

Lessons Learned from the Cyanotoxins in Drinking Water Event

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Detroit Lake supplies Salem's drinking water. The latest test results for toxins in the water are expected Thursday.

U.S. ARMY CORPS OF ENGINEERS

Drinking water fouled

Children younger than 6 shouldn't drink from tap in Salem, other cities

Zach Urness, Natalie Pate and Bill Poehler

Salem Statesman Journal
USA TODAY NETWORK

Low levels of toxins caused by algae blooms in Detroit Lake have been discovered in Salem's drinking water, prompting officials to warn parents not to give tap water to children under 6 years old.

People with compromised health and immune systems also are being told not to drink tap water.

Other affected cities include Turner and Stayton.

Bottled water should be used for drinking, making infant formula, making ice and preparing food and beverages for the affected groups, officials said.

"Children under the age of six, people with compromised immune systems, people receiving dialysis treatment, people with pre-existing liver conditions, pets, pregnant women or nursing mothers, or other sensitive populations should follow this advisory," a news release states.

Salem-Keizer Public Schools will offer bottled water for students who are pre-K through first grade, district offi-



Water from Detroit Lake, where the algae was first detected last week, flows down the North Santiam River and becomes Salem's drinking water.

MOLLY J. SMITH/STATESMAN JOURNAL FILE

11 questions answered on Salem's water warning

Jonathan Bach and Bill Poehler

Salem Statesman Journal
USA TODAY NETWORK

Salem city officials issued a do-not-drink advisory Tuesday following the detection of low levels of toxins in city drinking water pulled from the North Santiam River.

The advisory affects children under 6 years old and vulnerable populations, such as nursing mothers and dialysis patients. Officials are urging them to drink bottled water.

Is there something that can be done to treat the water so it is safe to drink?

David Farrer, a public health toxicologist with the Oregon Health Authority, said there really isn't anything to be done to treat the water.

Boiling the water doesn't work; camping filters don't work; nor do the filters that attach to faucets. Farrer said it's best for children and others in vulnerable populations to not drink the water until the advisory is lifted.

What are cyanotoxins?

A common bacteria called cyanobac-

Affected communities

Detroit	
Gates	Mill City
Jefferson	Salem
Lyons	Stayton
Mehama	Turner

Salem's Drinking Water Source and System



May 21st 2018 at Blowout creek



Dolichospermum lemmermannii



Overview of Microcystin Data

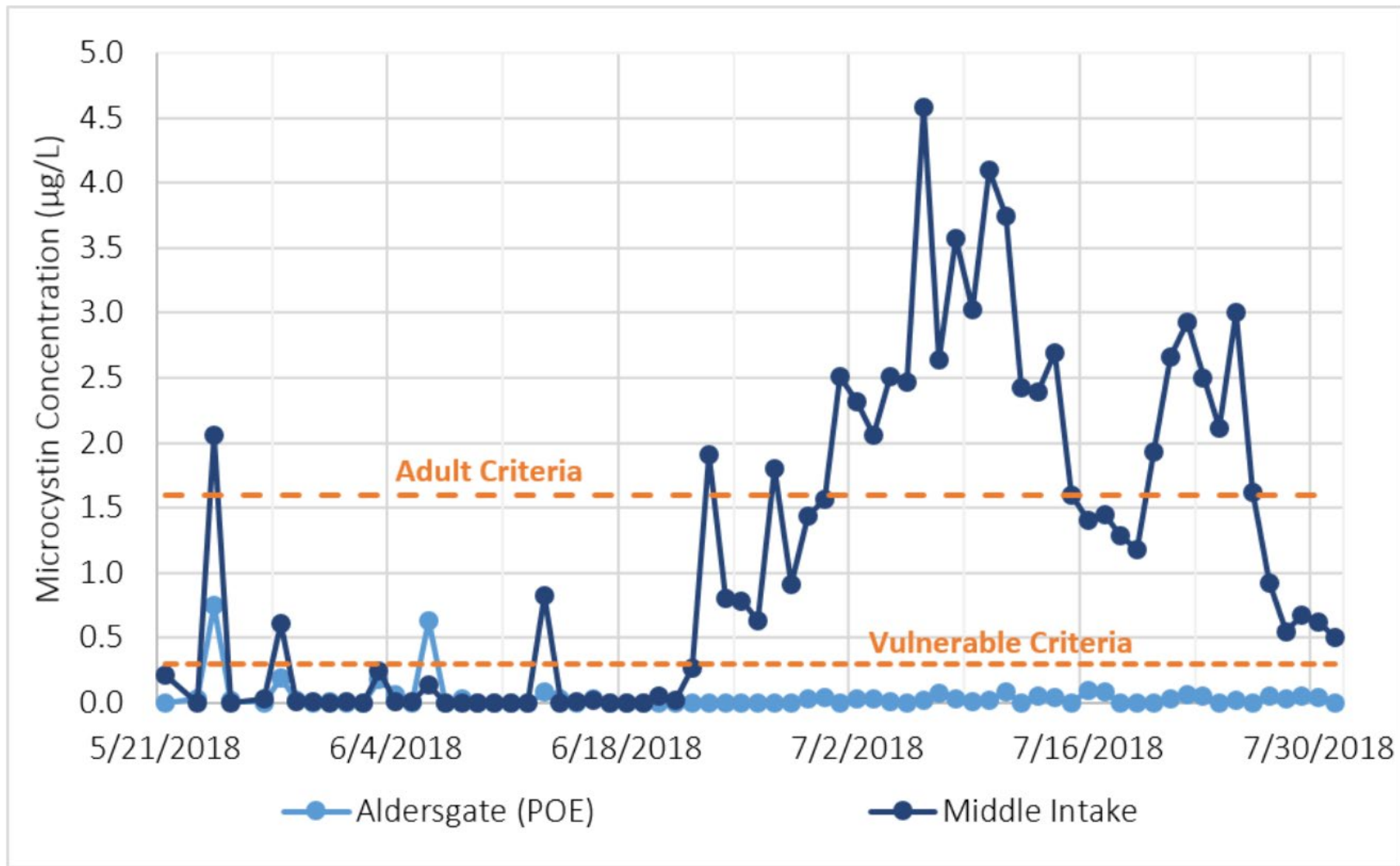
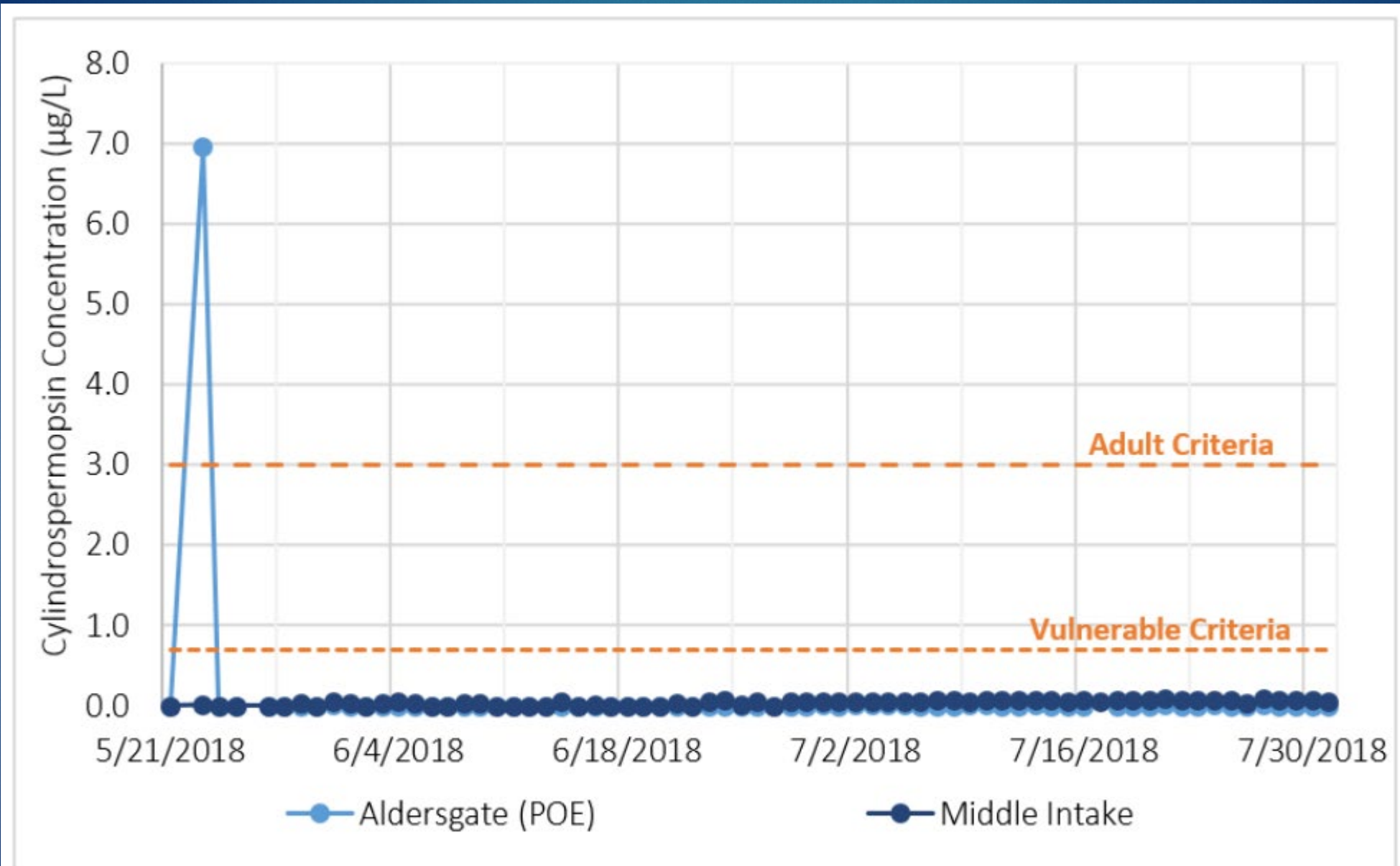


Figure 2.2 Microcystin Concentrations at the GIWTF Intake and Aldersgate (POE)

Overview of Cylindrospermopsin Data



Hope seen for limited effect of algal toxins

Water toxins bust limits

SALEM WATER CRISIS
What city officials find, and when
Timeline began with Tuesday findings

Salem ends alert on drinking water
Officials won't say why it took 4 days to notify about water

Toxin levels down; tests to continue
Salem's drinking water advisory has been lifted

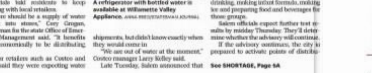


Water advisory lifted
Officials can't see obvious reason for delay

41 water systems are at risk
Oregon Health Authority issues advisory based on additional toxic algae found in Detroit Lake

Drinking water fouled
Detroit Lake supplies Salem's drinking water. The latest test results for toxins in water are expected Thursday.

Water shortage brings out Salem's best, worst
A storm washes on Willamette National Dam, Saturday afternoon



Drinking water tests expanded statewide
Oregon Health Authority: Public water systems must monitor for cyanotoxins

Water stations up in Salem, Turner
Residents filling up drinking reservoirs; health advisory seen as 'wake-up call'

Drinking water alert extended
Advisory stands as research on removal of toxins continues

Drinking water tests expanded statewide
Oregon Health Authority: Public water systems must monitor for cyanotoxins



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Oregon Health Authority: Public water systems must monitor for cyanotoxins

Water is still unsafe for kids, some adults
Public health warning stays in effect for Salem, Turner after latest tests

Water stations up in Salem, Turner
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Which lakes have most toxic algae?
Numerous health advisories have been issued in past decade

Water tests give hope
Salem could lift health advisory before treatment solution is in final stages

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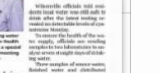


Water tests give hope
Salem could lift health advisory before treatment solution is in final stages

Latest water tests begin

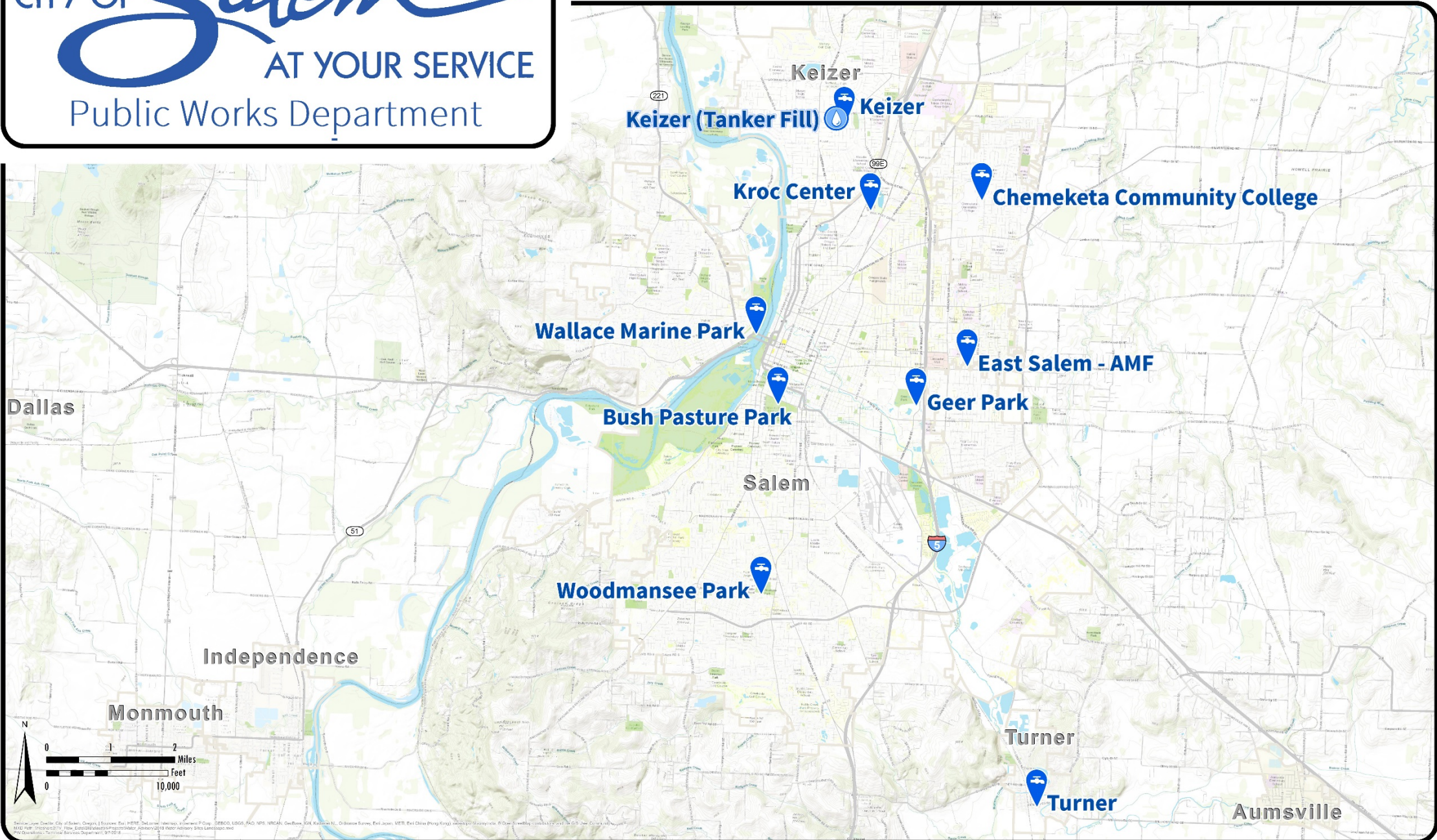
Latest water tests begin

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Latest water tests begin

Water Distribution Stations



Bottled Water

- Initially distributed at sites
- Dumping water
- Went to gallon jugs
- Finally stopped

Home Delivery

- **Vulnerable populations**
 - Called hotline
 - Need evaluated
 - Water was also available at Marion/Polk County Food Share



BYOC

- Bring your own container.
- Bags were too small.
- Worked well – except!



Dispensing water

- County Health concerns
- Modified dispensing systems
- Staff fill containers



Questions?

