

# Using Planned Events to Normalize ICS Activation

2019 PNWS-AWWA Annual Conference  
Vancouver, WA

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WATER

1911-2011  
EWEB



100

POWER

1911-2011  
EWEB



100

PEOPLE

1911-2011  
EWEB



100

# The Problem: 200,000 people rely on single source and treatment plant for water.



Open Source Image

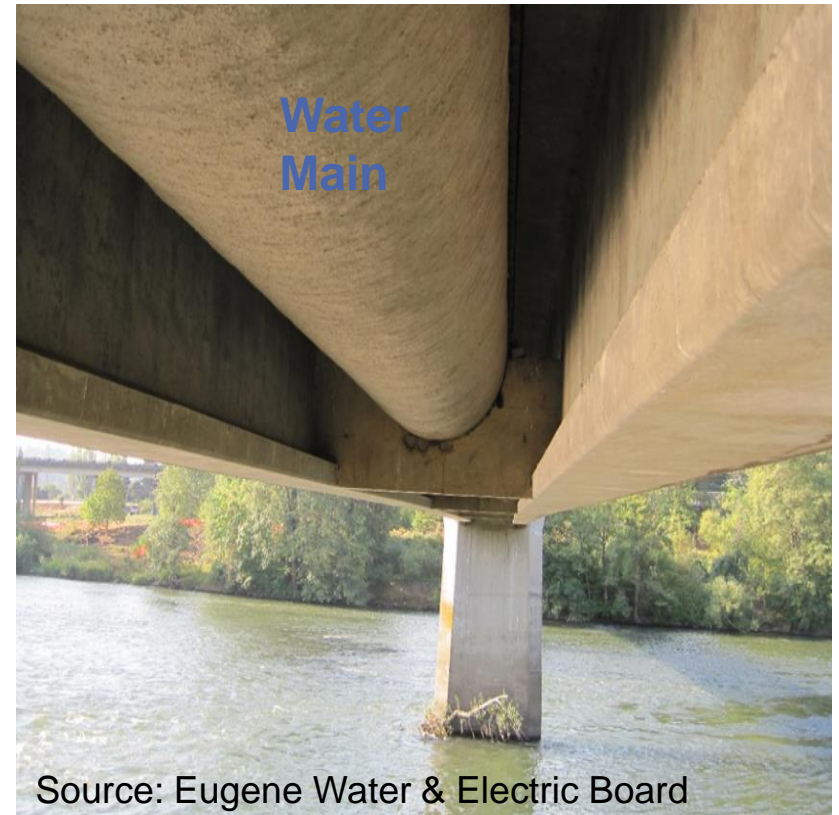


Source: Eugene Water & Electric Board





**Single Facilities = High Risk  
(natural disasters, spills,  
equipment failure) Only few days  
of storage in area reservoirs.**



Source: Eugene Water & Electric Board

# System-Wide Approach to Drinking Water Resiliency

- Fortify Critical Infrastructure
  - \$30M rebuild @ Filtration Plant
  - Seismic upgrades/replacements of reservoirs & pump stations
- Second Source/Plant on Willamette River
  - Diversify supply and transmission
  - Expensive, politically challenging solution
- Emergency Water Supply Plan



Source: Eugene Water & Electric Board

- Execute the plan

# So...what's the catch?

- Reaction – the public doesn't always do well in emergency situations
- Unfamiliarity – We don't have prolonged water outages often
- Inexperience - ALL NEW
  - Site locations
  - Purpose
  - Operation
  - What to do/not to do



Open Source Image



# Incident Command System Training

- ICS Training is often limited to management and operations personnel
- When an incident occurs all levels of an organization may be activated
  - Management (often trained)
  - Operations (usually trained)
  - Administration (rarely trained)
    - Finance (sometimes trained)
  - Public Affairs (sometimes trained)
  - Elected Officials (rarely trained)
- Staffing changes can impact training & readiness

# Types of Training

- Online FEMA Training
- In Classroom FEMA Training
  - May or may not be a certified FEMA instructor
- Table Top Exercise (\$\$)
- Functional Exercise (\$\$\$)
- Full Scale Exercise
  - (\$\$\$\$) if added to workload
  - (\$\$\$) or (\$\$) if integrated into already planned work

**What about integrating a full scale exercise with an already planned public outreach event?**



# National Incident Management System (NIMS)

- Appropriate for virtually any planned outreach event
  - Scalable
  - Flexible
  - Adaptable
- Elements of NIMS most useful for planned events
  - Resource Management
  - Command & Coordination
  - Communication & Information Management

# NIMS Resource Management

- Identify requirements
- Qualify event volunteers or paid staff
  - ICS training that is transferable to activation
  - Safety protocols for working with the public
  - Operator certification for certain activities
- Acquire, store and inventory event supplies
- Track and report
- Restock (but usually no reimbursement)

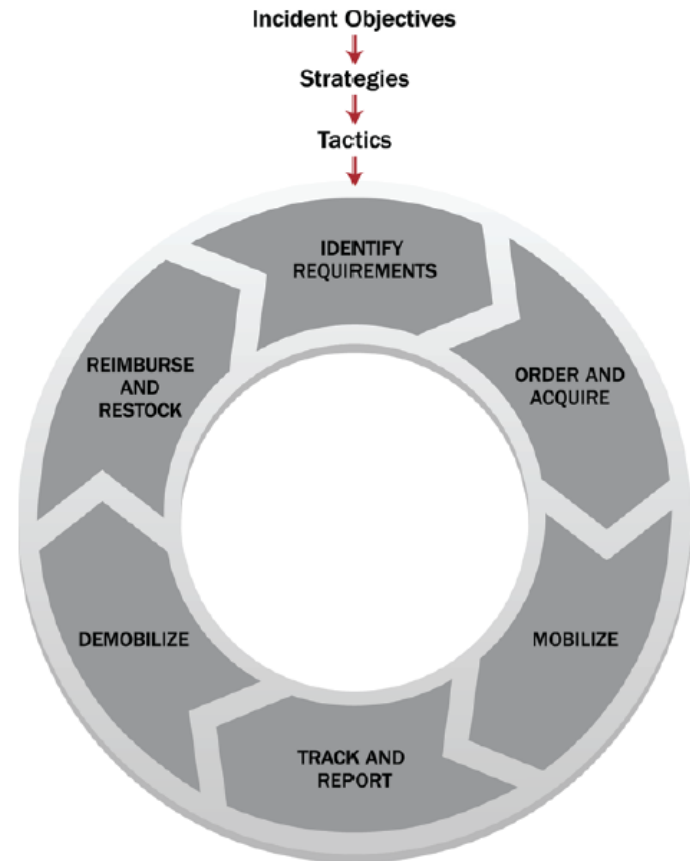
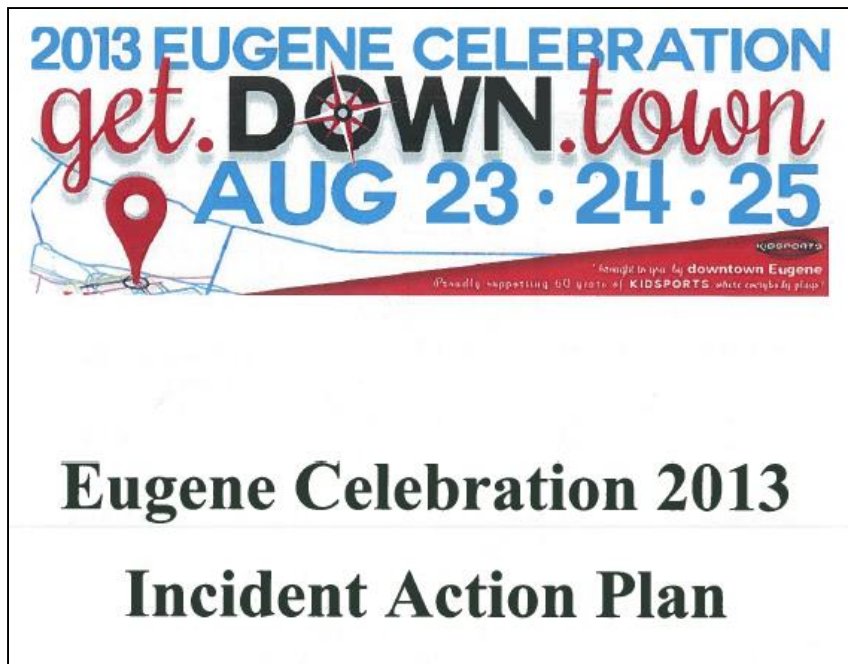


Figure 2: Resource Management Process

# Case Study: Eugene Celebration



- Eugene Celebration was an annual event for many years
- EWEB had provided a hydration station (“Oasis” booth)
  - Mainly viewed as a public relations event
  - Volunteers from every department
  - Substantial cost for a designed dedicated booth that was in storage most of the year

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# Emergency Water Supply Practice

- Purchased emergency water supply equipment
- Realized that water distribution equipment could be utilized at events
- Took it to the next level: Practice emergency water distribution procedures **with public participation**
- Even better: Staff used NIMS deployment practices
  - Better able to respond to a FEMA/ORWARN reimbursable incident



Source: Eugene Water & Electric Board Facebook



# Outreach Opportunity



- Train employees from many departments to use ICS procedures
- Test trailer deployment procedures
  - Disinfection
  - Sanitation
  - Comfort
  - Safety
- Educate the public about emergency water supply planning efforts

Source: Eugene Water & Electric Board Facebook

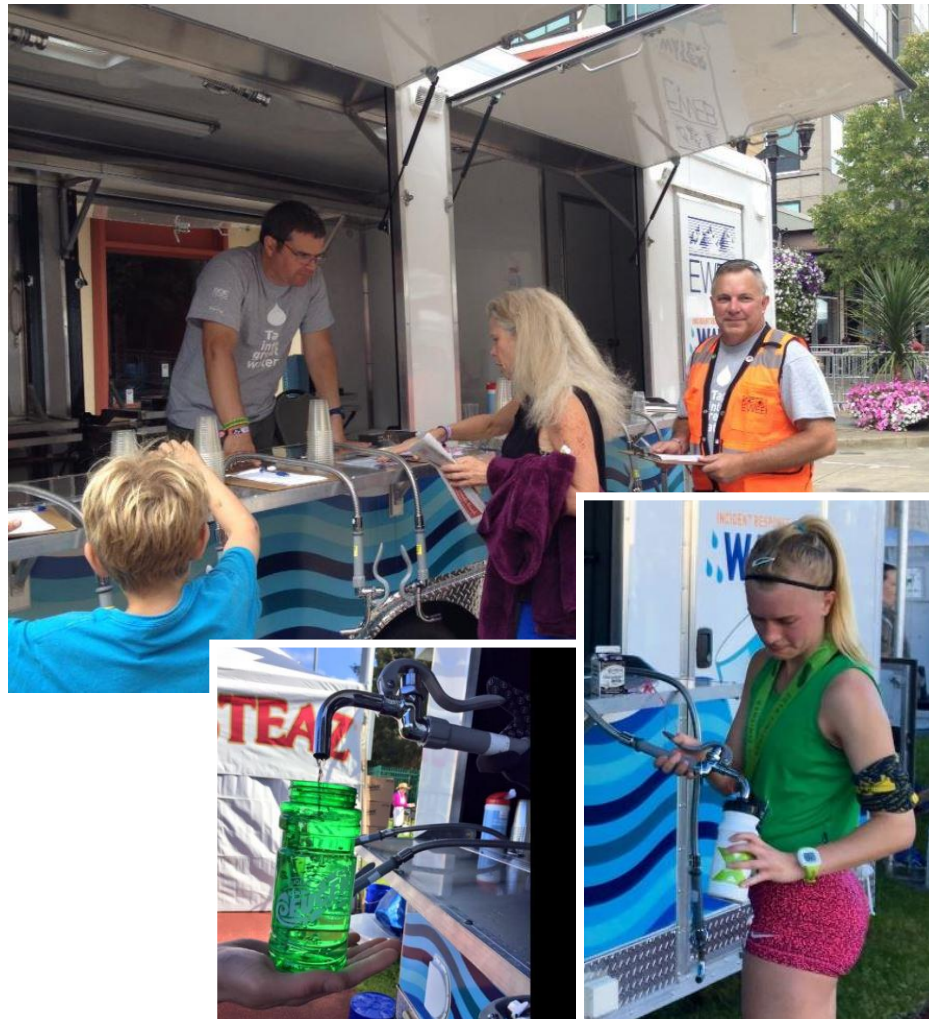
# Deployment Theory to Practice

- Disinfection
  - Disinfect equipment before deployment
  - Test/maintain chlorine residual during
- Sanitation
  - Disinfect taps
    - Fast-acting, effective
    - Minimally toxic to people
- Comfort
  - Self-contained trailers
  - Bathroom is not intended to be a storage closet!
- Safety
  - Safety Data Sheets
  - Safe chemical handling
  - Safe equipment storage



Source: Eugene Water & Electric Board Facebook

# Lessons Learned





Source: Eugene Water & Electric Board Facebook

- Employees became familiar with new equipment
- Taste and odor issues had to be managed
- Public used the equipment differently than we anticipated
- Equipment and procedure changes



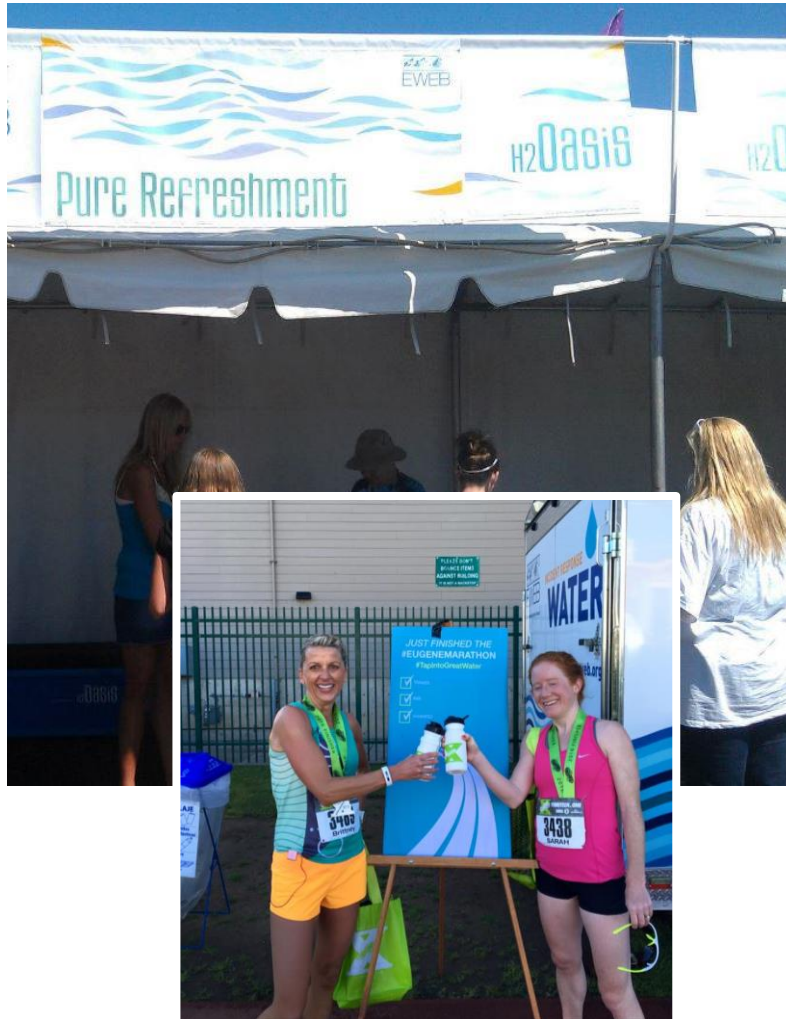
# EUG: NIMS Resource Management

- Identified requirements
- Ordered/acquired first trailer and supplies
- Mobilized for planned events
- Taught employees to track and report using NIMS forms
- Demobilized as planned
- Before restocking we evaluated to update/identify requirements
- Enhanced our ability to mobilize for an emergency or the next event

INCIDENT BRIEFING (ICS 201)		
1. Incident Name: Eugene Celebration 2013	2. Incident Number:	3. Date/Time Initiated: Date: 8/22/2013 Time: 19:30
4. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment):		
		
5. Situation Summary and Health and Safety Briefing (for briefings or transfer of command): Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.		
Eugene Celebration 2013 is a planned event: Operations Section will deliver emergency water distribution trailer to the north end of the parking cut-out in front of Scan Design 856 Willamette Street on August 22, 2013 at 20:00 or later. Entry to and exit from the site will be to the east on Broadway using the fire lane through the gate in front of Voodoo Donuts 20 E Broadway. The trailer delivery crew will include one or more staff personnel to direct traffic and assure safe passage.		
Emergency water distribution staff are expected deploy as scheduled on August 23, 24, 25, 2013. Operational instructions to establish water service at the beginning of each day and to discontinue water service at the end of each day will be provided during training and in a manual on site.		
Operations Section will demobilize the emergency water distribution trailer on August 25, 2013 at 20:00 or later.		
6. Prepared by: Name: Jill Hoyenga	Position/Title: Incident Commander	Signature: 
ICS 201, Page 1	Date/Time: 7/9/2013 4:30 PM	



# Bonus: Reduced Event Cost



Source: Eugene Water & Electric Board Facebook

- No longer stored a single purpose, designed booth that was only used once or twice a year
- Able to deploy at many more events
- Transformed a public relations event to many education events
  - Kept the fun and appreciation for

# NIMS Command & Coordination

- Management by objectives
- Incident Action Plan (IAP)
- Incident Command System
- Establishment & Transfer of Command
- Accountability
- Multiagency Coordination Group

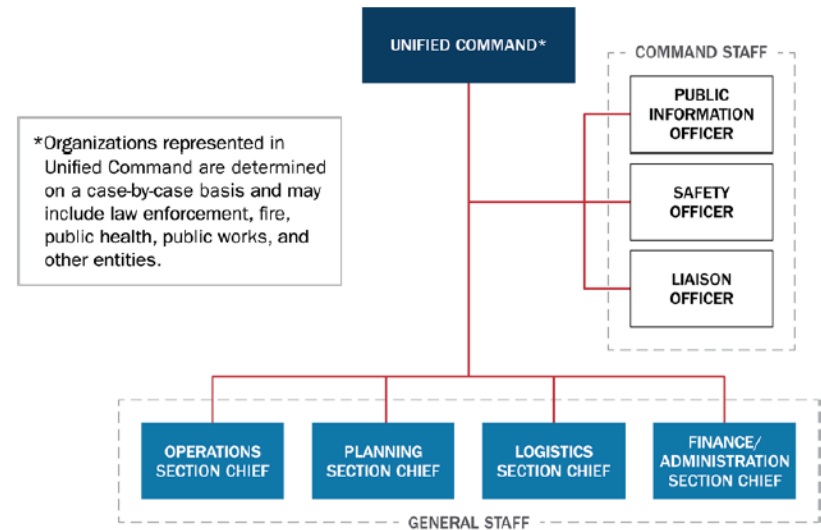


Figure 4: Example of an ICS Organization with Unified Command

Source: NIMS Third Edition October 2017

**What about training with community volunteers?**

# Case Study: Disaster Relief Trials



## Disaster Relief Trials 2014

### Incident Action Plan

### FINAL

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- Disaster drill in the form of a cargo bike competition simulating a four day supply run after a 9.0 magnitude earthquake (e.g. Cascadia SZE)
- Build community resilience
- “Hub and Spoke” stage race
  - Competitors deployed cargo bikes from and to the hub
  - Collected supplies and returned to the hub
  - Had to carry all supplies collected to the finish line

# Interagency & Multi-site Practice

- Deployed the first model water supply trailer at the Central hub
- Deployed the first large scale version of water supply trailer at the water checkpoint (25-50 taps)
- Also co-deployed with the American Red Cross at the water checkpoint to distribute emergency water supply containers





# Outreach Opportunity



Source: Eugene Water & Electric Board Facebook

- Cross-trained utility employees and Red Cross volunteers for emergency water deployment
- Tested deployment of larger capacity distribution trailer
- Tested traffic controls at an actual emergency water distribution site
- Outstanding media

# Lessons Learned



Source: Eugene Water & Electric Board Facebook

- Pressure issues when using extended manifold
- Traffic management
- Public used the equipment even more differently than we anticipated
- More equipment and procedure changes

# DRT: NIMS Command & Coordination




Source: Eugene Water & Electric Board Facebook


- Management by objectives
- Incident Action Plan (IAP)
- Incident Command System
- Establishment & Transfer of Command
- Accountability
- Multiagency Coordination Group
  - DRT Organizers
  - City of Eugene Parks & Recreation
  - School District
  - American Red Cross
  - City of Eugene Emergency Management



# DRT: NIMS Communication & Information Mgmt.

- Align operational communication types with NIMS
- Develop and test policies, plans & agreements
- Become familiar with equipment, templates, forms & use of social media

ASSIGNMENT LIST (ICS 204)	
7. Special Instructions: (Reference Public Education Water Trailer Deployment Procedures Manual)	
 <p>EWEB has been directed to deploy in the parking lots. There appears to be a hose bib in a locked riser outside the sewer.</p>	<p>Water quality testing staff confirmed the location of the hose bib in the locked green riser. Park staff have been notified to meet EWEB staff on Saturday at 10:00 to unlock the water supply.</p> <p>Water quality staff report that the hose bib needs to be flushed a minimum of 10 minutes before a chlorine residual can be detected. Please bring hose to direct flushed water away from the DRT starting line.</p> <p>EWEB has been requested to deploy on the lawn near the hose bib in the locked green riser.</p>
Figure 1: Alton Baker Park 100 Day Island Road	
10/2/2014	<ul style="list-style-type: none"> <li>• Incident Commander notified that water testing results were clean. Deployment can proceed.</li> </ul>
10/11/2014 8:00	<ul style="list-style-type: none"> <li>• Public education trailer is deployed at Alton Baker Park.</li> <li>• EWEB Water Operations staff establish water service upon arrival</li> </ul>

ASSIGNMENT LIST (ICS 204)	
 <p>Hose bib located on wall beside the covered breezeway.</p> <p>Hose bib located on wall between two entrances to the International High School has been decommissioned.</p>	<p>Operations staff are asked to time how long it takes to fill the water containers. This information will be used to validate or modify EWEB's Emergency Water Supply Plan. Time begins when the person begins the flow of water. Time ends when the person has completely vacated the fill station so that another competitor can approach and fill. 2 stop watches will be provided.</p>
10/2/2014	<ul style="list-style-type: none"> <li>• Incident Commander notified that water testing results were clean. Deployment can proceed.</li> </ul>
10/11/2014 8:00	<ul style="list-style-type: none"> <li>• Manifold trailer leaves the Roosevelt Operations Center.</li> <li>• On-street traffic controls staff deploy at South Eugene High School.</li> <li>• American Red Cross Emergency Relief Vehicle deployed.</li> <li>• Command staff establish Incident Command Post adjacent to the Emergency Relief Vehicle</li> </ul>

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**What about using NIMS forms for planned events so that staff at all levels become familiar with them?**



# Learn More with Every Deployment

- Neighborhood Association Picnics
  - Need increased ground clearance
  - Pedestrian traffic safety – trip hazard
- Living River Celebration
  - Blivets create unacceptable taste/odor issues; pinhole leaks
  - Poly tank and hoses should be kept in the shade; leak resistant
  - Chlorine residual management can be a challenge in the field
- Run to Stay Warm
  - November deployment
    - Water emergencies are not limited to summer time
  - Freeze protection for water hoses
  - Need heating for staff during cold weather deployments



Source: Eugene Water & Electric Board Facebook

# Then Stuff Got Real

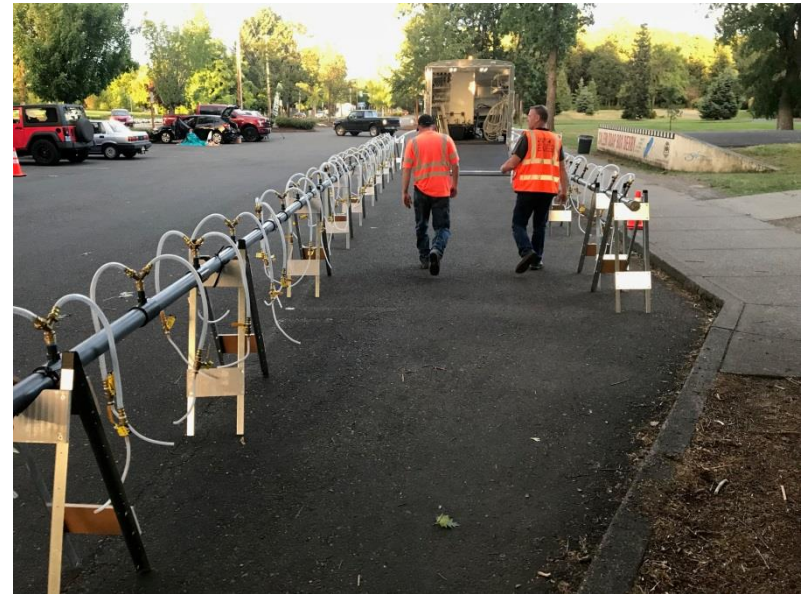


Spring 2018 ORWARN EWEB  
Deployment to assist City of Salem  
during their cyanotoxin do-not-  
drink incident

- Planned events helped in multiple ways when deployed for an actual incident
  - Field and office staff trained on trailer set up
  - Using ICS for planned events familiarized staff with ICS structure and terminology
  - Allowed EWEB to flush out the kinks before incident deployment
    - Every time we deployed for a planned event we found something else that we needed

# Keep it Simple

- Make sure SOP are simple and clear so anyone can set up the trailer
- EWEB sent employees to deliver equipment and quick-trained City of Salem employees
- Then City staff could move the trailers and redeploy as necessary



# Better Near Term Solution?



Source: Eugene Water & Electric Board Facebook

- Develop permanent emergency water distribution sites instead of second source
  - Wells at schools and other public facilities
  - Mobile water trailers or piped solutions where wells are not available
- Benefits?
  - Flexible in different disaster scenarios
  - Faster/Cheaper than second source
    - 5 sites in 5 years



# Features of Permanent Emergency Water Distribution Sites

- Source of supply – well with backup power
  - Generator
  - Solar with batteries for microgrid
- All equipment stored onsite for deployment
- Ample paved or field parking for water distribution and other emergency services



Source: Eugene Water & Electric Board

# Does this look like a permanent emergency water distribution site to you?

## Emergency Water Distribution Station

This site will provide water to the community during an emergency or disaster.



A partnership between Eugene Water & Electric Board and Bethel School District. Visit [eweb.org/waterreliability](http://eweb.org/waterreliability) for more information.



Source: Eugene Water & Electric Board

# Continue to Combine Staff Training with Public Outreach



Source: Eugene Water & Electric Board

# Recall: NIMS Resource Management

- Identify requirements
- Qualify event volunteers or paid staff
  - ICS training that is transferable to activation
  - Safety protocols for working with the public
  - Operator certification for certain activities
- Acquire, store and inventory event supplies
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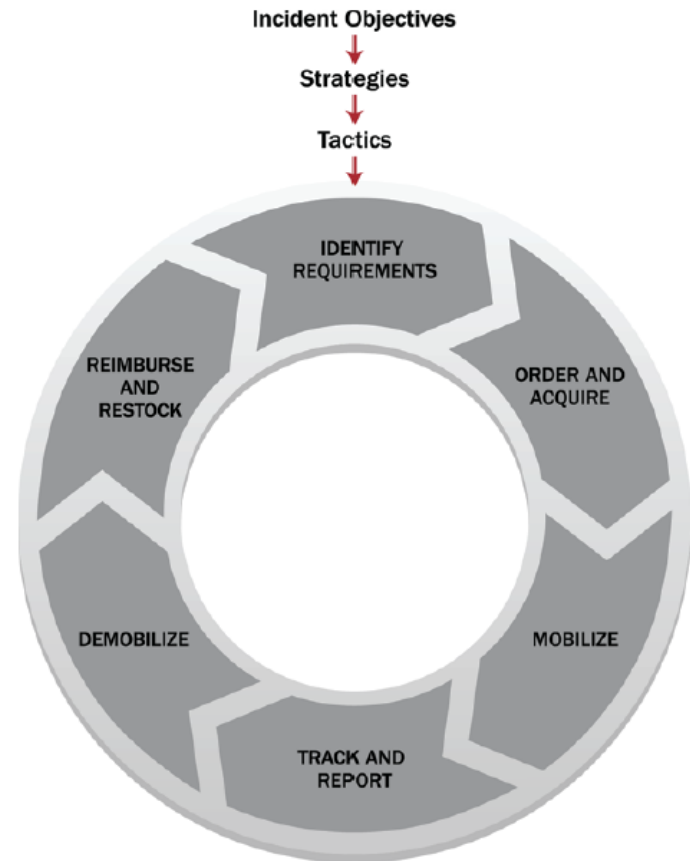


Figure 2: Resource Management Process



# Live drills at permanent sites



Source: Eugene Water & Electric Board

- Identify requirements
- Acquire, store and inventory supplies stored on site
- Staff trained in new setting
- Test setup plans
- Does equipment work as planned?
  - Well operation is new for EWEB
  - Microgrids are cutting edge technology
- Track and report
- Restock
- Identify updated requirements

# Invite the public to train too!



Source: Eugene Water & Electric Board

# Some Tricky Bits...

## EWEB HANDOUT

“To ensure safety, emergency water from this distribution site needs to be disinfected prior to use, along with any water that has been stored for more than five days.”

Follow these steps before drinking, cooking, making prepared drinks and/or brushing teeth:

- Boil for 1 minute *OR*
- Add 1/8 tsp non-scented bleach per gallon of water



Source: Eugene Water & Electric Board

# More Lessons Learned



Source: Eugene Water & Electric Board

- Free stuff! Get's people to come out but...
- Free stuff! Grab and go?
- Access and physical ability
- Other services at the site vs. over-burdening the partnership
- Companion outreach efforts can extend








## Pledge to Prepare

1. Join at [eweb.org/pledge](http://eweb.org/pledge)
2. Complete monthly tasks
3. Send photos to win prizes

Source: Eugene Water & Electric Board Website

# 2-weeks ready in 12 months

	<p><b>JANUARY</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Plastic tote or duffle bag</li> <li>● 3 days of food, water and cash</li> <li>● Hand operated can opener</li> <li>● 2 flashlights with batteries</li> </ul>	<p><b>FEBRUARY</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Propane</li> <li>● Medicine/first aid</li> <li>● Unscented chlorine bleach</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Make a family emergency plan</li> </ul>	<p><b>MARCH</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Emergency radio</li> <li>● Back-up phone power banks</li> <li>● Personal hygiene items</li> <li>● +1 day of food, water and cash</li> </ul>	<p><b>APRIL</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Fire extinguisher</li> <li>● More propane</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Practice fire/earthquake drill</li> <li>● Learn how to shut off your utilities</li> </ul>
	<p><b>MAY</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Emergency sanitation</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Inventory your home</li> <li>● Secure important documents</li> </ul>	<p><b>JUNE</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Paper good (plates, napkins, etc.)</li> <li>● Face masks, goggles, hard hats</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Secure your water heater &amp; furniture</li> </ul>	<p><b>JULY</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● More propane</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Talk to your neighbors</li> <li>● Make an OK/Help card</li> </ul>	<p><b>AUGUST</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● +1 day of food, water and cash</li> <li>● Basic tools</li> <li>● Rope</li> <li>● Work gloves</li> <li>● Tarps</li> <li>● Duct tape</li> </ul>
	<p><b>SEPTEMBER</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Make an immediate response kit for each family member</li> </ul>	<p><b>OCTOBER</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Extra blankets/warm clothes</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Make an emergency kit for your car</li> </ul>	<p><b>NOVEMBER</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Candles and matches</li> <li>● Water filter</li> <li>● More propane</li> <li>● +1 day of food, water and cash</li> </ul>	<p><b>DECEMBER</b></p> <p>Supplies:</p> <ul style="list-style-type: none"> <li>● Games/entertainment</li> <li>● +1 day of food, water and cash</li> </ul> <p>Tasks:</p> <ul style="list-style-type: none"> <li>● Give the gift of preparedness supplies</li> </ul>

Source: Eugene Water & Electric Board

# Monthly raffle drawings



Open Source Images

# Pledge to Prepare

- 1,300+ participants...

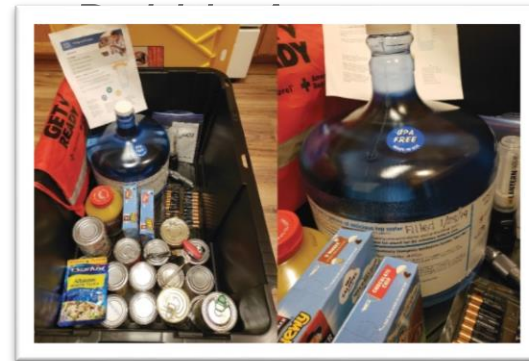


- ...and growing!



Source: Eugene Water & Electric Board Facebook

- *“Thank you for doing this campaign. It makes preparing so much less intimidating when looking at just one month at a time!”*



- *“What a great program! I had done a few things before but had been unsure how to proceed. Now, I have small steps which I can easily complete. Lots of fun!”*  
*-Sue W.*



# Normalize ICS Activation

- NIMS aligned planned events become normalized
  - Ease of activation
  - Staff, equipment, supplies, procedures remain updated
- Activation becomes more routine
- Serving the public in an ICS context become a norm
- Actual Emergency: OR Water/Wastewater Agency Response Network (ORWARN) Response
  - Salem cyanotoxin event

# Benefits of NIMS Alignment for Planned Events

- ICS Training is no longer limited to management and operations personnel
  - May include community volunteers
- Cost for exercises is integrated into already planned work
  - Potential to reduce costs or boost returns for already planned work
- NIMS aligned response readiness become a normal part of doing business
  - Equipment and procedures are continuously updated
  - Impact of training & readiness due to staff changes are minimized
- NIMS planning and activation cycle is thorough, safety conscious and efficient

# Thank you for your time

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