

Community-Based Water Resiliency



Helping Build Stronger Communities

What does Water do for You?

Water is Essential to:



Life



Health



Economy



Preparedness for All-Hazards Incidents

Water and wastewater utilities face a number of threats:

- Hurricanes
- Tornadoes
- Aging infrastructure
- **Cybersecurity**
- Intentional contamination



Imagine a Day Without Water

How would you meet your needs for:

- Drinking water
- Sewage disposal and sanitation
- Firefighting

Infrastructure failures are not a matter of “if” they are a matter of “when”...we all need to be prepared and plan ahead.

What about...

- Energy
- Hospitals and dialysis services
- Transportation
- Food processing and services
- Manufacturing
- Banking



Community-Based Water Resiliency (CBWR)

Aims to:

- Increase overall community preparedness by raising awareness of water sector interdependencies and enhance integration of water sector into community emergency preparedness and response efforts; and
- Increase preparedness and resiliency of drinking water and wastewater utilities by delivering tools and information to increase community collaboration and bolster security practices.



CBWR Addresses the “What if...?”

- Brings utilities together with **interdependent sectors**:

- Energy
- Food and Agriculture
- Chemical
- Healthcare and Public Health
- Emergency Services
- Transportation System
- Members of the community



- Increases preparedness *at the community level* by:

- Increasing understanding of critical interdependencies
- Highlighting multiple benefits of preparedness
- Improving integration of the Water Sector into community emergency preparedness and response efforts



Communities, as a whole, are more resilient in the event of a water service interruption



Why Involve the Entire Community?

- All emergencies are local, all responses are local
- Threats and vulnerabilities vary by community
- Utilities play a critical role in public health and safety during water emergencies
- Communities need to:
 - Understand their unique interdependencies
 - Be prepared to work together during a crisis
 - Access tools and resources that speak to their roles and responsibilities in advance of a crisis
- Utilities need :
 - Regular coordination with community leaders, business leaders, and the general public
 - Collaboration with interdependent sectors

Water service interruptions can have serious economic, environmental, psychological, and public health consequences on a community. Resilient communities can significantly reduce these risks at negligible cost.



Benefits to the Community

CBWR helps communities to:

- Recognize the importance of water and how communities and businesses rely on it for everyday services
- Forge partnerships between water utilities and their community
- Clarify roles and responsibilities of **interdependent sectors**, individuals, and organizations during a response to a water emergency
- Increase community preparedness for water emergencies
- Reduce the impacts of water service interruptions



Communities and Utilities Partnering for Water Resilience





Learn Via the Community-Based Water Resiliency Guide

The [Community-Based Water Resiliency \(CBWR\) Guide](#) is designed to help water utilities and communities prepare for water service interruptions before an emergency occurs.

Is your community prepared for a day without water? Strong partnerships with water utilities can help communities rebound quickly when water service is interrupted.

Community Resilience



- [Learn via the Community-Based Water Resiliency \(CBWR\) Guide](#)
- [Host a CBWR training in your community](#)
- [Water Sector Interdependencies and CBWR Training](#) 
- [Building Community-Based Water Resiliency Video](#) 
- [View CBWR Webinars](#)

Build Resilience in Your State



- [Partner with emergency management agencies](#)
- [Take action before, during and after an emergency](#)
- [Learn how states and WARNs work together](#)

Related Information

[Join Our Email List](#) 

- [Water Resilience](#)
- [Listen to state collaboration webinars](#)

Access the website at:

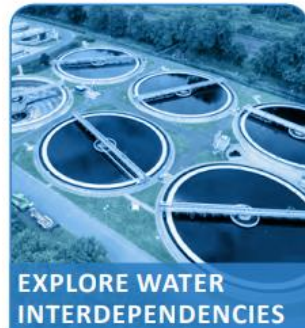
[https://www.epa.gov/
communitywaterresilience](https://www.epa.gov/communitywaterresilience)



COMMUNITY-BASED WATER RESILIENCY GUIDE

Start here

Select a menu option below. New users should start with Overview.



EXPLORING WATER INTERDEPENDENCIES

Overview

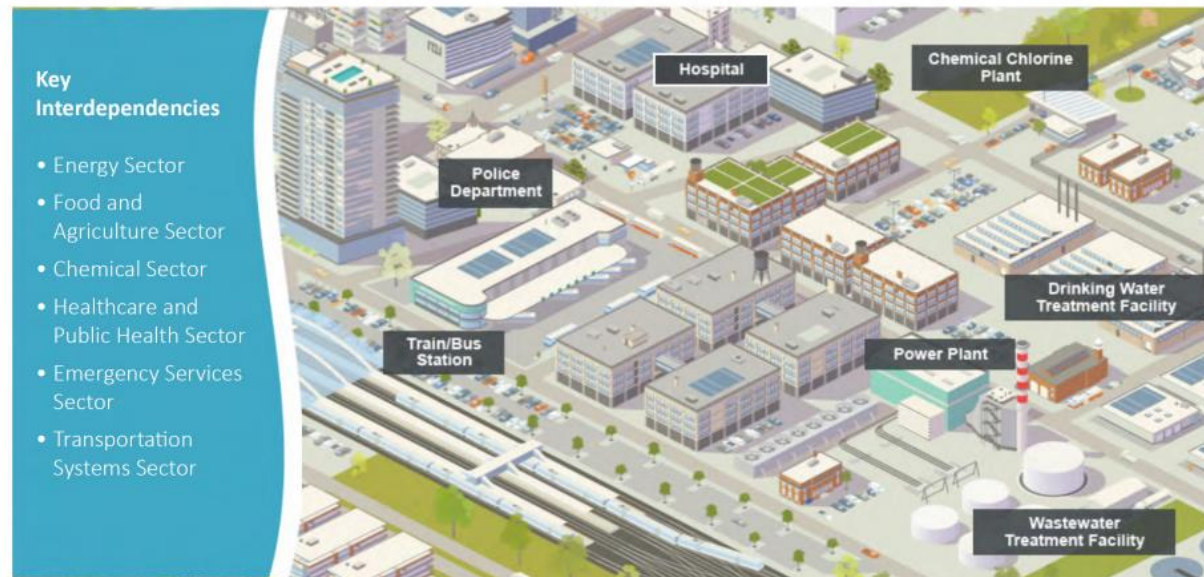
Explore Water Interdependencies

Water Resilience Action Plan Kit

Tools, Resources and Templates

Critical services and key businesses depend on reliable water systems and drinking water and wastewater utilities likewise rely on them for supplies such as treatment chemicals or services such as staff healthcare. See the map below of critical services and key businesses that may be in your community.

Water Sector Interdependencies



Click on "Next" to learn more about these water interdependencies

Overview

Explore Water Interdependencies

Water Resilience Action Plan Kit

Tools, Resources and Templates



ENERGY SECTOR

The energy sector includes electricity, oil and natural gas. A stable energy supply is essential to the health and welfare of our country. Drinking water and wastewater utilities can increase power resilience through better engagement and coordination in seven areas: improving communication with electricity providers, local agencies and the public; conducting power assessments; learning how to select and maintain generators; developing fuel plans to run generators; increasing energy efficiency; considering on-site power options; and learning about funding sources to increase power resilience.

The **energy sector** relies on the water sector for:

- Mining
- Fuel production
- Hydropower
- Power plant cooling
- Operating heating, ventilation and air conditioning (HVAC) equipment
- Fire protection

The **water sector** relies on the energy sector for:

- Pumping
- Distribution
- Collection, treatment and discharge of wastewater

WATER-ENERGY NEXUS

- ▶ Energy consumption by drinking water and wastewater utilities can account for 30 – 40 percent of a municipality’s energy bill
- ▶ Optimizing energy use conserves water
- ▶ Without backup power for an extended period, many water and wastewater services cannot be provided
- ▶ Glendale, California, is the first U.S. city to combine both smart electricity and smart water meters into a “smart grid” which helps to better manage water and energy use



ADDITIONAL RESOURCES:

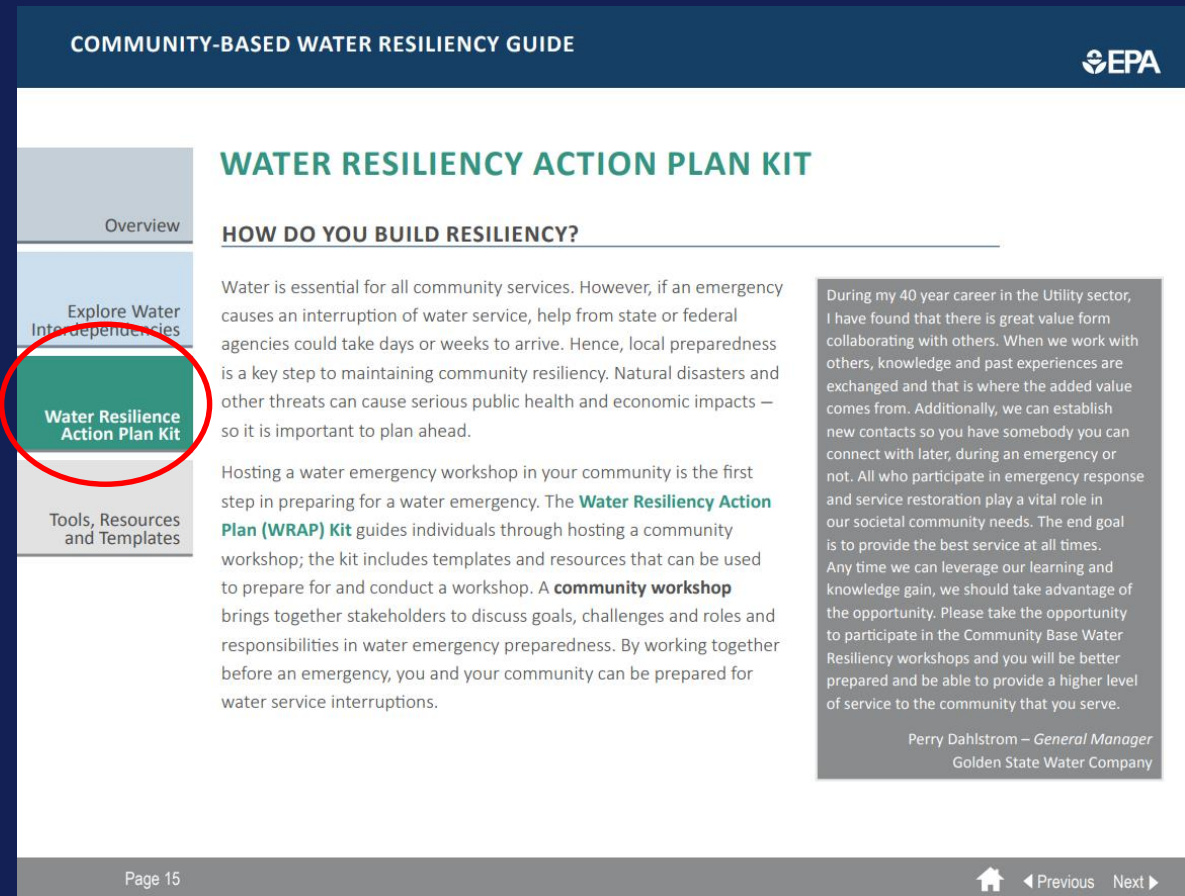
[U.S. EPA, Power Resilience Guide for Water and Wastewater Utilities](#)

[Congressional Research Service, Energy-Water Nexus: The Water Sector’s Energy Use](#)

Water Resiliency Action Planner (WRAP) Kit

Provides users with a step-by-step process for planning a water emergency discussion in their community, and covers:

- Expectations
- Roles and responsibilities
- Capabilities and limitations
- Planning, hosting and follow-up actions



COMMUNITY-BASED WATER RESILIENCY GUIDE

WATER RESILIENCY ACTION PLAN KIT

Overview

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HOW DO YOU BUILD RESILIENCY?

Water is essential for all community services. However, if an emergency causes an interruption of water service, help from state or federal agencies could take days or weeks to arrive. Hence, local preparedness is a key step to maintaining community resiliency. Natural disasters and other threats can cause serious public health and economic impacts – so it is important to plan ahead.

Hosting a water emergency workshop in your community is the first step in preparing for a water emergency. The **Water Resiliency Action Plan (WRAP) Kit** guides individuals through hosting a community workshop; the kit includes templates and resources that can be used to prepare for and conduct a workshop. A **community workshop** brings together stakeholders to discuss goals, challenges and roles and responsibilities in water emergency preparedness. By working together before an emergency, you and your community can be prepared for water service interruptions.

During my 40 year career in the Utility sector, I have found that there is great value from collaborating with others. When we work with others, knowledge and past experiences are exchanged and that is where the added value comes from. Additionally, we can establish new contacts so you have somebody you can connect with later, during an emergency or not. All who participate in emergency response and service restoration play a vital role in our societal community needs. The end goal is to provide the best service at all times. Any time we can leverage our learning and knowledge gain, we should take advantage of the opportunity. Please take the opportunity to participate in the Community Base Water Resiliency workshops and you will be better prepared and be able to provide a higher level of service to the community that you serve.

Perry Dahlstrom – General Manager
Golden State Water Company

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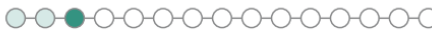
Water Resiliency Action Planner (WRAP) Kit

Each step of workshop development is clearly explained, and resources, templates, tips or examples are provided to make planning easier

The graphic on top of the page shows your progress in the WRAP

COMMUNITY-BASED WATER RESILIENCY GUIDE





Overview

COMMUNITY WORKSHOP

IDENTIFYING A PLANNING TEAM

When preparing for a community workshop, a **planning team** can be useful for:

- Identifying goals and objectives that those involved would like to achieve
- Leveraging collective resources to identify a moderator or facilitator, presenters and topics to cover
- Preparing workshop content
- Identifying a venue or virtual platform

* Your state's American Water Works Association (AWWA) section, Rural Water affiliate, regional Rural Community Assistance Partnership (RCAP), Association of State Drinking Water Administrators (ASDWA), state and regional drinking water program managers and emergency response agencies can help you identify an interested water or wastewater utility.


The following **community stakeholders** should be considered for the planning team:


- Local drinking water and wastewater utilities*
- Emergency responders
- Public health officials
- Business owners
- Hospital managers

PLANNING TEAM CHECKLIST




Planning team responsibilities may include:

- ▶ Deciding how often the planning team should meet
- ▶ Determining planning team roles and responsibilities
- ▶ Recruiting a moderator, facilitator or presenters
- ▶ Making logistical arrangements
- ▶ Developing the workshop agenda
- ▶ Identifying potential participants and sending invitations
- ▶ Developing presentations and other materials
- ▶ Documenting action items and next steps

 [SUGGESTED PLANNING CHECKLIST](#)

 [VIRTUAL PLANNING CHECKLIST](#)

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Water Resiliency Action Planner (WRAP) Kit

Includes sample:

- Planning checklists
- Agendas
- Suggested participants
- Invitations
- Registration forms
- Sign-in sheets
- Facilitator tips
- Feedback form
- Improvement plan
- Workshop summary

COMMUNITY-BASED WATER RESILIENCY GUIDE



Overview

Explore Water Interdependencies

Water Resilience Action Plan Kit

Tools, Resources and Templates

TOOLS, RESOURCES AND TEMPLATES


This page contains the tools, resources and templates embedded in the CBWR Guide. Use the templates as a starting point and add to them as necessary. Save them to your computer before making any changes.

TOOLS AND RESOURCES

- [Water Sector Interdependencies and Community-Based Water Resiliency Training](#)
- [Route to Resilience](#)
- [America's Water Infrastructure Act of 2018 \(AWIA\)](#)
- [Water Sector Interdependencies Map](#)
- [Power Resilience Guide for Water and Wastewater Utilities](#)
- [Congressional Research Service, Energy-Water Nexus: The Water Sector's Energy Use](#)
- [Food Related Emergency Exercise Bundle \(FREE-B\)](#)
- [A Critical Connection: The Water and Healthcare/ Public Health Sectors](#)
- [Connecting Water Utilities and Emergency Management Agencies](#)
- [FEMA Toolkit on Implementation of Community Lifelines](#)

TEMPLATES

- [Suggested Planning Checklist](#)
- [Virtual Planning Checklist](#)
- [Half-Day Agenda Template](#)
- [Full-Day Agenda Template](#)
- [List of Potential Stakeholder Groups](#)
- [Suggested Script – First Contact](#)
- [Registration Form Template](#)
- [Invitation Template](#)
- [Sign-in Sheet Template](#)
- [Feedback Form Template](#)
- [Suggested Script for Moderators or Facilitators](#)
- [Water Emergency Preparedness Improvement Plan](#)
- [Workshop Summary Template](#)

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CBWR Video Resources

CBWR Introduction



The video shows two men in blue shirts and caps inspecting a large, grey, cylindrical water filter. One man is holding a red flashlight, illuminating the interior of the filter. The filter has a white, perforated metal cover that is propped open. The scene is outdoors in a grassy field.

Community Based Water Resiliency
Unlisted


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CBWR Video Resources

CBWR Training



Water Sector Interdependencies and Community-Based Water Resiliency Training

EPA

Water Sector Interdependencies and Community-Based Water Resiliency (CBWR) Training

Unlisted

U.S. EPA
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Recent CBWR Workshops

- Low and High Desert, California (earthquake)
- Fort Worth and San Antonio, Texas (freezing weather and flood)
- Central Texas (virtual - water outage of one week)
- Texas (virtual - two cybersecurity and one water outage of one week)
- Westchester County/Hudson Valley, New York (virtual - planned aqueduct shutdown combined with winter storm)
- Denver, Colorado (virtual - power outage of two weeks)
- Vermont (virtual - flood)
- Santa Rosa, California (earthquake)
- Burlington, Iowa (water outage of two weeks)

Water service interruptions can have serious economic, environmental, psychological, and public health consequences on a community. Resilient communities can significantly reduce these risks at negligible cost.



For More Information on CBWR

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<https://www.epa.gov/communitywaterresilience>

