

# Water Security Division Tools and Resources



**Presentation for the  
Wyoming Association of Rural Water Systems  
Spring Training Conference  
April 23, 2014**

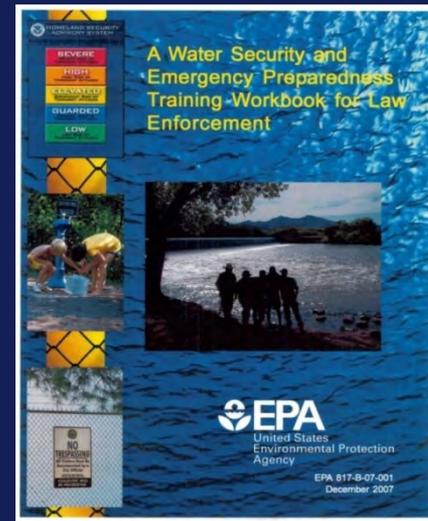
**Delivered by  
Laura Flynn Jenkins  
Office of Ground Water and Drinking Water  
Water Security Division  
and Region 8 Drinking Water Program**

# Briefing Outline

A Day Without Water

Multi-Sector/Community-Based Water Resiliency (CBWR)

Other Tools and Resources



# Why is Water Security Important?

*Have you ever known someone was heading into a train wreck they just didn't see coming?*



# Imagine a Day Without Water...



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

How would you meet your  
needs for:

- Drinking water
- Sewage disposal and sanitation
- Firefighting

What about...

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

# Do You Suffer from “Not Me” Syndrome... ...or Why Me?

I live way above the river...  
...I won't flood



I live on a lake...  
...there's PLENTY of water



My utility has a generator and a back-up chemical  
provider!



# Natural Disasters



## Domestic Examples:

- Colorado Floods
- Hurricane Sandy
- Western States Droughts & Wildfires
- Yellowstone Supervolcano??

## International Examples:

- Christchurch, NZ and Haiti Earthquakes
- Japan Tsunami & Nuclear Crisis

# What if Things Were Different?

What if:

- Citizens understood the impacts of service interruptions *before* they happened?
- Area hospitals and businesses had backup water supplies?
- Emergency managers coordinated emergency response plans with utilities?
- Businesses and critical community services factored interruptions into emergency plans?
- Law Enforcement coordinated with utilities?



# Video #1

## *A Day Without Water*

*<https://www.youtube.com/watch?v=xNJ2qgWYbUo>*

# CBWR Addresses “What if...?”

- Brings utilities together with:
  - City/county managers
  - Public health officials
  - Law Enforcement
  - Other Emergency Responders
  - Business Community
  - Members of the public
- Increases preparedness *at the community level* by:
  - Increasing understanding of critical interdependencies
  - Highlighting multiple benefits of preparedness
  - Improving integration of Water Sector into community emergency preparedness and response efforts



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



# Do I Need ALL These People?

- All emergencies are local, all responses are local
- Threats and vulnerabilities vary by community



*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.*



# What Does CBWR Include?

**EPA** United States Environmental Protection Agency

### Understanding Water Sector Interdependencies

**Water Sector Infrastructure Interdependencies**

Water is essential to life, human health, the economy, and many community services (e.g., water). While infrastructure damage can adversely affect the operation of all other critical infrastructure sectors, its role, directly or as other critical infrastructure sectors could support it, after a disaster is more significant. Interdependencies among infrastructure interdependencies are defined as the relationships between two or more critical infrastructure sectors.

*"Communities often ignore the bonds of water and wastewater services until they experience a loss of service."*  
— Don Brunsard, WSCC Chair

Critical Infrastructure are the physical and virtual assets, systems, or networks that are necessary for the functioning of society and the economy. The water sector, comprised of both drinking water and wastewater services, has been designated by the U.S. Department of Homeland Security (DHS) as one of 14 critical infrastructure and key resources (CIKRs) we most rely on. As a CIKR, the protection of the nation's water supply infrastructure is a top priority for the U.S. Environmental Protection Agency (EPA), the designated Sector-Specific Agency (SSA) for the water sector. EPA continues to work with other federal agencies, state drinking water programs, private sector, and the public to increase preparedness and improve community resiliency in the face of water service interruptions.

**Water Sector Critical Infrastructure**

In the United States, public drinking water and wastewater infrastructure includes approximately:

- 160,000 public drinking water systems (PDSs) that provide drinking water to about 34% of the U.S. population; 2.5 million miles of drinking water distribution system piping;
- 16,000 publicly owned treatment works (POTWs) that provide sewage treatment to approximately 75% of the U.S. population;

**Demonstrated interdependencies with the Water Sector**

The following CIKRs and/or community services have interdependencies with the water sector, and may be negatively affected in the event that drinking water and/or wastewater services are unavailable:

- Emergency services
- Healthcare facilities
- Schools
- Transportation
- Energy Production
- Postal and shipping services
- Telecommunications
- Food and beverage production and preparation

For additional information on critical infrastructure and key resources, please visit [www.dhs.gov/eisjpc/initiative](http://www.dhs.gov/eisjpc/initiative).

### Water Sector Critical Interdependencies

Water infrastructure is designated by the U.S. Department of Homeland Security (DHS) as one of 14 critical infrastructures. While all other sectors rely on the nation's water infrastructure to function, the critical interdependencies between sectors are often not well understood or appreciated.

Damage to water infrastructure has the potential to adversely affect the operation of all other critical infrastructure sectors, including energy, transportation, and public health, and, as such, protecting water infrastructure is important.



### Benefits of Implementing a CBWR Program in Your Community

Implementing a CBWR program can generate multiple benefits to your community's ability to plan, prepare, respond to and recover from water service disruptions. CBWR enables communities to:

- Recognize the effects of water service disruptions on critical community services;
- Understand how to integrate the effects of water service disruptions into emergency planning;
- Increase preparedness and resiliency of drinking water and wastewater utilities; and
- Incorporate security and climate ready practices into current operational practices.

### CBWR Offers a Community-Wide Approach to Preparedness

Unlike many water protective programs, water utility members/operators are not solely responsible for implementing CBWR. This effort can also be realized by:

- Emergency Responders (e.g., fire and police departments)
- Public works officials
- City/utility managers
- Commissioners
- Council members
- Members of the public
- Key businesses and services (e.g., hospitals, food)

### Steps to Implementing a CBWR Program

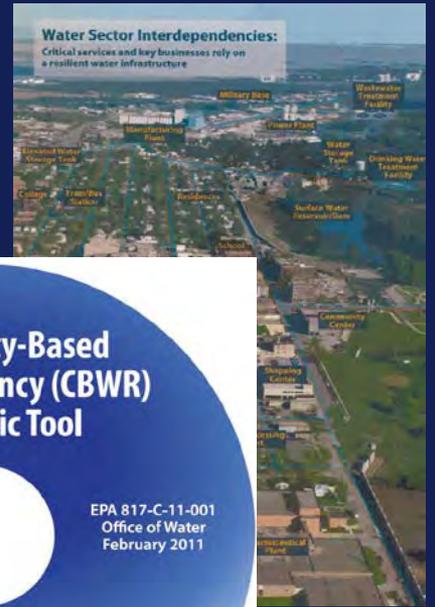
Implementing a CBWR program is easy-to-do, especially with the many tools and resources available. Steps include:

- Identifying community-specific goals and objectives to enhance water resiliency;
- Identifying specific deliverables needed to achieve project goals and objectives;
- Identifying and engaging potential implementation partners;
- Estimating resources and time needed to develop and implement the overarching project and key deliverables; and
- Identifying options for securing resources.

### Tools and Resources to Assist with Implementing a CBWR Program

Tools and resources are available both online and on a self-launching CD, and include:

- CBWR Web site
- Readings to Water Resiliency for Local Communities
- Self-launching CD that also offers other critical tool
- Customizable local officials and members of the community effort
- Workshop efforts (e.g., presentations)
- Available CD to communities for water sector CD



**EPA** United States Environmental Protection Agency

## Is your Business Prepared for an Emergency Loss of Water Services?

*Did you know...*

- All businesses rely on the availability of water, either directly or indirectly for the products or services they need for their operations.
- Businesses with thorough disaster preparedness plans generally have less damage, less economic loss, and less down time following a disaster. (FEMA)
- One of the benchmarks of a community's recovery after a disaster is the number of businesses back in operation (FEMA)

Please visit the U.S. Environmental Protection Agency's Community-Based Water Resiliency (CBWR) initiative website at: <http://water.epa.gov/infrastructure/watersecurity/communities/index.cfm>



**Community-Based Water Resiliency (CBWR) Electronic Tool**

**EPA**

EPA 817-C-11-001  
Office of Water  
February 2011

If this CD does not self launch, please open the "CBWRTool.bat" file on this CD



# You Can Lead a Horse to Water...

- Product Development  $\neq$  Success
- Sophisticated Search Engine  $\neq$  Useful Tool
- Success = Widely used, beneficial tools that work



# ...Getting Them to Drink



# Water Resiliency Action Plan (WRAP) Kit

## Planning and Logistics

- Suggested goals and objectives
- List of potential partners
- Suggested planning team members
- List of major planning process steps and planning team roles
- Sample emails to gauge interest
- Sample telephone scripts for recruiting participants
- Suggested meeting locations/tip sheet



## Meeting Materials

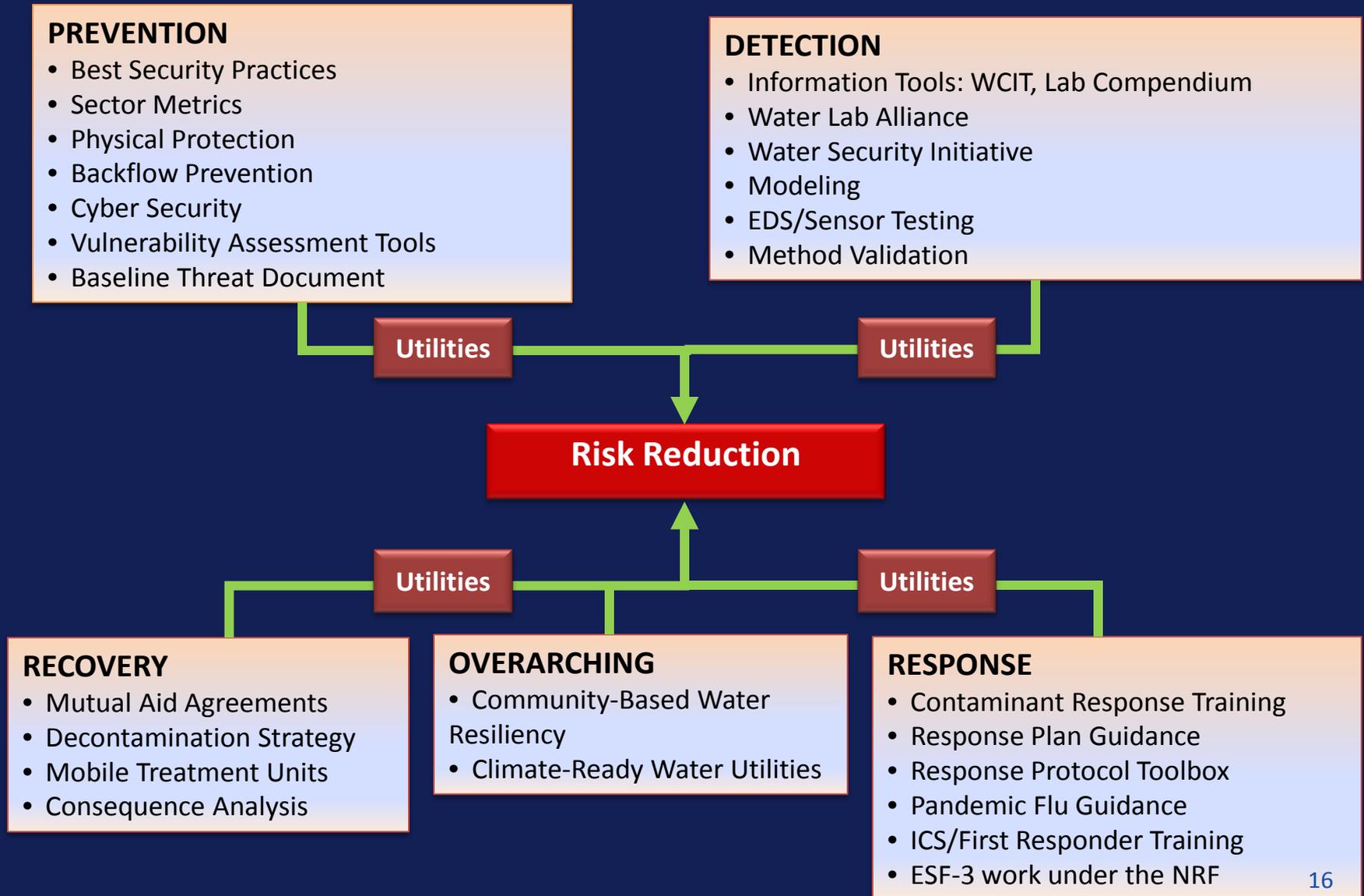
- Invitation letters
- Registration tracking tools
- Sample agendas
- Sample presentations
- Required resources checklist
- Sign-in table tips and tools
- Facilitators guide
- Tabletop exercises
- Discussion questions
- Evaluation Form

## Post-Roundtable Products

- Thank you letters
- Attendee list template
- Action item tracking list
- Tips for keeping momentum going
- Sample final reports and templates

# *Other Tools and Resources*

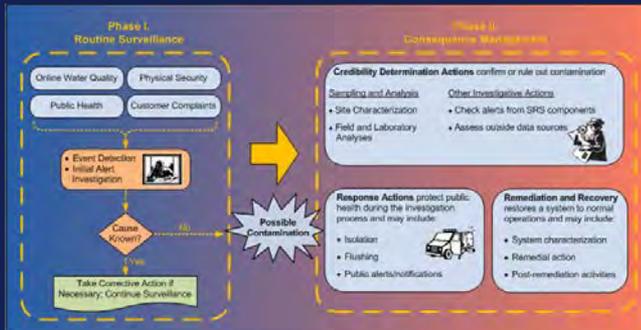
# Tools of Water Security Planning



# Sustain Protection of Public Health & the Environment



**Water Lab Alliance**



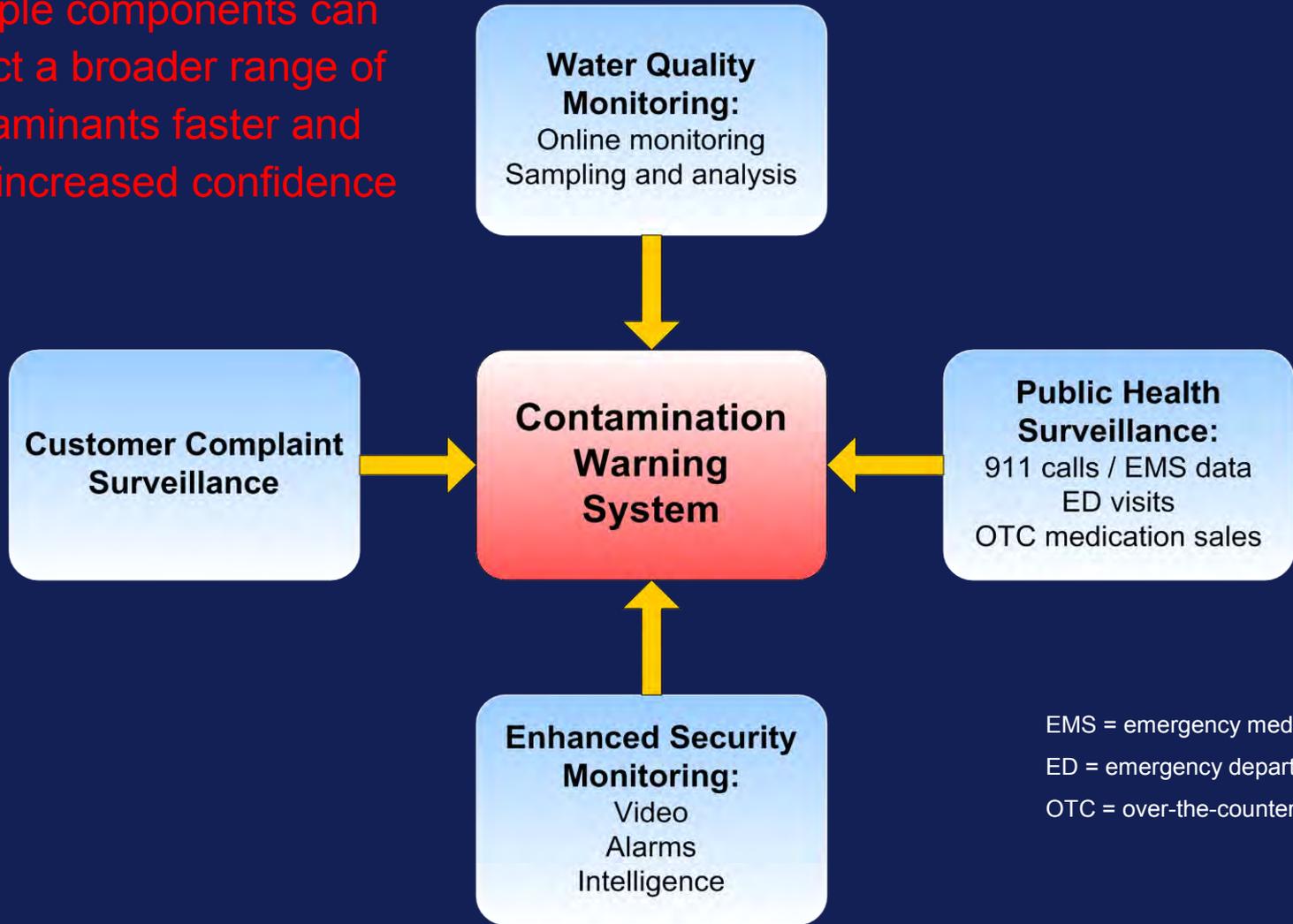
**Water Security Initiative**



**Coordination w/DHS**

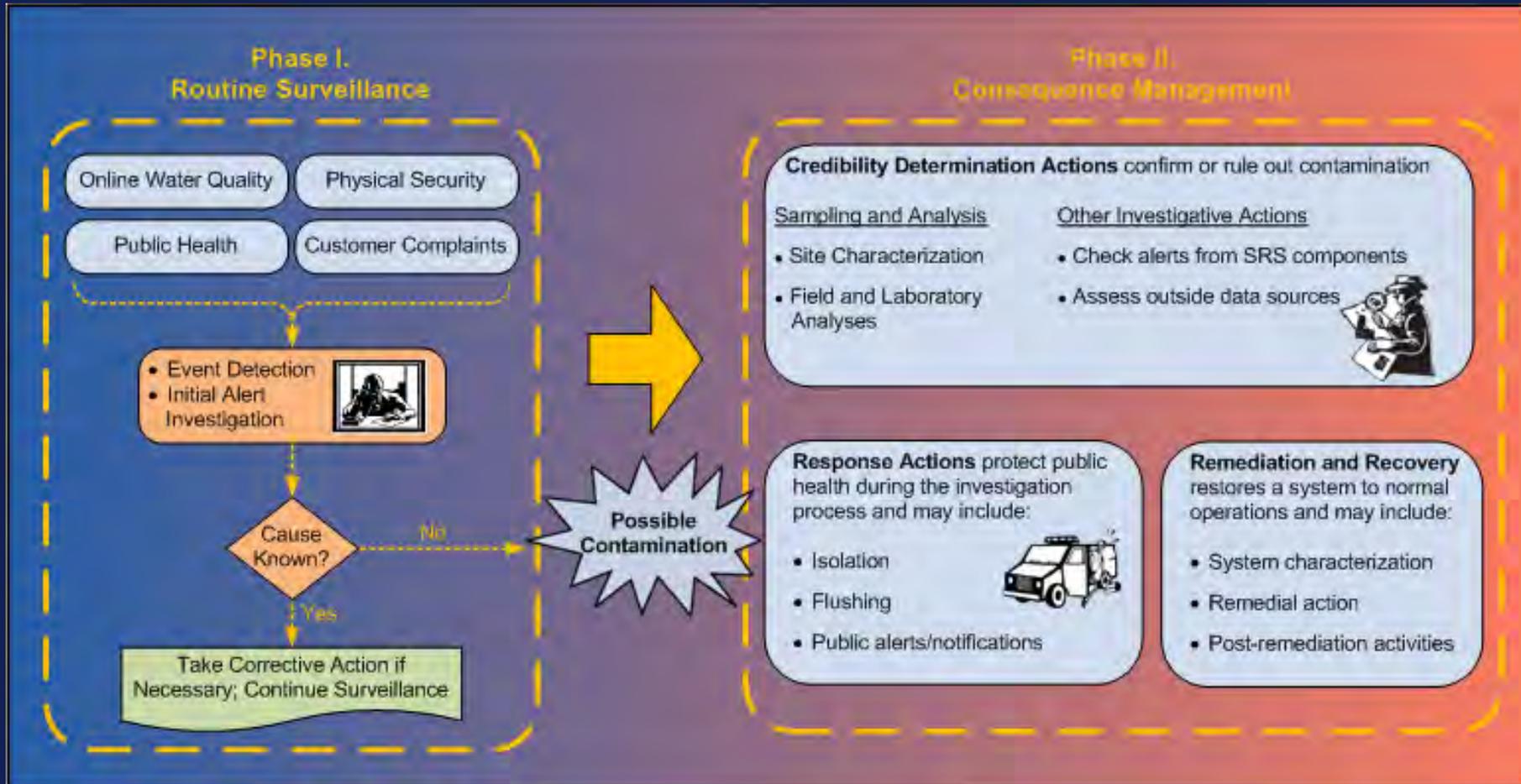
# WSi Detection Strategies

Multiple components can detect a broader range of contaminants faster and with increased confidence



EMS = emergency medical service  
ED = emergency department  
OTC = over-the-counter

# Concept of Operations



# Recognize & Reduce Risk



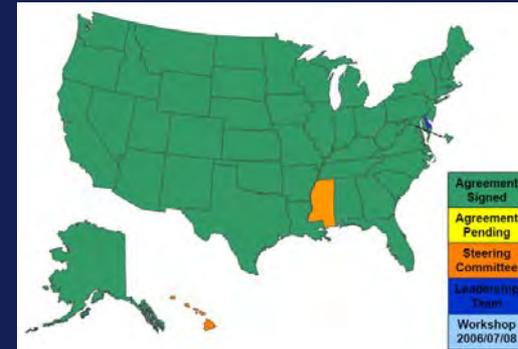
**Risk Assessment  
Methodologies**

**Consequence Analysis**

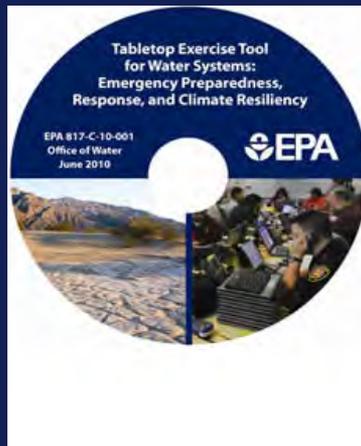
# Maintain a Resilient Infrastructure



**Water Contaminant Info Tool**



**Water/Wastewater  
Agency Response  
Networks**



**TTX Tools**



**FedFUNDS**

# Increase Communication, Outreach & Public Confidence



## **Blogs & Other Multimedia Communications**



**Water Information Sharing and  
Analysis Center**



## **Public Information Officer Webinars**

# Video #2

## *Don't Get Soaked*

- *<http://water.epa.gov/infrastructure/watersecurity/basicinformation.cfm#dontgetsoaked>*

# Questions?

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[water.epa.gov/infrastructure/watersecurity](https://water.epa.gov/infrastructure/watersecurity)

[WSD-Outreach@epa.gov](mailto:WSD-Outreach@epa.gov)