage was concentrated in the western states but evolved into a widespread issue due to a series of incidents at production facilities across multiple states. These incidents resulted in a temporary loss in production capacity, as well as permanent closure of production facilities. This disruption had an impact on other treatment chemicals such as sodium hypochlorite, calcium hypochlorite, hydrochloric acid, ferric chloride, and poly-aluminum chloride.

In general, many supply disruptions were also linked to natural disasters, equipment failure, worker shortages, supply and demand imbalances, and changes in the producer's business objectives.

The biggest lessons learned, and observations have been:

- Customers without a contract are typically the first to lose their supply, which applies to both utilities and repackagers. Spot orders are generally not an option during a true shortage.
- The proximity to multiple repackagers and producers directly impacts the CWS's supply chain resilience. Transportation issues will continue to be an ongoing problem.
- Poor communication from suppliers creates unnecessary uncertainty for water system customers.
- Extended lead times on orders and higher prices are predicted to persist into mid-2022.

The following are recommendations regarding actions that water and wastewater systems can take to prepare for and respond to chemical supply chain disruptions.

- Preparedness actions include identifying alternate suppliers, increasing inventory or storage capacity, joining your state WARN, evaluating alternative treatment chemicals and grades, and reviewing those alternatives with the primacy agency.
- Response actions for a chemical supply disruption include notifying your state primacy agency, contacting alternate suppliers, issuing emergency requests for proposals (RFP), requesting assistance from your WARN, reaching out to neighboring water systems or companies that are

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using the chemical in shorty supply, contacting EPA to request technical assistance, or issuing conservation orders to try to stretch out the remaining inventory of chemicals.

EPA plans the following efforts to prepare for future chemical supply disruptions:

- Develop guidance and resources to help water systems build supply chain resilience.
- Respond to active supply disruptions by tracking reported disruptions.
- Coordinate with government and private sector partners to resolve supply issues.
- Provide technical assistance to resolve supply issues.

EPA would like to work with WARNs in the future to share information on supply disruptions and welcomes any ideas on how EPA, WARNs, and water systems can best share information.

Finally, Steve discussed Safe Drinking Water Act (SDWA) Section 1441 applications for water systems as an additional resource for CWSs experiencing chemical supply chain shortages. Water systems can apply to the EPA for a Certification of Need (CON) for a water treatment chemical that is “not reasonably available.” The CON authorizes the Department of Commerce to issue orders to suppliers to provide a treatment chemical to water systems. The timeline from application to the supplier agreement ranges from one to two months. Given the timeline for a CON approval, EPA encourages systems to try the recommended actions mentioned earlier to resolve the issue. More information on the SDWA Section 1441 application can be found here: <https://www.epa.gov/waterutilityresponse/water-sector-supply-chain-resilience>.

Critical Issues Roundtable Discussions:

Topic 1: How can WARNs conduct outreach to local and state emergency management?

- Steve Shepard (AzWARN) would like tools or resources WARNs can provide to local and state EMAs to send a consistent message on how EMAs and WARNs can work together.
- Dawn Ison (EPA) noted that EPA has developed WARN videos, as well as WARN Factsheets that are available at <https://www.epa.gov/waterutilityresponse/mutual-aid-and-assistance-drinking-water-and-wastewater-utilities>. One of the factsheets is titled “Connecting Water Utilities and Emergency Management Agencies.”
- Dawn Ison (EPA) also noted that EPA, FEMA and other water sector partners developed an online Emergency Management Institute (EMI) course titled “Coordination between Water Utilities and Emergency Management Agencies” with the aim of increasing coordination to enable more effective cross sector relationships. The course is available at <https://training.fema.gov/is/courseoverview.aspx?code=IS-553.a>.
- Kevin Morley (AWWA) noted that National Emergency Management Agency (NEMA) outreach regarding the importance of coordination and the potential water sector uses of the Emergency Management Assistance Compact (EMAC) has been trickling down to states and counties.
- John Lins (IOWARN) noted that he has been developing a strong relationship with his state EMA as the local EMAs have a higher rate of turnover and typically call the state.
- Kevin Morley (AWWA) noted that he could investigate the possibility of an AWWA video being produced on the topic. The consensus from the group was that a video would be beneficial for

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educating EMAs on WARNs and the benefits they provide. Reeducation is needed frequently due to staff turnover.

- Rita Mercer (AzWARN) mentioned the video needs to explain how WARN fits into what emergency managers do, how each sees each other's role in a response, and who funds the response.
- Kevin Morley (AWWA) also mentioned that he will explore the possibility of partnering with EMAC and the Emergency Managers Association.

Topic 2: What are your thoughts regarding the development of a National WARN website?

- Dawn Ison (EPA) described the possibility of a national WARN website consisting of a main page, with each WARN having the opportunity to either link their existing website to a subpage or customize their own subpage of the website. Many WARNs use the same website template, but support for updating the websites is not readily available anymore.
- Kevin Morley (AWWA) noted that AWWA investigated the potential of this option a few years ago and there were too many challenges such as access and security at the time to move forward.

Dawn Ison plans to establish a workgroup to discuss a national WARN website and invited interested WARN Chairs to join the discussion. It will be important to discuss what the chairs think are the necessary capabilities that the website should have and how it can be updated. The workgroup will likely be established in early 2022. Some additional comments from the discussion included:

- Jim Wolbrink (CalWARN) said it would be good to hear about best features from each WARN website (mass communications, mapping, etc.) and decide what key components need to be incorporated into a list of requirements for a national website.
- Steve Shepard (AzWARN) reviewed various WARN websites across the country and many looked the same and conveyed the same message with the only difference being the back end (login). It does not make sense for each of the WARNs to do so much work and spend so much money when we can hopefully have one over overarching front end with individual back ends.
- Brad Lawrence (SDWARN) said if a national WARN website is not feasible, if enough WARNs contracted with the same vendor that would help with cost.
- There was a discussion between multiple chairs about using WebEOC instead of a website, but WebEOC comes in so many versions that it did not seem like a feasible replacement for all WARNs.
- Brad Lawrence (SDWARN) asked if it would be better to have an app instead of a website and Jim Wolbrink (CalWARN) asked if EPA's Response-on-the-Go app can be integrated into the web work.
- Rita Mercer (AzWARN) said standardization of features would be great and would help with the Resource Typing Tool as well.

Topic 3: What other types of shortages are water and wastewater systems experiencing?

- Carol Adams (PaWARN) noted that there are unknown long term potential health impacts of COVID on exposed workers. This may lead to future workforce shortages and that needs to be considered when addressing current workforce shortages ("Silver Tsunami") within the utility organizations and within WARN.

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- Brad Lawrence (SDWARN) shared that a byproduct of state marijuana legalization is that CDL drivers need to adhere to federal requirements, which may lead to fewer truckers.
- Kevin Morley (AWWA) shared the following resource regarding workforce talent shortages and impacts for the water and wastewater system sectors (p.53):
https://www.cisa.gov/sites/default/files/publications/NIAC_Workforce%20and%20Talent%20Management%20Study_Final%20508.pdf

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WARN Reports – Accomplishments and Challenges

Dawn Ison (EPA) asked each attending WARN Chair to describe their WARN’s recent accomplishments and current challenges, along with any supply chain shortages that their members had experienced. The information they provided is in the following table:

WARN	Recent Accomplishments and Current Challenges
Arizona	AZWARN now has 34 members (added 2) and has held bi-weekly meetings for the past two years. Post EPA-sponsored exercise improvement planning meetings have helped identify additional AZWARN needs that the committee is working to address. AZWARN now holds quarterly meetings with the Arizona Department of Emergency Management to increase coordination. The current AZWARN website is functional but uses an older platform, so the committee is interested in looking at different options. Some Arizona utilities have experienced chlorine shortages.
Arkansas	ARWARN currently has 31 public utility members and is working with state water associations to expand its membership. ARWARN provided its members with a list of chemical supply contacts for utilities concerned about supply chain issues in 2021. Member representatives also provided a list of available generators to Louisiana in response to Hurricane Ida. ARWARN members continue to disburse FEMA face coverings in response to the COVID-19 pandemic. Some utilities were close with chemicals, but none ran out. The recent activity with ARWARN has increased membership.
California	CalWARN now has over 500 members, is now registered as a 501c3 organization, conducted a full-scale exercise (willing to do a presentation on tips and tricks), and updated its operational plan in 2021. CalWARN representatives have been working to improve website GIS capabilities and each CalWARN region has a chair and co-chair. 2022 goals include continuing to increase small system membership and achieve the goal of having CalWARN members in all counties. A new CA Senate Bill requires systems to be part of a mutual aid network, specifically identifying CalWARN as one of the networks, so membership should increase dramatically.
Colorado	CoWARN has 288 members after having added 30 new members thus far in 2021. CoWARN is currently working on updating its website, which is being funded by the Colorado Department of Public Health and Environment and should be operational in early 2022. CoWARN was activated in 2021 for water line leaks and breaks in Rye, Arabian Acres Metropolitan District, and Florissant. CoWARN will host an EPA Functional Exercise in March 2022. Colorado utilities are not experiencing chemical supply chain issues, but they are experiencing very long equipment supply chain delays (e.g., electronic meters 80 weeks and process monitoring equipment 1 year) as well as labor shortages.
Connecticut	CtWARN has 29 members and continued to engage the membership to distribute face coverings in 2021. CtWARN is now a committee in the CT Section of AWWA and can participate with the Security and Emergency Preparedness committees (which is an opportunity for CtWARN). The committee is still interested in identifying new ways to engage the existing membership outside of weather-related events. Regarding supply chain issues, the state sent out a questionnaire to utilities on the topic and 2/3 of the 36 respondents had experienced a chemical supply chain issue but cannot determine an overarching cause. CtWARN would like to continue to issue the questionnaire on an on-going basis.

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Delaware	DEWARN has 19 members and 4 associate members, as well as a new chair (Rob Penman, Jr.). There are a couple of groups interested in joining. There have been no activations in 2021. DEWARN continues to have quarterly virtual meetings and encourages smaller systems to join through its partnership with the Delaware Rural Water Association (DRWA). DEWARN representatives are reengaging state agency contacts for funding for a new website that can send alerts and are working to update the main contacts for each member. DEWARN is also promoting a new DRWA state apprenticeship program to train the next generation of water and wastewater operators.
Hawaii	HIWARN holds monthly virtual meetings and adopted their operational plan in June 2021, with their by-laws currently under review by members. HIWARN members are currently participating in a pilot program to test the AWWA resource typing toolkit and are planning to hold a resource typing workshop in 2022. FEMA has provided 75 percent funding for water systems to purchase mobile generators. Hawaii utilities have not reported any supply chain issues, but utilities have found that activated carbon is now 20% more expensive.
Idaho	IdWARN has 77 members and is considering revising the mutual aid agreement (MAA) and refreshing contacts. There have been a few activations in 2021 that included providing generators, pumps, and water trailers. IdWARN representatives continue to work with the Idaho Office of Emergency Management and local county coordinators. IdWARN representatives collaborated with the Idaho Department of Environmental Quality to circulate surveys to determine the impact of any supply chain shortages. The silver lining of COVID is that people are now reaching out to WARN for help.
Iowa	IOWARN has over 90 members. IOWARN has been involved in a Mobile Pump Project (a trailer-mounted pump) to provide water to small communities during emergencies. This project includes developing a needs assessment document for mobile pumps, soliciting a request for funds to private and public sectors, and obtaining funding approval through state emergency management. The Iowa Rural Water Executive Director is now Vice-Chair, which should assist with continued engagement with small systems.
Kentucky	KYWARN has over 70 members and is currently reorganizing their steering committee with a meeting scheduled in February 2022. KYWARN members assisted utilities impacted by a February ice storm by sharing generators and a March flood by distributing bypass pumps and sending repair crews to replace washed out lines. A partnership has been developed with the State Energy Policy Group to provide funding for a switch gear installation pilot program for water and wastewater systems. Kentucky utilities are reporting no chemical supply shortages, but gas chlorine prices have tripled and there is a shortage of cylinders because systems are keeping extra supplies.
Maine	MEWARN has over 130 members and held three tabletop exercises in 2021 with four more planned in 2022 that are funded by the Maine Drinking Water Program and the Maine Emergency Management Agency. MEWARN members supported the response to a major water line break that impacted a hospital and caused a boil water advisory by sending parts and equipment and provided replacement operators to systems that had staff out due to COVID-19. The MEWARN Chair has been actively participating in all county Local Emergency Planning Committee (LEPC) meetings to build relationships and share America's Water Infrastructure Act Section 2018 spill notification and Tier II inventory availability requirements. Maine utilities have reported no chemical supply chain issues, but many construction projects are on hold due to delays in procuring materials and equipment.

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Missouri	<p>MoWARN now has over 50 members after adding seven new members in 2021. Several new members joined as a result of learning more about MoWARN from an EPA New Madrid Earthquake Webinar. MoWARN would like to be considered for a 2023 EPA-sponsored WARN FE with a goal of convincing some of the larger utilities in the state to join (e.g., St. Louis, Kansas City). Missouri utilities are reporting no chemical supply chain shortages but are receiving reports of drastic increases in chlorine costs (e.g., \$400/ton to \$900/ton) and qualified staffing shortages such as operators and maintenance mechanics.</p>
National Capital Region	<p>NCRWARN now has 12 members after adding a new member in 2021. NCRWARN representatives continue to participate in coordination calls to discuss staffing issues, back to office policies, and supply chain issues. A group of NCRWARN members funded a study on biosolids handling and the capacity to establish a network of utilities able to accept biosolids through mutual aid. Another workgroup is investigating options for bulk chemical ordering to supply multiple utilities at one time if there was a shortage. Regional utilities are reporting that supply chain issues have not been widespread or persistent.</p>
Nevada	<p>NvWARN has over 30 members and recently launched a new website that is being hosted by the Las Vegas Valley Water District with just a few issues with mass communication to work through (SMS was added but only if a member activates it). NvWARN members collaborated with the Nevada Rural Water Association (NvRWA) to distribute cloth masks and thermometers to water sector utilities and tribal partners and hopes to work together with NvRWA in 2022 to promote membership to utilities in the northern parts of the state. NvWARN continues to meet monthly with California agencies to maintain mutual agreements and partnerships. NvWARN activated in 2021 to support a generator need, which increased the organization's profile with state agencies.</p>
New Hampshire	<p>NHPWMA has over 150 members and there have not been any activations thus far in 2021. The state primacy agency is conducting cybersecurity outreach and exploring funding opportunities for utility cybersecurity assessments. One New Hampshire utility experienced a sodium fluoride shortage.</p>
New Jersey	<p>NJWARN includes 14 private and public utility members but has not had much participation or engagement in the past few years. NJWARN did share critical weather updates with members, but no one reached out for support. The face covering distribution went well and utilities were happy and satisfied with the effort. New Jersey utilities have not had any major supply chain disruptions in the state, but many utilities are keeping higher stock volumes and ordering resources more frequently.</p>
New York	<p>NYWARN has over 180 members and continues to receive support from the water and wastewater state primacy agencies and water sector associations. NYWARN members coordinated to provide parts to a community dealing with a water contamination incident in Dutchess County. NYWARN representatives are exploring additional ways to engage the membership since there have not been many activations in recent years and it is difficult to keep the message fresh. New York utilities have reported no supply chain issues though larger utilities are pushing back on costs exceeding those stipulated in contracts.</p>

2021 WARN Chairs Meeting Summary

North Carolina	<p>NCWaterWARN has over 110 members and holds monthly committee meetings. NWaterWARN representatives are working with the University of North Carolina School of Government to review the mutual aid agreement and suggest changes to the document. NWaterWARN representatives are working to build relationships with North Carolina Emergency Management (NCEM) representatives due to recent organizational changes within NCEM and are developing a WARN Factsheet to assist in that effort. North Carolina utilities are not experiencing any major chemical shortages but are experiencing material shortages and price increases of approximately 20 percent.</p>
Oregon	<p>ORWARN now has 160 members and is working with the Oregon Health Authority to continue promoting membership by requesting to add an ORWARN membership question to the state's sanitary survey checklist. ORWARN's relationship with the Oregon Office of Emergency Management (OEM) is robust as evidenced by OEM requesting ORWARN to take the lead and attend all meetings during the chlorine shortage in the Pacific Northwest during the summer. ORWARN supported state and county agencies by providing watering stations after drought and fires lowered aquifer levels and 1,800 individual households lost their wells. ORWARN is currently working with the Cybersecurity and Infrastructure Security Agency (CISA) to develop a cybersecurity-focused tabletop exercise. Oregon utilities are reporting supply chain issues with astronomical ductile iron fitting costs.</p>
Pennsylvania	<p>PaWARN has over 130 members and is represented at the state Commonwealth Response Coordination Center. PaWARN partnered with state agencies to hold a virtual Security and Risk Management Symposium. PaWARN representatives have presented at state Solicitors Association and Engineering events to promote membership. A goal is to continue to engage and encourage smaller systems to join PaWARN. PaWARN representatives worked with the state primacy agency to designate a lime facility that supplies water and wastewater systems as an essential business during the early response to COVID-19. PaWARN representatives also worked with EPA and AWWA to address delayed chlorine gas shipments in the western part of the state. PaWARN's communications and actions during COVID really changed the program from being not only a mutual aid resource but also a robust information sharing network. .</p>
Rhode Island	<p>RIWARN currently has 18 public and private utility members and four associate members. Members communicate primarily through email and would like to resume in person quarterly meetings that are currently being held virtually. RIWARN participated in a successful mask and thermometer distribution, but experienced challenges distributing the resources to the smaller rural communities and were assisted by the Atlantic States Rural Water Association. RIWARN received a 2021 EPA Region 1 Environmental Merit Award. There have been no major no supply chain issues reported for Rhode Island utilities.</p>
South Carolina	<p>SCWARN now has over 130 members and increased membership by 25% over the past year due to grant funding received. SCWARN received support through an EPA 106 grant awarded to South Carolina Department of Health and Environmental Control and South Carolina Rural Water Association, which funded training and outreach, as well as a website update. The state launched a new WebEOC that integrates WARN by asking a user if they are a SCWARN member and re-directing them to the SCWARN website if they say yes. SCWARN continues to engage emergency management by attending Local Emergency Planning Committee meetings. There have been no activations or supply chain issues in 2021 and SCWARN plans to have a 2022 EPA-sponsored FE.</p>

2021 WARN Chairs Meeting Summary

South Dakota	SDWARN has over 130 members and hosted a 2021 EPA-sponsored FE. SDWARN acquired larger trash pumps to meet the needs of utilities and is interested in possibly updating the SDWARN website in future but wants to make sure there is value in any updates. There were no activations or supply chain issues thus far in 2021.
Tennessee	TNWARN has 21 members and continues to work to reinvigorate and increase membership. TNWARN is working with the state primacy agency and emergency management agency to review and update the mutual aid agreements, and it will be sent to all utilities in the state for signature. TNWARN would like to update their website to include GIS capabilities and is engaging the KY/TN AWWA Section for funding assistance. Currently all response tracking is conducted via calls and a spreadsheet so TNWARN is interested in any discussion on website tracking capabilities.
Vermont	VTWARN continues to reengage members through its new committee and website (https://dec.vermont.gov/VTWARN) that is hosted by the Vermont Department of Environmental Conservation. VRWA received a CDC grant through the Vermont Department of Health to purchase equipment (e.g., generators, portable pumps, safety equipment) that will only be accessible to members. The state is in the process of developing a cybersecurity overview training for smaller systems and will review AWWA and EPA resources to assist in the development. Supply chain issues in Vermont have been related to longer lead times for purchasing equipment such as fittings and pipes and not chemicals. There is more money coming with the Bipartisan Infrastructure Law but that is not helpful if systems cannot get materials or contractors.
Washington	WAWARN now has 179 members and has started an improvement plan. Representatives have been having biweekly virtual meetings to share information and best practices. There have been no activations in 2021, but WAWARN representatives continue to partner with others to distribute face masks across the state. There were early chemical supply chain shortages that have since improved but costs are a concern.

2021 WARN Chairs Meeting Summary

Attachments:

- Attachment A: Evaluation Summary
- Attachment B: Participant List
- Attachment C: WARN Chairs Meeting Agenda

Attachment A: Evaluation Summary

The following were the evaluation questions and responses provided through a survey following the virtual meeting:

1. What parts of the WARN Chairs Meeting did you find most useful for you and your WARN?

- Other WARN's struggle with the same things we do.
- The information and resources shared throughout the 2-day meeting.
- General discussion on the many issues.
- Hearing what others are doing. Comparing best practices. Networking.
- Discussion around state updates (Report Outs) was beneficial. Sorry I missed the discussion around websites.
- The information shared.
- Sharing of response specific information from those WARN's that had activations or significant responses to events.
- The Report Outs. I always seem to learn a lot during those discussions.
- I come away from every meeting with knowledge. Many benefits are simply the result of listening to learn how others are managing similar challenges. For the WARN Chairs meetings those topics that apply to us all are the most beneficial - supply chain, provision of water during emergency situations and individual WARN report-outs were all beneficial to me.
- The sharing by the WARNs.
- That several states are have the same issues as we are with their websites. It's also good to hear what every state is doing.

2. Do you have suggestions for future WARN Chairs Meetings?

- LIVE! lol
- I think this works.
- Have them in person with a virtual option.
- Hopefully, we can meet in person next year....it is hard to block out significant time at work with ongoing projects and distractions.
- There were several mentions of the contract with WARNs attending the annual meeting. I know that there have been WARNs that have amended contracts to make them more 'palatable'; I'd like to see a session on possible contract language updates, understanding it will never be a one-size-fits-all scenario. I'd also like to talk further about WARN websites - a single 'shared' National site vs. other options. The 'sophisticated' WARNs may not want a single site for fear of losing hard earned mapping features, etc. but perhaps the majority of 'average' WARNs would benefit from a shared site.
- Keep the virtual meeting format.
- It's a long meeting but I don't see a way to shorten it. I like that it was split up.

Attachment A: Evaluation Summary

3. Do you have any additional comments or recommendations?

- Great meeting!
- Thanks for all the time by EPA, AWWA and all the WARNs.
- Keep it going. Might even be good to have one of every six months at some point.
- Great job! Worthwhile!
- The regular bi-weekly WARN meetings presented an opportunity to review and discuss many of the topics that we would normally cover in the annual Meeting. This likely minimized discussion and sharing of information during the two-day WARN Meeting.
- The meeting is well put together. It is great that we have such a well-oiled team. It helps having the same players for over a decade. Thanks to them for being a stabilizing force in this ever-changing world.
- Related to #2 - while in #1 I did indicate I learn from listening to other WARNs and this includes those much larger and more sophisticated, I think I'd (CtWARN) benefit from a small group conversation of my WARN peers - those that would like to increase scope of services provided. Not get too far away from our core reason for forming in the first place but having the ability to provide assistance outside of weather-related events. I know there is good work being done and I could benefit from those conversations and examples. This is not appropriate in the Annual meeting setting, but perhaps can be initiated as a sub-group meeting virtually monthly.
- Great job Dawn and EPA team!

Attachment B: Participant List

Count	Name	Affiliation	Representing
1	Carol Adams	Allegheny County Sanitary Authority (ALCOSAN)	PaWARN (Pennsylvania)
2	Steve Allgeier	EPA Headquarters	EPA Headquarters
3	Sonia Allman	Metro Water Services	TNWARN (Tennessee)
4	Marty Aman	Wayne County Water and Sewer Authority	NYWARN (New York)
5	Sue Andrade	Bristol County Water Authority	RIWARN (Rhode Island)
6	Dave Aucoin	Narragansett Bay Commission	RIWARN (Rhode Island)
7	Tom Barger	Regional Water Authority	CtWARN (Connecticut)
8	Steve Bieber	MWCOG	NCRWARN (North Carolina)
9	Mike Borchers	City of Greensboro	NCWaterWARN (North Carolina)
10	Dave Brown	City of Yakima	WAWARN (Washington)
11	Chad Buechler	Seattle Public Utilities	WAWARN (Washington)
12	Joe Burns	Kentucky Rural Water Association	KYWARN (Kentucky)
13	Andrew Campbell	UF Professional and Workforce Development	FlaWARN (Florida)
14	Angelo Carrieri	Parker Water & Sanitation	CoWARN (Colorado)
15	Matt Demers	Maine Rural Water Association WARN	MEWARN (Maine)
16	David DiDomenico	State of Vermont Wastewater Program	VTWARN (Vermont)
17	Frank Genovese	City of St. Louis Water Division	MoWARN (Montana)
18	Tim Hewett	City of St. Cloud	MnWARN (Montana)
19	Mike Howe	Texas Section AWWA	TXWARN (Texas)
20	Jeremiah Hunt	City of Eugene	ORWARN (Oregon)
21	Dawn Ison	EPA Headquarters	EPA Headquarters
22	Will Keefer	Horsley Witten Group	EPA Contractor
23	Ernie Lau	Honolulu Board of Water Supply	HIWARN (Hawaii)
24	Brad Lawrence	City of Madison	SDWARN (South Dakota)
25	Jenette Lee	Pima County Regional Wastewater	AzWARN (Arizona)
26	John Lins	Des Moines Water Works	IOWARN (Iowa)
27	Johnna McKenna	New Hampshire DES	NHPWMA (New Hampshire)
28	Rita Mercer	Pima County Regional Wastewater	AzWARN (Arizona)
29	Kevin Morley	American Water Works Association	AWWA
30	Stephanie Nistico	New Hampshire DES	NHPWMA (New Hampshire)
31	Rob Penman, Jr.	SUEZ	DEWARN (Delaware)
32	Brian Pickard	EPA Headquarters	EPA Headquarters
33	Natasha Rae	Horsley Witten Group	EPA Contractor
34	Shelley Roberts	Idaho Rural Water Association	IdWARN (Idaho)
35	Corey Ross	Las Vegas Valley Water District	NvWARN (Nevada)
36	Liz Royer	Vermont Rural Water Association	VTWARN (Vermont)
37	Nick Rubin	South Carolina Rural Water Association	SCWARN (South Carolina)
38	Art Shapiro	Howard County Bureau of Utilities	MDWARN (Maryland)
39	Steve Shepard	Metro Water District	AzWARN (Arizona)
40	Sandy Smith	DeKalb County	GAWARN (Georgia)
41	Mike Snyder	MHS Consulting Services	PaWARN (Pennsylvania)

Attachment B: Participant List

42	Jacob Stokes	North Dakota DEQ	NDWARN (North Dakota)
43	Blake Weindorf	Central Arkansas Water	ARWARN (Arkansas)
44	Brian Weir	American Water	NJWARN (New Jersey)
45	Jim Wollbrinck	San Jose Water	CalWARN (California)
46	Ned Worcester	City of Seattle	WAWARN (Washington)

WARN CHAIRS AGENDA – NOVEMBER 16-17, 2021

Tuesday, November 16, 2021 - All Times Eastern

- 12:00 p.m. Welcome**
- Review of virtual administrative details
 - Introductions (via chat, state and position, i.e., OHWARN Steering Committee)
- 12:15 p.m. WARN Incidents and Lessons Learned**
- Wildfires (CalWARN), Hurricane Ida, others?
- 12:45 p.m. WARN Report-Outs**
- WARN Reps list top 1-2 accomplishments and top 1-2 challenges
 - Include in report out if members are experiences supply chain issues for any water treatment chemicals or other supplies
- 2:00 p.m. Break**
- 2:15 p.m. Emergency Management Assistance Compact (EMAC) and Resource Typing**
- Kevin Morley, AWWA
- 2:45 p.m. Critical Issues Roundtable Discussion**
- How are states tracking utility status post incident and is it meaningful to inform needs that may be facing the community?
 - Other key issues to discuss based on WARN Chair report-outs (Dawn)
- 3:50 p.m. Closing Comments, Discuss Day 2**
- 4:00 p.m. Adjourn**

Attachment C: WARN Chairs Meeting Agenda

WARN CHAIRS AGENDA – NOVEMBER 16-17, 2021

Wednesday, November 17, 2021 - All Times Eastern

- 12:00 p.m. Welcome**
- Review of virtual administrative details
 - Introductions (via chat, state and position, i.e., OHWARN Steering Committee)
- 12:15 p.m. SDWARN Exercise Presentation**
- Madison County Functional and Full-Scale Exercise (SDWARN)
 - Organizer and participant lessons learned
- 12:45 p.m. WARN Report-Outs**
- WARN Reps list top 1-2 accomplishments and top 1-2 challenges
 - Include in report out if members are experiences supply chain issues for any water treatment chemicals or other supplies
- 2:00 p.m. Break**
- 2:15 p.m. Chemical Supply Issues for the Water Sector**
- Steve Allgeier, EPA
- 3:00 p.m. Critical Issues Roundtable Discussion**
- How states are tracking WARN response activity (SCWARN)
 - One national WARN website (AzWARN)
 - Video or other outreach product to promote WARN with county and state emergency management (AzWARN)
 - Other key issues to discuss based on WARN Chair report-outs (Dawn)
- 3:50 p.m. Closing Comments**
- 4:00 p.m. Adjourn**