

BACKFLOW INCIDENT NOTIFICATION

Jill Hoyenga

PNWS AWWA Tacoma 2018

Incident Notification

- ▣ U.S. EPA requirements
 - Each state that has primacy will align with U.S. EPA requirements
- ▣ Notification types & methods
- ▣ Do's and don'ts of notification
- ▣ Notification case study: Corpus Christi, TX

U.S. EPA Requirements

- ▣ You must contact agency with primacy immediately when there is a boil water advisory
- ▣ U.S. EPA requirements:
 - Tier 1: Acute, immediate and serious adverse affect on human health (within 24 hours)
 - Tier 2: Non-acute serious adverse affect on human health (within 30 days)
 - Agency with primacy may determine Tier 1 notice is required
 - Tier 3: Other violations (e.g. failure to monitor) (within a year)



Required Notification Elements

- ▣ Description of violation
- ▣ When the violation occurred
- ▣ Any potential adverse health affects, be specific
- ▣ The population at risk (e.g. infants, people with compromised immune systems)
- ▣ Whether alternate water supplies should be used (e.g. bottled water)
- ▣ Actions consumers should take, including when to seek medical help
- ▣ What the public water supplier (PWS) is doing to correct the violation
- ▣ When the PWS expects to return to compliance
- ▣ The name, business address, PWS number to learn more information
- ▣ Standard monitoring or standard distribution language
- ▣ Multilingual requirement for areas with high percentage of non-English speakers

Notification Types

Brochure	Door Hanger / Fact Sheet	Social Media / Webpage / Release	Public Alert System
Informational	<u>Less than 30 services</u> Boil Water Do Not Drink Do Not Use	<u>More than 30 services</u> Boil Water Do Not Drink Do Not Use	<u>Entire service area</u> Boil Water Do Not Drink Do Not Use

(lesser)

Magnitude of the situation

(greater)

Public requested to take immediate action

WA Cross Connection Ed Required

- ▣ WAC Ch. 246-290-490: Element 8 of a cross connection control program
 - The purveyor shall include information on cross-connection control in the purveyor's existing program for educating consumers about water system operation.
- ▣ The public information program may include periodic bill inserts, public service announcements, pamphlet distribution, notification of new consumers and consumer confidence reports

OR Cross Connection Ed Required

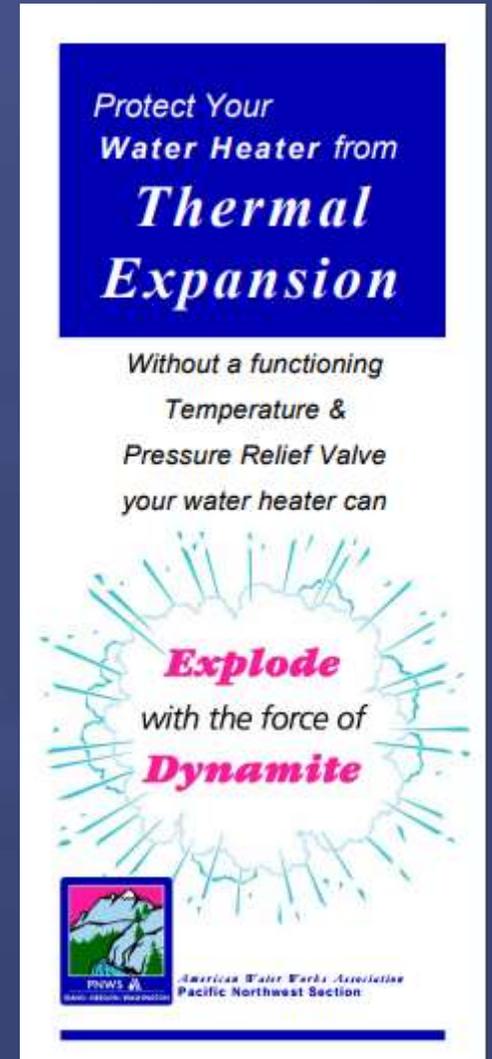
- ▣ OAR 333-061-0070 Cross Connection Control Requirements
 - (10) (b) A written program for community water systems with 300 or more service connections shall include the following
 - (H) A public education program about cross connection control

Brochures/Bill Inserts

- ❑ Mainly used for education (not emergency) education
- ❑ Reading level grade 9 or lower
- ❑ Complex, comprehensive message
- ❑ May be used to support emergency messaging



Source: eweb.org accessed 01/31/2018



Source: tvwd.org accessed 01/31/2018

Key Cross Connection Ed Messaging



Home Sprinkler Safety

Important information for do-it-yourself sprinkler system installers

Maintain a clean, healthy water supply using this information.

Source: Eugene Water & Electric Board



Source: PNWS-AWWA Cross Connection Control Committee

- Keep your water drinkable
- Definition of cross connection
- Definition of backflow
- How to prevent backflow
- Systems that need backflow protection
 - Landscape sprinkler systems
 - Pools and spas
 - Heating, cooling and fire sprinkler systems
 - Wells

Definition of Cross Connection

- ❑ In plumbing, a cross-connection is created when your building's pipes or hoses are connected to a system or container that holds anything other than pure drinking water.
- ❑ Give a commonly understood example: You create a temporary cross-connection when you put a garden hose into a bucket of soapy water while washing your car.



Definition of Backflow (Hydraulics 101)



- ▣ Give a commonly understood example: When you turn on the tap to get a refreshing drink, water flows because the pressure in the distribution system pushes the water out of the pipes and into your glass.
- ▣ Unfortunately, a sudden change in water pressure sometimes can cause the water to flow backwards.
- ▣ This unexpected reversal of flow can allow contamination to flow back into your water supply, which is why it is called backflow.

Explain Backflow Prevention Efforts



- ▣ #1 Goal: Protect public health
- ▣ State required program
- ▣ Install backflow prevention assemblies
- ▣ Require testing and repair
 - Upon installation
 - Annually
- ▣ WIIFM – What’s In It For Me
 - Not just another regulation

Consumer Focused Messaging

- ▣ Audience
 - Homeowners
 - Business owners
 - Professionals
- ▣ Market research (formal and informal) to reach each audience effectively
- ▣ Target the least technical audience unless the piece is for face-to-face outreach



Some Market Research



- ▣ Homeowners
 - Landscape water systems are called “lawn sprinklers” not “irrigation”
 - Mishear the word “backflow” and think “backwash”
- ▣ Professionals
 - Landscape contractors: Landscape water systems are called “irrigation”
 - Fire system contractors: Fire control systems are called “sprinklers”
- ▣ Business owners are somewhere in the middle

Required Notification Elements

- ▣ Description of violation
- ▣ When the violation occurred
- ▣ Any potential adverse health affects, be specific
- ▣ The population at risk (e.g. infants, people with compromised immune systems)
- ▣ Whether alternate water supplies should be used (e.g. bottled water)
- ▣ Actions consumers should take, including when to seek medical help
- ▣ What the public water supplier (PWS) is doing to correct the violation
- ▣ When the PWS expects to return to compliance
- ▣ The name, business address, PWS number to learn more information
- ▣ Standard monitoring or standard distribution language
- ▣ Multilingual requirement for areas with high percentage of non-English speakers

Door Hanger/Fact Sheet



- ❑ Used for emergency messaging or enforcement
- ❑ Short call to action message
- ❑ Specific to each situation
- ❑ Reading level grade 6 – 8 (lower is better)
- ❑ Best to draft before an incident
 - Fill in specifics when needed

Library of Backflow Incident Door Hangers

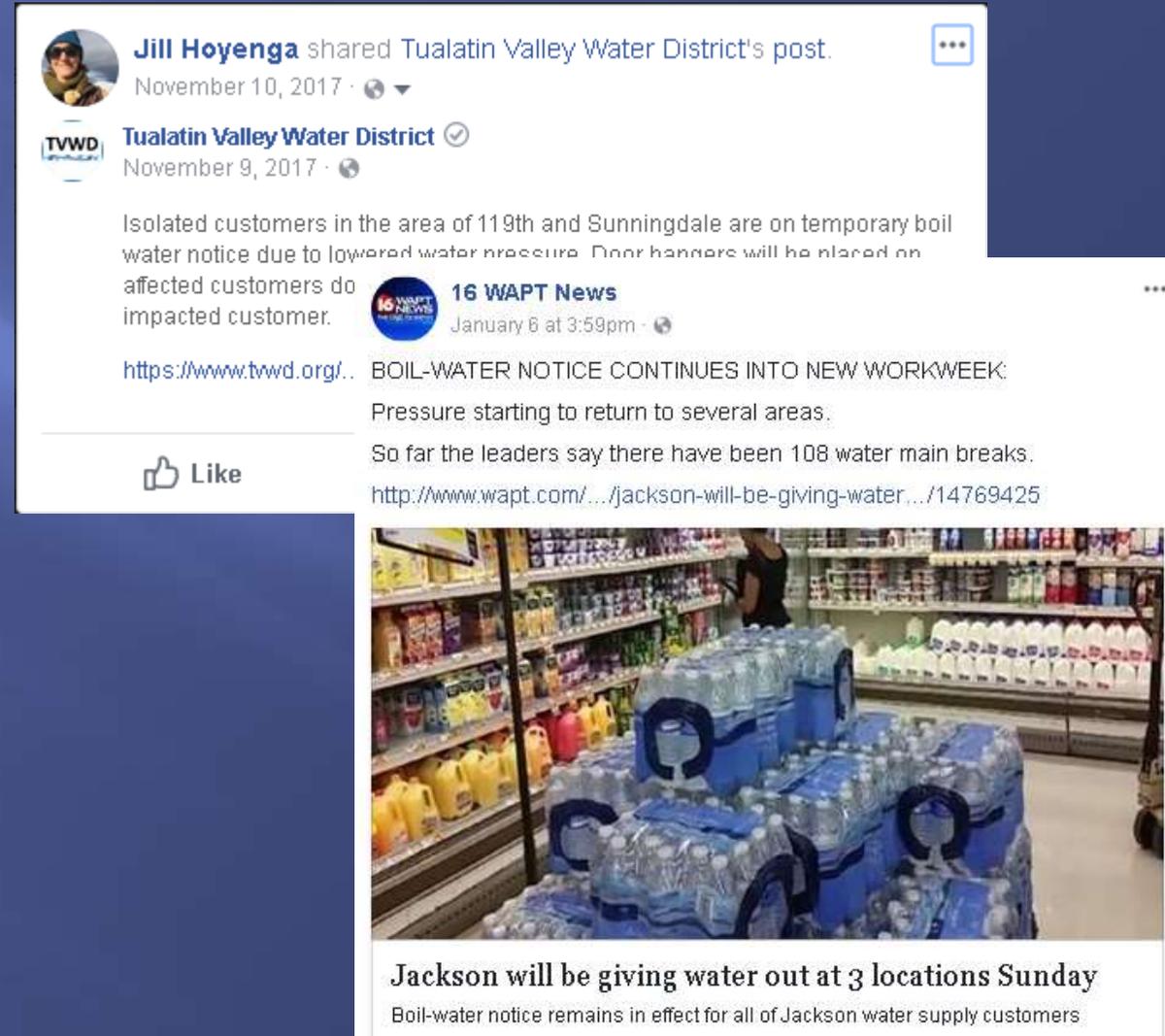
- ▣ Simple door hanger template
- ▣ Backflow incident specific messaging
 - Boil notice
 - Do not drink
 - Do not use
- ▣ Return to service
- ▣ Mobilize water station for emergency water

The image displays three door hanger templates for backflow incidents. Each template is a white rectangular card with a black header and footer, and a central black box with white text. The templates are arranged in a grid-like fashion.

- Boil Water Notice:** The header is a black box with white text that reads "BOIL WATER NOTICE". Below the header, the text reads: "Date: [blank] AM/PM", "Address: [blank]", "Sorry we missed you.", "The water system has been compromised in your neighborhood. Please boil tap water for drinking until further notice.", "Harmful organisms may be present in the water supply. The water system is currently under repair. Please do not drink tap water until further notice.", "People or pets should not drink tap water until further notice.", "Harmful chemicals may be present in the water supply. Chemicals can be harmful to people and pets. Please do not use tap water until further notice."
- Do Not Drink Notice:** The header is a black box with white text that reads "DO NOT DRINK NOTICE". Below the header, the text reads: "Date: [blank] AM/PM", "Address: [blank]", "Sorry we missed you.", "The water system has been compromised in your neighborhood. Please do not drink tap water until further notice.", "Harmful organisms may be present in the water supply. The water system is currently under repair. Please do not drink tap water until further notice.", "People or pets should not drink tap water until further notice.", "Harmful chemicals may be present in the water supply. Chemicals can be harmful to people and pets. Please do not use tap water until further notice."
- Do Not Use Notice:** The header is a black box with white text that reads "DO NOT USE NOTICE". Below the header, the text reads: "Date: [blank] AM/PM", "Address: [blank]", "Sorry we missed you.", "The water system has been compromised in your neighborhood. Please do not use tap water for any reason until further notice.", "Harmful chemicals may be present in the water supply. Chemicals can be harmful to people and pets. Please do not use tap water until further notice."

Social Media/Webpage/Release

- Social media post:
 - Short call to action
 - Infographic better than text
 - Link to webpage for more information
- Webpage
 - Repeat call to action
 - Additional details
 - Reading level grade 6 – 8 (upper range OK)
- Media release should include social media and webpage links
- Clearly date every post and release
- Consider removing posts and webpages after notice is cancelled



The image shows a collage of digital content related to a water supply issue. At the top is a Facebook post from Jill Hoyenga sharing a post from Tualatin Valley Water District (TVWD) dated November 9, 2017. The TVWD post states that isolated customers in the area of 119th and Sunningdale are on temporary boil water notice due to lowered water pressure, and door hangers will be placed on impacted customers. Below this is a news snippet from 16 WAPT News, dated January 6 at 3:59pm, with the headline "BOIL-WATER NOTICE CONTINUES INTO NEW WORKWEEK: Pressure starting to return to several areas." The article text indicates that so far, the leaders say there have been 108 water main breaks, and provides a URL: <http://www.wapt.com/.../jackson-will-be-giving-water.../14769425>. At the bottom is a photograph of a grocery store aisle with large stacks of bottled water. Below the photo is a caption: "Jackson will be giving water out at 3 locations Sunday" and "Boil-water notice remains in effect for all of Jackson water supply customers".

Jill Hoyenga shared Tualatin Valley Water District's post.
November 10, 2017 · 🌐 ▼

TVWD Tualatin Valley Water District ✓
November 9, 2017 · 🌐

Isolated customers in the area of 119th and Sunningdale are on temporary boil water notice due to lowered water pressure. Door hangers will be placed on affected customers do impacted customer.

16 WAPT News
January 6 at 3:59pm · 🌐

[https://www.twwd.org/..](https://www.twwd.org/) BOIL-WATER NOTICE CONTINUES INTO NEW WORKWEEK:
Pressure starting to return to several areas.
So far the leaders say there have been 108 water main breaks.
<http://www.wapt.com/.../jackson-will-be-giving-water.../14769425>

Like

Jackson will be giving water out at 3 locations Sunday
Boil-water notice remains in effect for all of Jackson water supply customers

Library of Backflow Incident Posts

Archive for September 2017

SEP 2017
30

Bodily Contact With Tap Water Banned In California City

By: Sara Jerome



Residents of Alameda, a city near make any bodily contact with their result of a water quality problems. The East Bay Municipal Utility Dis drinking water system were likely caused by the "cross-connection" of an irrigation pipe with a drinking water pipe, *The Los Angeles Times* reported.

The health advisory impacted "267 homes, and more than 60 businesses in the Alameda Point neighborhood," ABC7 News reported.

The city lifted the bodily contact order before it lifted a simultaneous drinking order, according to an official statement. The ban on drinking water has since been lifted, as well.

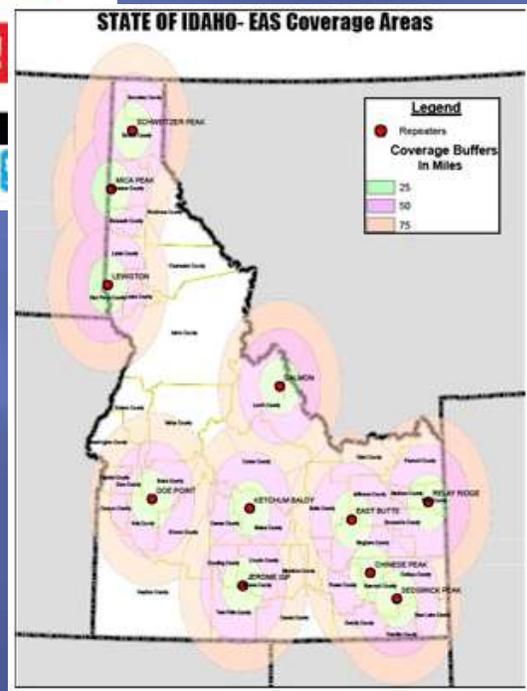
"It's not clear when — or how — the cross-connection occurred or what specifically was detected that triggered the warning. Residents were advised not to drink water from faucets or use tap water to brush their teeth, wash dishes, bathe, cook or give to their pets," *The Los Angeles Times* reported.

Details on how the city reassured state regulators that bodily contact was

The screenshot shows the City of Alameda website header with the city seal and navigation links. The main content is a community alert titled "UPDATE: Bodily Contact Advisory on Alameda Point's Water Lifted by State Water Resources Control Board - Division of Drinking Water". The alert is dated September 13, 2017, at 8:30 pm, and is marked "FOR IMMEDIATE RELEASE". The contact information for Liam Garland, Interim Public Works Director, is provided at the bottom.

- Start with incident action messaging
- Move quickly into backflow education messaging
- Consistent messaging on all media channels
- Status updates coincide with Incident Command briefing

Public Alert System



- Shortest message
- Urgent call to action
- Always tell where to get more information
- Typically only works for those subscribed

Do's and don'ts of notification

▣ Do's

- Educate your spokesperson about cross connection and backflow
- Let the media know your notification intervals, coincide with Incident Command report if ICS is activated
- Assign one and only one spokesperson, preferably media trained
- Stick to the prepared core messaging with flexibility as the situation changes
- Manage the media (close enough for good information, away from confidential information or activities)

▣ Don'ts

- No comment is never acceptable, but the comment should come from the PIO
- Consent to a media interview without prepared messaging
- Ignore crisis recovery, share lessons learned & urge customers to take action (It ain't over, 'til it's over...and even then it might not be over)

Case Study: Corpus Christi, TX

- News worthy = media attention
 - Timeliness: just occurred
 - Surprise: unexpected/unusual
 - Impact: hurting people
 - Effect: type of harm to whom
 - Secrecy: the big reveal
 - Mistakes: expectation of reliability
 - Uniqueness: backwhat?
 - Proximity: in my back or front yard
 - Reporter interest/editor perspective

A LOOK AT THE CITY'S WATER ISSUES

Timeline: Corpus Christi water issues since 2015

Lawsuits filed over Corpus Christi water system

New Corpus Christi water director: 'We've got to rebuild the public trust'

City announces temporary change to water disinfectant

Council hears post water-ban industrial regulations

City, residents evaluate how water ban notification was delivered

Ergon, Valero respond to water lawsuits

Social media reacts to Corpus Christi water woes

Company linked to water issues received \$3M from city contracts, records show

EPA official promises investigation of chemical release

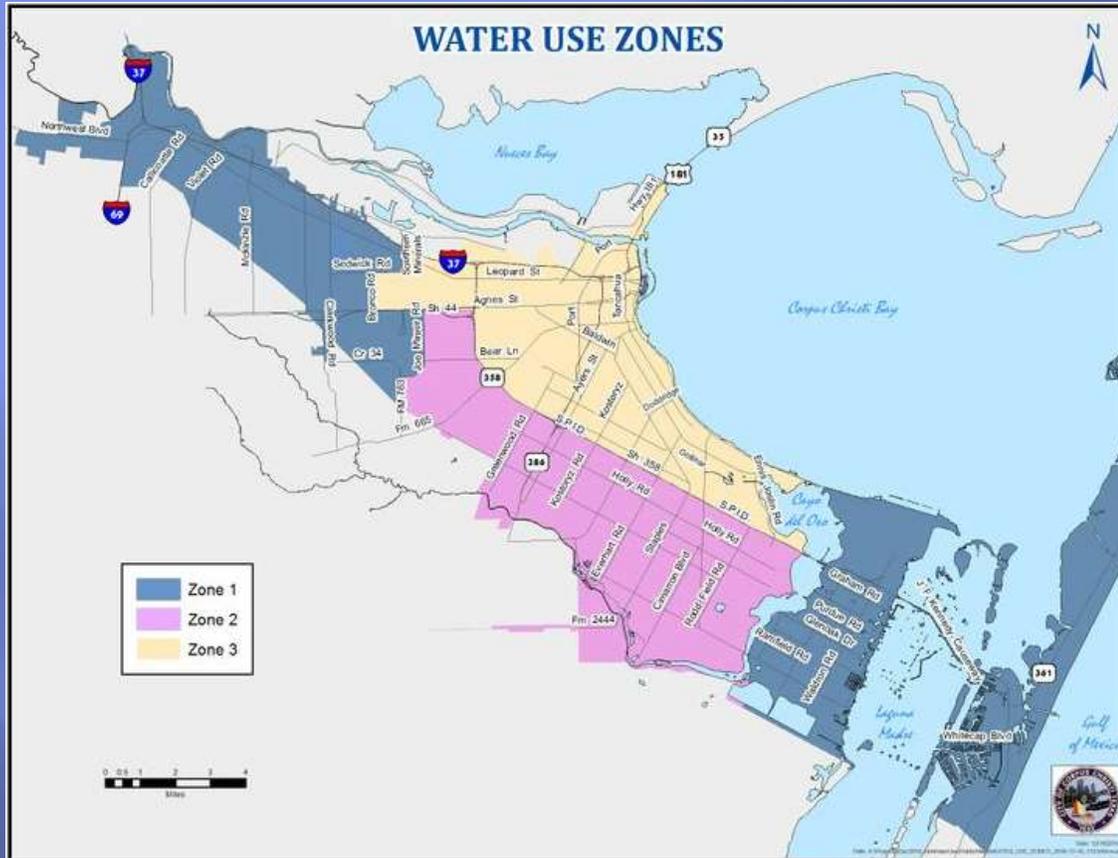
Water ban-spawns art project taking shape

Timeline of Corpus Christi Water Issues

- ❑ Five incidents in two years
- ❑ July 2015 – 3 day boil water notice due to E. coli contamination in 2 samples
 - Officials said that due to heavy rain, fewer residents watered yards causing longer retention time and bacterial regrowth
- ❑ September 2015 – 13 day boil water notice due to low chlorine and bacteria in a sample
- ❑ May 2016 – 19 day boil water notice due to indicator bacteria detected (not E. coli)



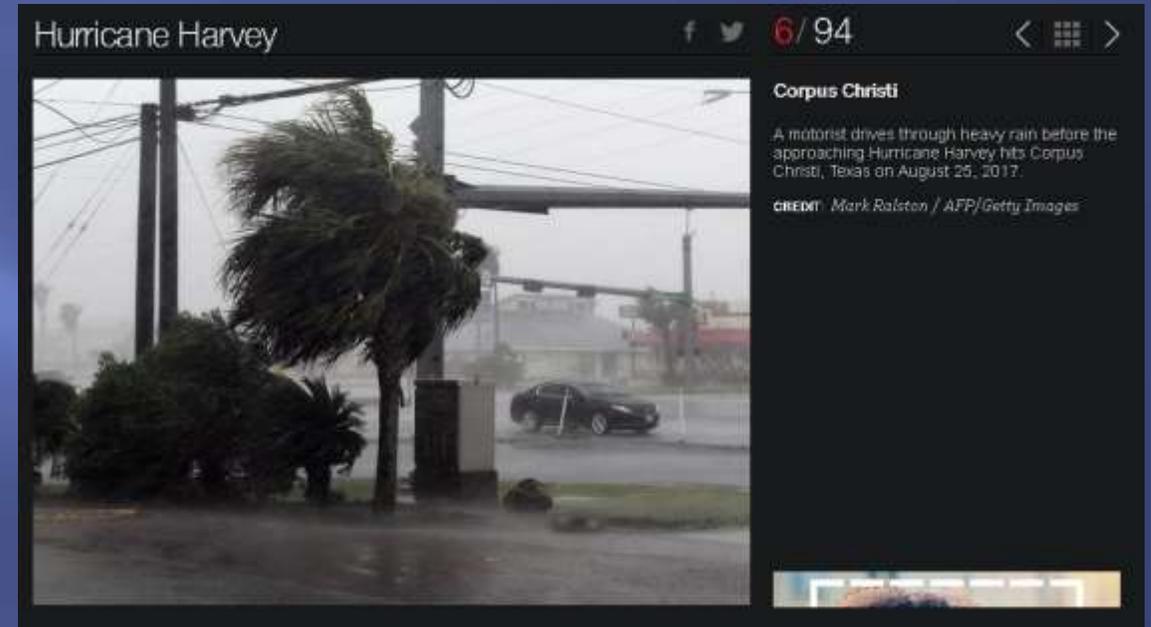
Fourth Notice Due to Backflow Incident



- ❑ December 14, 2016: Do not use notice issued for entire service area
- ❑ December 15: Canceled notice for “Zone 1”
- ❑ December 16: Do not drink notice issued for “Zone 2”
 - “Zone 3” still under do not use restrictions (toilet flushing allowed)
- ❑ December 18: Canceled all notices

Fifth Notice Due To Hurricane Harvey

- ▣ August 25, 2017 – required by the State regulator to issue a precautionary boil water notice.
- ▣ August 28, 2017 – Boil water notice rescinded



Case Study: Corpus Christi, TX

- ▣ News worthy = media attention
 - Timeliness: just occurred
 - Surprise: unexpected/unusual
 - Impact: hurting people
 - Effect: type of harm to whom
 - Secrecy: the big reveal
 - Mistakes: expectation of reliability
 - Uniqueness: backwhat?
 - Proximity: in my back or front yard
 - Reporter interest/editor perspective

A LOOK AT THE CITY'S WATER ISSUES

Timeline: Corpus Christi water issues since 2015

Lawsuits filed over Corpus Christi water system

New Corpus Christi water director: 'We've got to rebuild the public trust'

City announces temporary change to water disinfectant

Council hears post water-ban industrial regulations

City, residents evaluate how water ban notification was delivered

Ergon, Valero respond to water lawsuits

Social media reacts to Corpus Christi water woes

Company linked to water issues received \$3M from city contracts, records show

EPA official promises investigation of chemical release

Water ban-spawns art project taking shape

Notification types, methods & partners

Recommend 491  24

City of Corpus Christi explains what led to tap water ban

Posted: Dec 15, 2016 3:47 PM PST
Updated: Dec 15, 2016 5:13 PM PST

By Veronica Flores **CONNECT**



- ▣ Types
- ▣ Methods
- ▣ Partners
 - Official utility spokesperson
 - Subject matter experts
 - Public health officials
 - Media

Notification bottom line

- ▣ By failing to prepare, you are preparing to fail
- ▣ Educate your public information officer
 - Use backflow case studies to create a teachable moment
- ▣ Make a written plan if you can
- ▣ Keep your media costume in your office
 - Tie and clean shirt
 - Utility branded jacket or polo shirt
 - This is not a joke!

Thank you!
Any questions?