

Regulatory and Program Update



Prowell Springs,
Bridge Creek
watershed,
Bend OR

The year – 2015

- Ebola outbreak
- New OHA Director, Lynne Saxton
- Gov. Kitzhaber resigned, Gov. Brown sworn in
- OHA restructured
- Legislature approved DWS fee increases
- Legislature modified Health Hazard Abatement statute, Milton-Freewater HHA proceeding ended
- Drought declared (25 of 36 counties)
- 6th SRF Needs Survey started
- CHP Administrator departed, Jere High appointed Interim
- **Fee increase final rule adopted**
- **Revised Total Coliform proposed rule filed, public comment received**

Notable water system events (2013-15)

- Baker City crypto outbreak, temporary UV light installed, permanent UV light installed
- Portland E. coli boil water advisory, open finished water reservoirs replaced or closed
- Bend membrane filtration plant constructed
- Coast forestry/herbicides public concerns
- West Virginia chemical spill
- Toledo Ohio algal bloom/EPA health advisories
- Clean Water Services wastewater beer brewing pilot project
- Flint Michigan lead advisory

Safe drinking water and regulatory roles

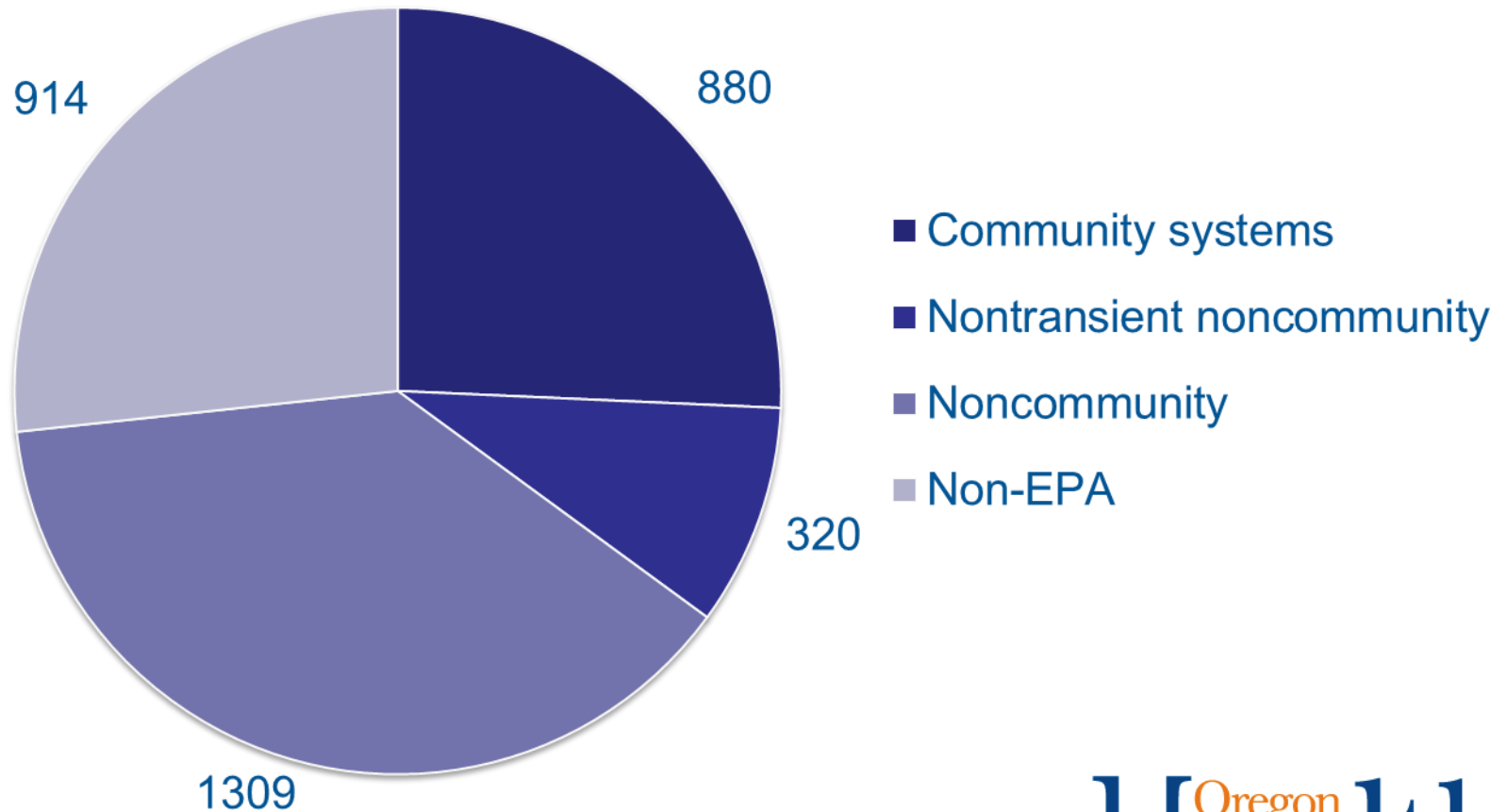
- **Public water suppliers – supply safe drinking water**
- State/tribal drinking water programs – supervise public water systems under rules no less stringent than EPA (“Primacy”)
- U.S. EPA – establish national safe drinking water standards and regulations, oversee and evaluate state primacy programs

Public water systems in Oregon

- **Public systems serve entire state population (4M)!**
- Over 2,500 public water systems subject to EPA regulations (25 or more people)
- 900 known public water systems subject only to state regulations (10-24 people)
- **90% of water systems serve fewer than 500 people**

Oregon water systems by type

3,423 public water systems



Public water systems in Oregon

- Most public water systems use groundwater for primary source (88% GW, 12% SW)
- Most of population is served from surface water sources (69% SW, 31% GW)
- 2,800 certified water system operators
- 100 certified drinking water labs
- 91 EPA regulated contaminants, 19 regulations
- **125,000+ test results per year**

Oregon Health Authority

- Office of the Director
- Office of Chief Financial Officer
- Office of Equity and Inclusion
- External relations
- Health Systems
- Health Policy and Analytics
- **Public Health**
- Oregon State Hospital

Public Health Division

- Office of the Director
- **Center for Health Protection**
- Center for Prevention and Health Promotion
- Center for Health Practice

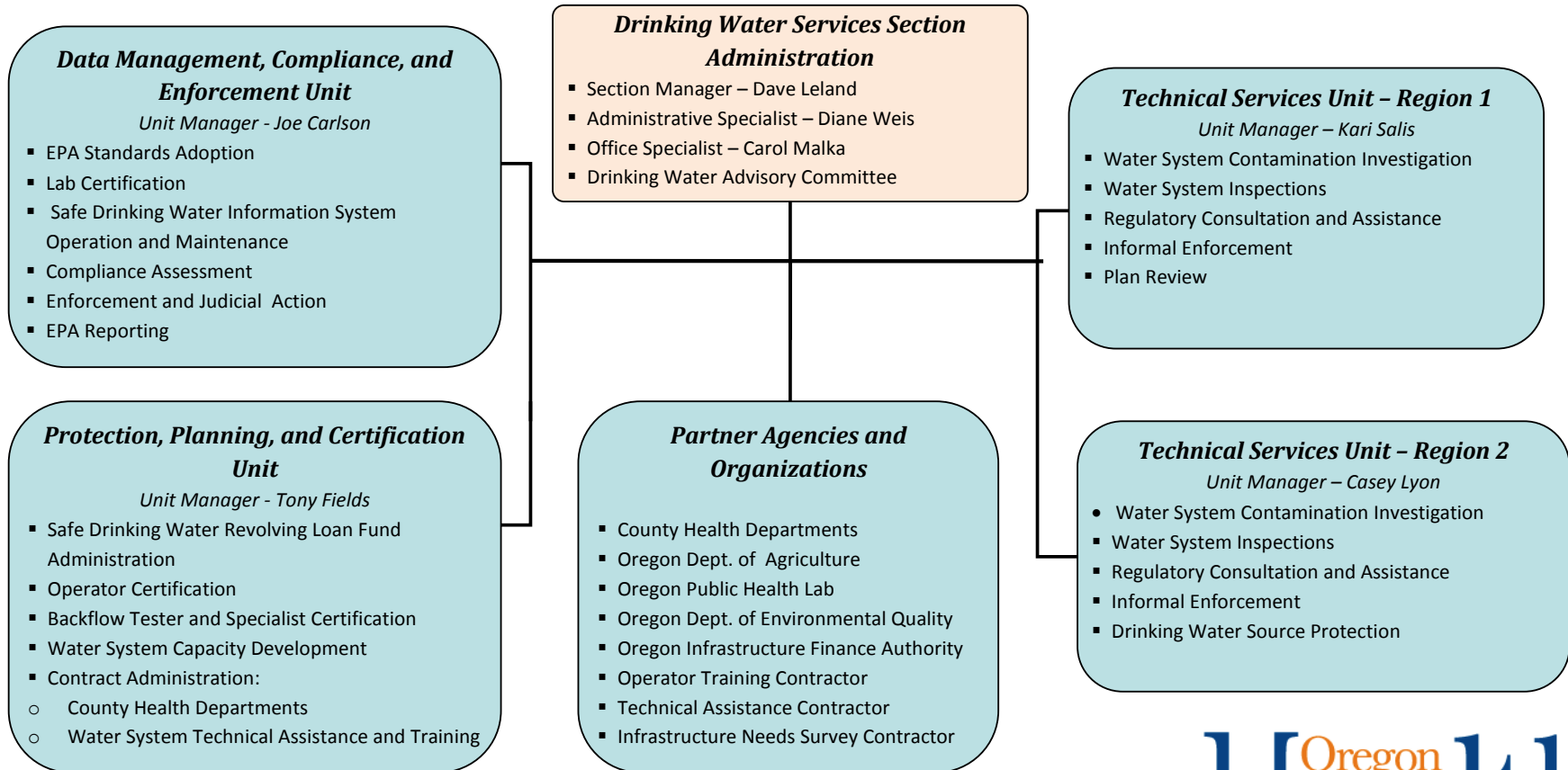
Center for Health Protection

- Center Administrator
- **Drinking Water Services**
- Radiation Protection Services
- Environmental Public Health
- Health Care Regulation and Quality Improvement
- Medical Marijuana
- Health Licensing

“Regulation and Licensing”

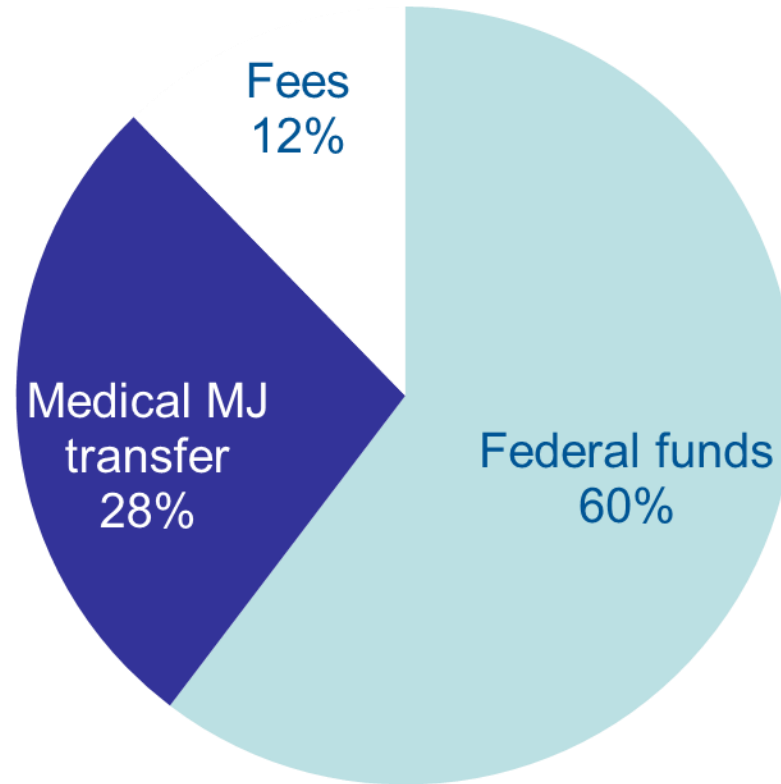
**Drinking Water Services Section
Center for Health Protection
Public Health Division**

We assure all Oregonians safe drinking water (ORS 448)



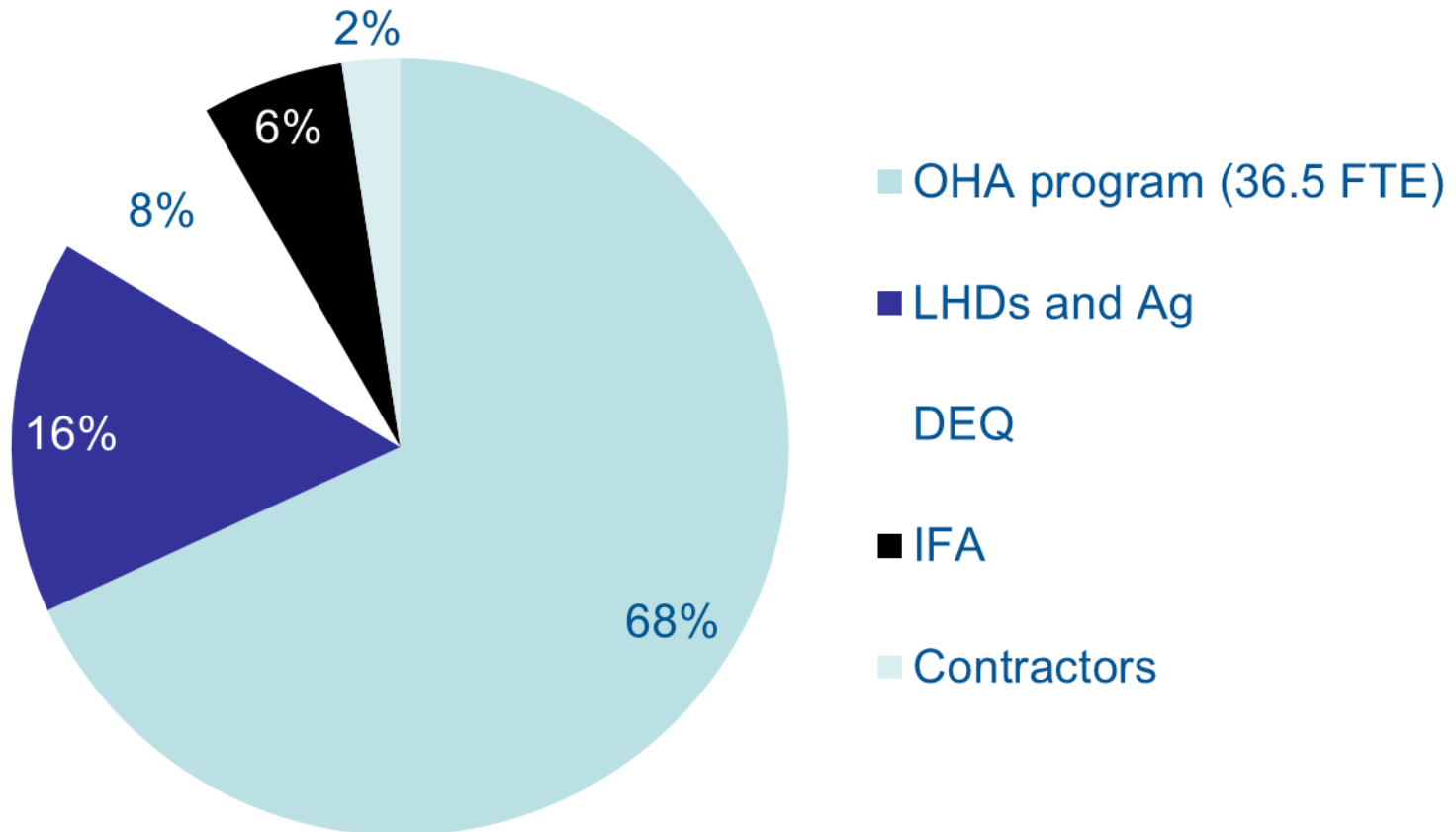
Drinking Water Services revenue

2015-17 Revenue - \$17.9 M



Drinking Water Services expenditures

2015-17 Expenditures - \$18.6M

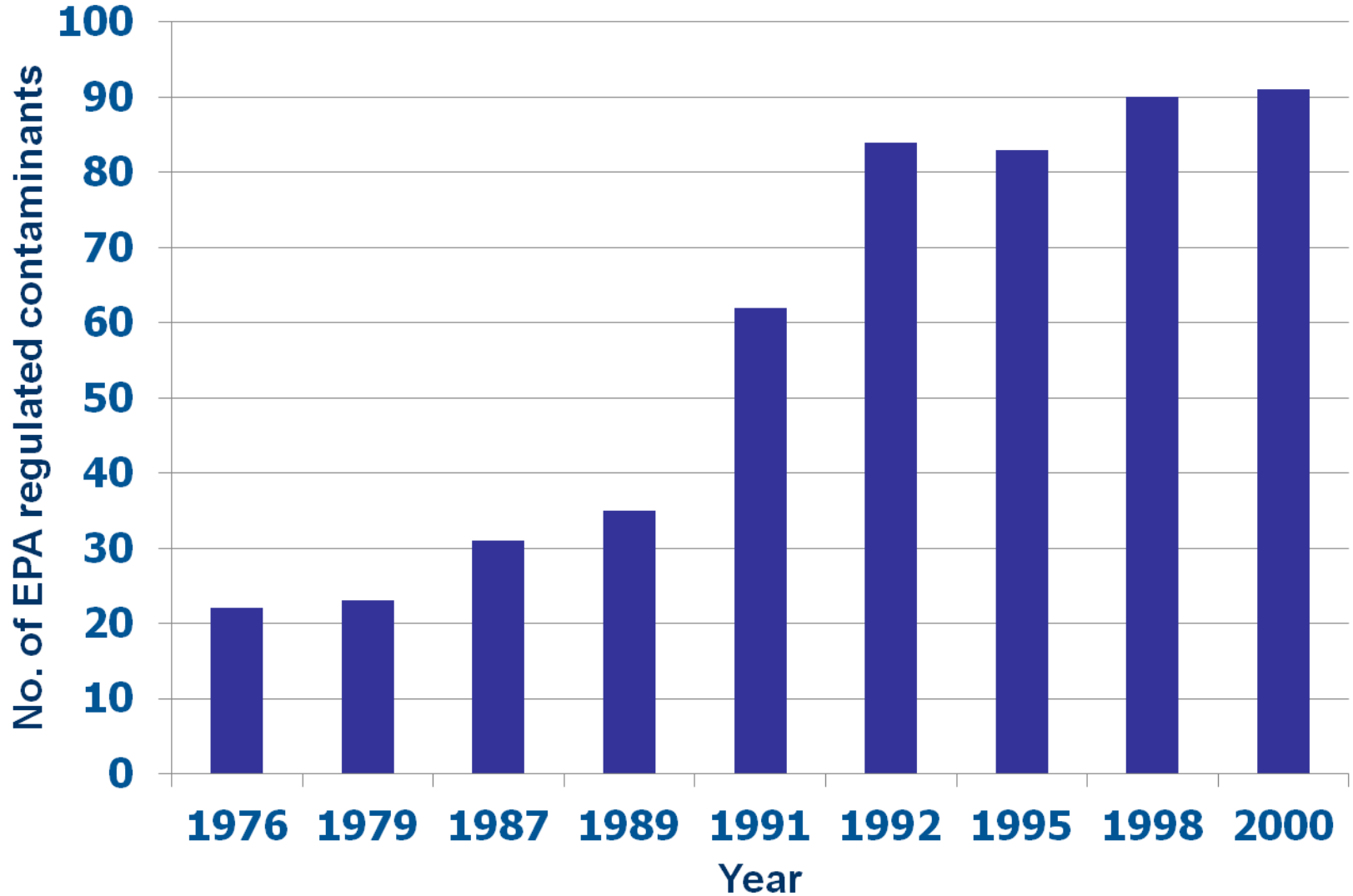


EPA regulates drinking water contaminants

- 6 microbials (bacteria, viruses, *Giardia*, *Cryptosporidium*)
- 9 disinfection by-products (trihalomethanes, haloacetic acids)
- 21 inorganic chemicals (**nitrate**, arsenic, lead)
- 51 organic chemicals (solvents, pesticides)
- 4 radiologic contaminants (uranium)

Some have **short-term acute** health effects, most have long-term chronic effects

Safe drinking water standards



Oregon accomplishments (1981-2015)

- 200 water systems using unfiltered surface water sources installed treatment, connected to others, drilled wells
- 130 systems installed corrosion control treatment to reduce lead levels at the tap
- \$300M in revolving fund assistance to 150 communities since 1998!
- 50 systems took action to meet the arsenic MCL
- Over 100 community water systems consolidated since 1984
- Other systems dealt with coliform bacteria, nitrate, DBPs, VOCs, SOCs...
- Oregon has adopted all current EPA rules

Primacy since 2/24/86 (30 years!)

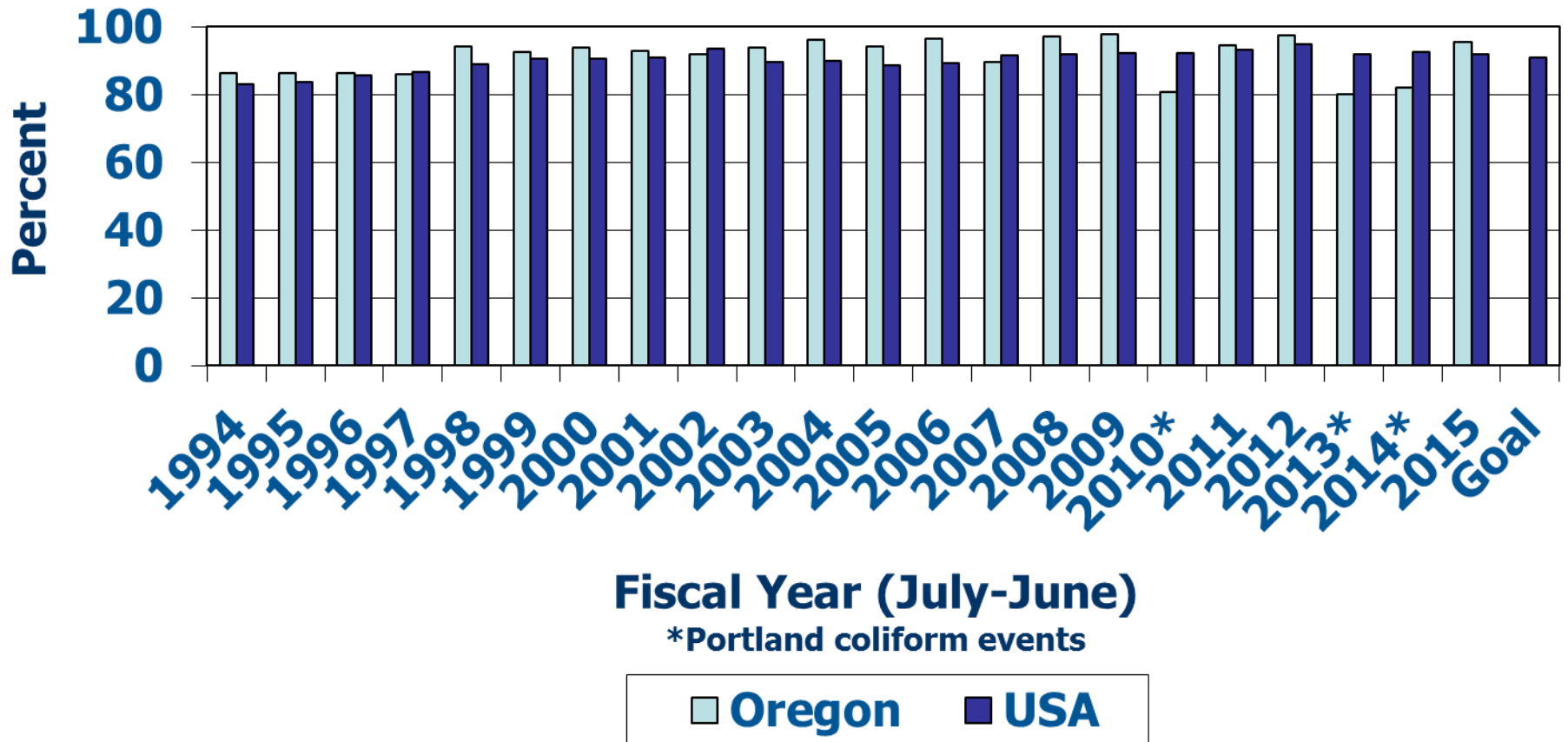


Oregon
Health
Authority

OR compliance trends

Large water systems consistently meet standards

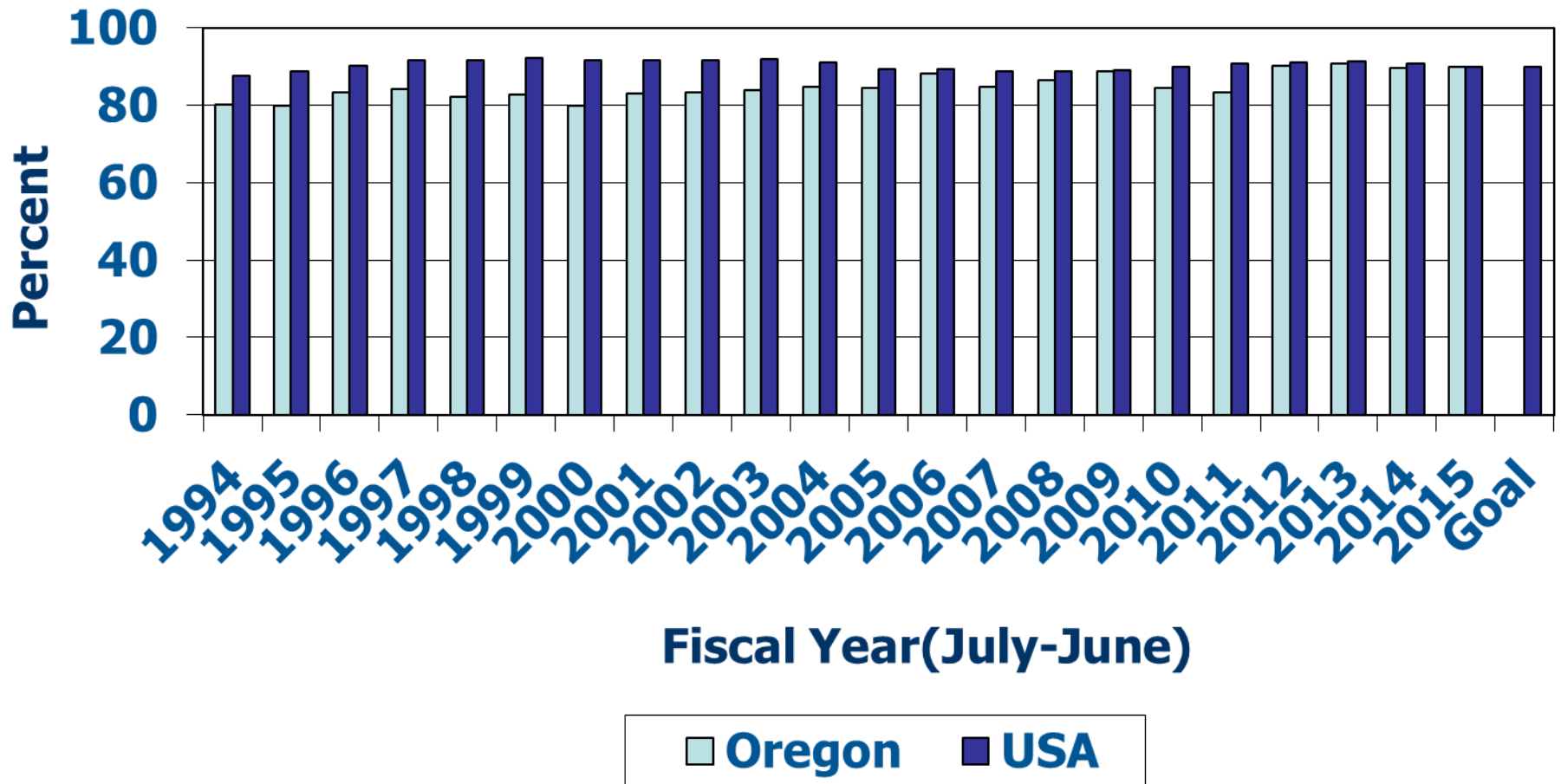
Measure #1-% of OR population served by community systems that meet health-based standards throughout the year



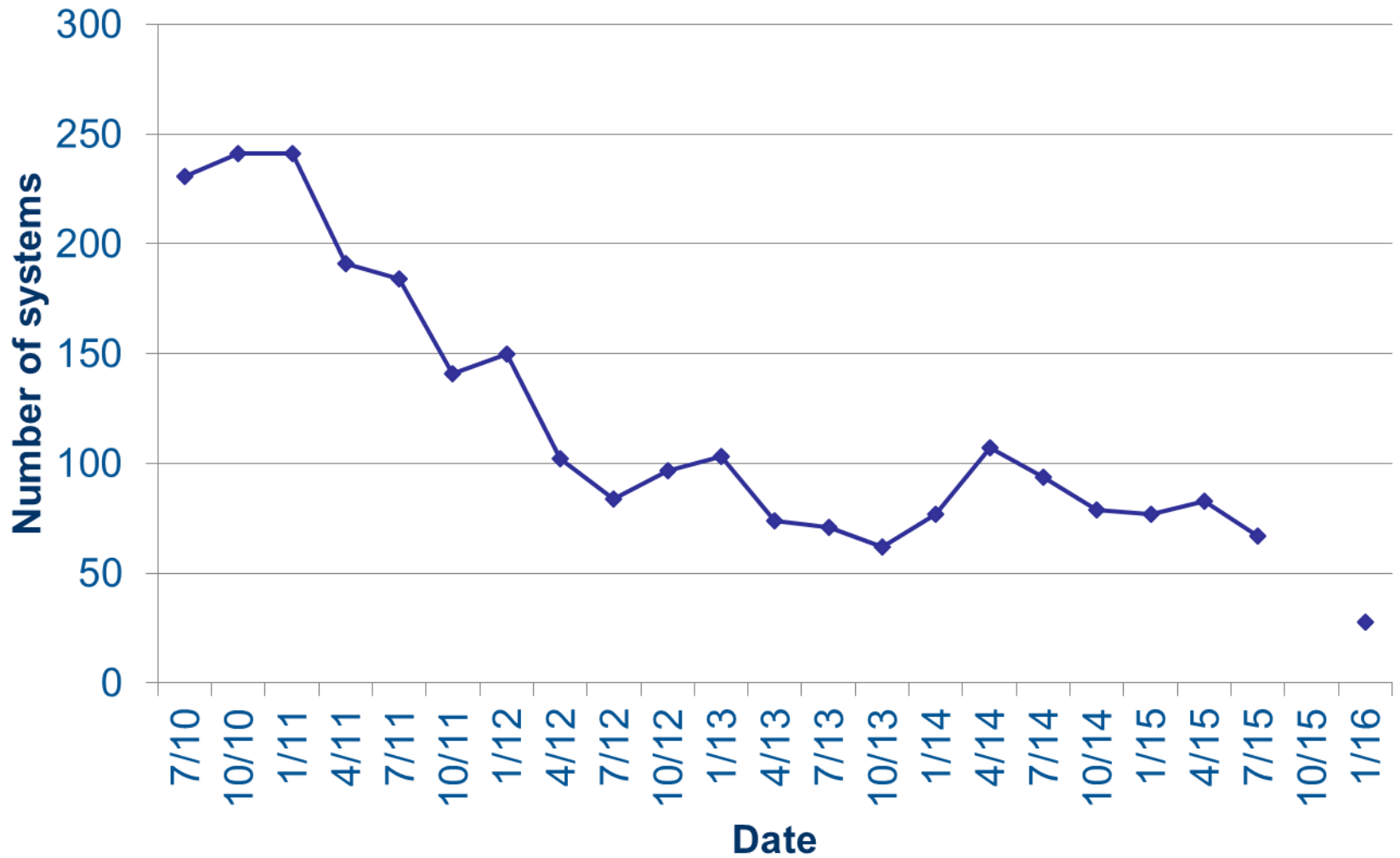
OR compliance trends

Small systems do not always meet standards

Measure #2-% of OR community systems that meet health-based standards throughout the year



Oregon priority noncomplier water systems (>10 points)



Regulatory update

- Recap of 2015 federal actions
- Current regs, ground water:
 - Significant deficiencies - wells
 - Ground Water Rule monitoring
 - Ground Water Under Direct Influence of Surface Water
- Future outlook:
 - Revised Total Coliform Rule
 - New contaminants
- DWS fee increases, now in effect

Recap of 2015 federal water actions

- Draft 4th Contaminant Candidate List
- 2nd round of source monitoring for Long-Term 2 Enhanced Surface Water Treatment Rule
- Final recommended fluoride application level from HHS
- Water sector cybersecurity report
- Final rule defining Waters of the US
- Health advisories for cyanotoxins
- Final Clean Power rule
- Final NDWAC recommendations on Lead and Copper Rule revisions
- Effluent guidelines for steam power plants
- Draft literature review/guidance on treatment technologies for *Legionella*
- Proposed UCMR 4

Significant deficiencies - wells

- **Purpose – inspect to identify deficiencies before water quality/safety is affected and assure they are corrected**
- Sanitary seal/casing not watertight
- Does not meet setbacks from hazards
- Wellhead not protected from flooding
- No raw water sample tap
- No treated sample tap (if applicable)
- No screen on existing well vent

Ground Water Rule

- **Purpose – identify wells subject to fecal contamination, fix them if possible or provide treatment**
- Triggered source water monitoring – if any distribution sample is coliform-present
- Source assessment monitoring for systems with any disinfectant
 - Minimum annual sample from untreated source water
 - Monthly for 1 year if DWS determines higher risk of fecal contamination exists (so far, 33 of 400 sources tested monthly were EC present)
- Confirmation source monitoring – 5 additional source samples within 24 hours if E. coli present in source
- 4-log virus inactivation treatment and reporting in lieu of source monitoring with DWS approval

Groundwater under direct influence of SW

- **Purpose – is it really groundwater?**
- **Criteria:**
 - Proximity to surface water
 - Confirmed or suspected coliform presence
 - Identified as highly sensitive in source water assessment
- **Procedure:**
 - Source water coliform monitoring for 1 year, option of hydrologic assessment first
 - If E. coli present, attempt to reconstruct well if construction is deficient
 - If E. coli persists, minimum of 2 microbiological particulate analysis (MPA) samples
 - High MPA score = direct surface water influence
- 164 sources assessed since 2007, 33 determined to be GWUDI

Revised Total Coliform Rule - RTCR

- **Purpose – “find and fix” coliform contamination**
- Final EPA rule: 2/13/13, compliance date: 4/1/16
- MCL for E. coli only!
- No MCL for total coliforms, instead:
 - PWS with TC presence, supplier must conduct Level 1 assessment
 - If TC presence persists, state/county conducts Level 2 assessment
- Rule applies to all 154,000 PWSs nationally
- See Oct 2015 PIPELINE, EPA Quick Reference Guide

Revised Total Coliform Rule - RTCR

- Draft state rule presentation to Drinking Water Advisory Committee on 7/16/14, to EPA in August
- **Adopt allowable monitoring reductions? Like TCR - no**
- Final draft to DWAC in Jan. 2015
- State rule adoption during fall 2015, winter 2016
- State Primacy applications due to EPA 2/13/15, **Oregon extension to 4/1/16**
- EPA/states emphasis now is on preparing for implementation, guidance documents, data systems

Regulatory predictions (Jan. 2016, AWWA)

Rule	Proposal	Final
4 th Unregulated Contaminant Monitoring Rule (UCMR4)	2015	2017
Long-Term Revisions to the Lead and Copper Rule	2017	2018/19
Perchlorate?	2017?	2019?
Carcinogenic Volatile Organic Compounds (cVOCs)?	2018?	2020?
Strontium (if positive regulatory determination made)	2018	2019-20
Cyanotoxins	2023	2025

To regulate a contaminant, SDWA requires that EPA determine whether:

- The contaminant may have an adverse effect on the health of persons;
- The contaminant is known to occur or there is a substantial likelihood the contaminant will occur in public water systems with a frequency and at levels of public health concern; and
- **In the sole judgment of the Administrator,** regulation of the contaminant presents a meaningful opportunity for health risk reductions for persons served by public water systems.

Process for regulating new contaminants

- EPA must consider at least five new contaminants for national regulation every five years (SDWA 1996)
- Three steps:
 - Contaminant Candidate List
 - Unregulated Contaminant Monitoring Rule
 - Regulatory Determination (yes, no, or need more info)
- Rinse and repeat (on third round now)
- Since 1996, EPA has determined that regulation not needed for 20 contaminants
- New regulations coming for perchlorate, volatile organics, strontium, maybe hexavalent chromium?

Unregulated Contaminant Monitoring Rule 4

- Proposed Dec. 11, 2015, final 2017
- 40 list 1 contaminants:
 - **10 cyanotoxins/groups**
 - 2 metals (manganese)
 - 8 pesticides plus 1 manufacturing by-product
 - 3 brominated HAA DBPs
 - 3 alcohols
 - 3 semi-volatile VOCs
- Assessment monitoring 2018-2020, March through November (4 consecutive months for HABs)
- SW and GWUDI: 4 sampling events (8 for HABs)
- GW: 2 sampling events, no HABs

Long-term Lead and Copper Rule revisions

- 1984 – Oregon lead solder ban, 1991 – EPA LCR
- 2000 & 2007 - Short-term revisions to EPA LCR
- 2012 – CDC lowers recommended blood-lead level
- **2015 – Flint MI lead crisis** (and Washington DC in early 2000s)
- NDWAC working group recommendations – August 2015:
 - Proactively replace lead service lines (including “pigtails”!)
 - More robust and targeted public education
 - Strengthen corrosion control treatment criteria, increase water quality parameter (WQP) monitoring
 - Modify sample site selection to include customer requests, establish household lead action level and follow up
 - Separate requirements for copper, focus on copper corrosion
- Final EPA rule 2018/19

Perchlorate

- **Perchlorate inhibits human uptake of iodine**
- 1999 - UCMR 1 detected perchlorate in 160 (4%) of 3,865 systems
- 2008 – EPA proposed “do not regulate” determination
- 2009 - Supplemental request for comments
- 2011 – Regulatory determination reversed
- Depth and breath of science and technical issues under debate, including sensitive life stages
- Oregon – Umatilla basin ordinance range
- Final rule – 2019?

Carcinogenic VOCs

- **Evidence of cancer causation**
- First contaminants to be regulated “as a group”, a challenging task, complex science
- 8 currently regulated VOCs plus eight more from CCL3 - trichloropropane is the biggest concern
- Revised MCLs for TCE and PCE likely?
- Challenges to grouping: multiple analytic methods, diverse best available treatments
- Final rule – 2020?

Strontium

- **Skeletal impacts from calcium replacement, strontium is widespread in drinking water**
- Occurs widely in public water systems (5.3% of systems in UCMR3 have results > reference concentration)
- Cost of strontium removal may be similar to arsenic, depending on final MCL!
- Final regulatory determination pending, to be based on further data review...
- Final – 2019-20, if regulation pursued

Cyanotoxins

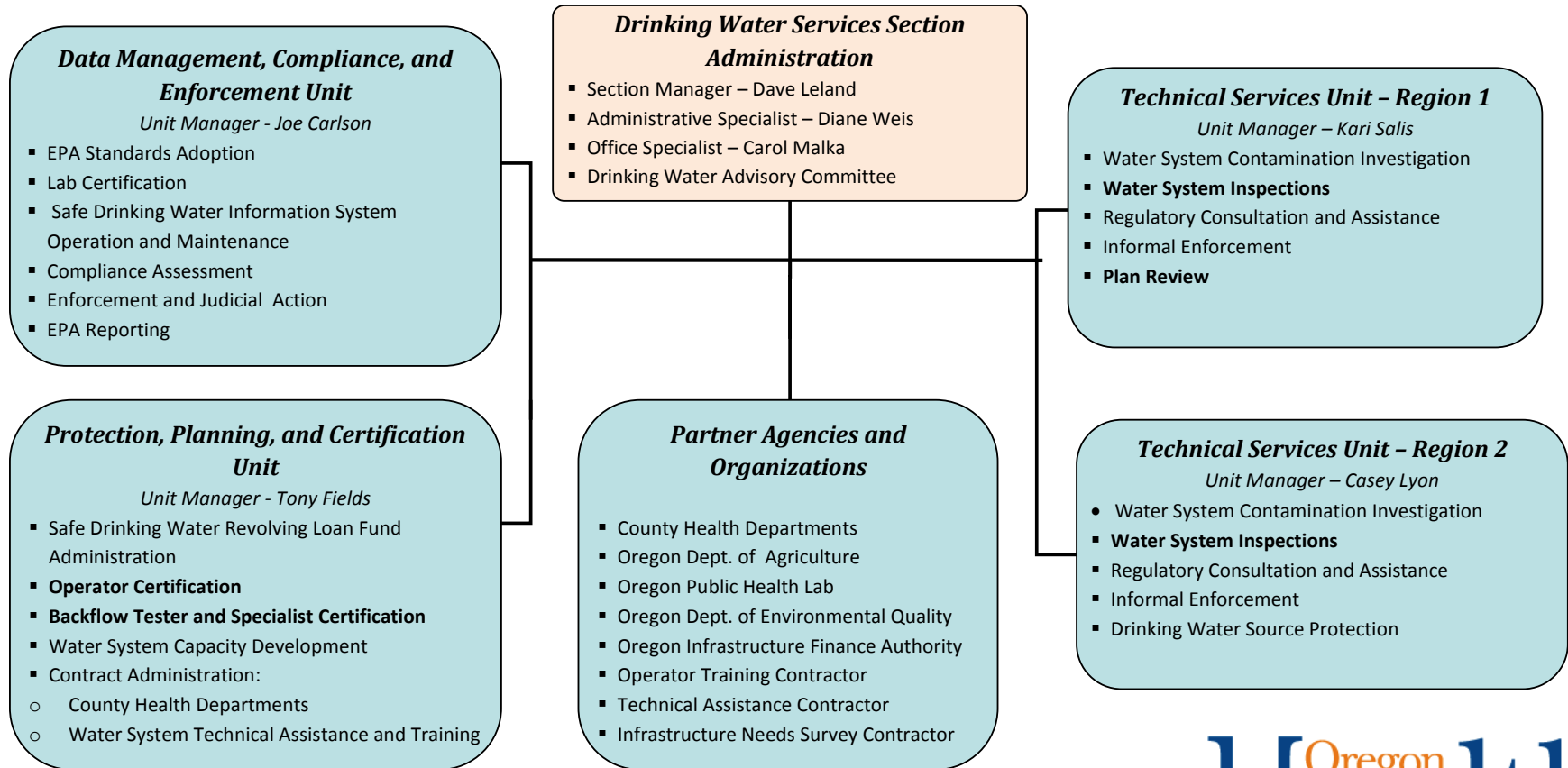
- **Toxic to nervous system, liver, and skin at low doses**
- Aug. 2014 – Toledo OH “do not drink” episode from massive algal blooms in Lake Erie
- June 2015 – EPA released ten-day health advisories for microcystin and cylindrospermopsin and implementation guidance
- Aug 2015 – Drinking Water Protection Act (P.L. 114-45)
- Nov. 2015 – Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water submitted by EPA to Congress as per P.L. 114-45
- Next: UCMR4 monitoring

Hexavalent chromium

- **Hexavalent chrome is carcinogenic when inhaled, ingestion impacts less clear but concerning**
- 2011 – Environmental Working Group report on Cr6 in U.S. municipal drinking water included “Bend OR”
- Aug 2013 - California proposed MCL at 10.0 ppb (public health goal 0.02 ppb), total cost estimated at \$156M for 310 groundwater source entry points
- Total Cr and Cr-6 are included in UCMR3 monitoring, detected in 75% of samples so far, low levels
- Treatment for Cr-6 is challenging, expensive, could exceed costs of all other SDWA regs depending on final MCL! (AWWA)
- Regulatory decision - TBD

Drinking Water Services Section
Center for Health Protection
Public Health Division

We assure all Oregonians safe drinking water (ORS 448)



DWS fee increase key messages

- The four fee-supported functions are recognized as high priority to protect public health.
- Fees were last raised in 1994, 2006, and 2008.
- Raising fees to fully support the fee-based workload will assure that these four specific functions are carried out.
- Federal funds from EPA provide the majority of the revenue for Drinking Water Services overall, level flat for past 20 years, and the future amount of federal funding remains uncertain.
- The fee increases are designed to fully fund the fee-based functions through the next two biennia (through June 30, 2019).
Current fees will more than double.
- The fee-based functions have a constant workload from biennium to biennium, since the total number of public water systems is stable over time. **No new positions were requested**; fee increases will fully support those current staff members that are assigned to these specific functions.

Fee increase authorization/adoption

- Jan-July 2015 - Legislature considered and authorized fee increases for 3 public health programs (including drinking water) as part of OHA budget, with public hearings
- July 15 – Drinking Water Advisory Committee reviewed draft fee increase rule, recommended OHA proceed with rulemaking as presented
- August 14 – notice of proposed rulemaking filed with Secretary of State
- Rulemaking public hearings held: Sept. 22-Bend, Sept. 23-Portland, Sept. 29-Springfield
- Oct. 21 - DWAC reviewed public comments, recommended OHA proceed with rulemaking as presented
- Nov. 6 - Hearings Officer Report, agency responses completed and posted on DWS website
- Nov. 16 – final rule filed with Secretary of State
- January 1, 2016 – fee increases effective

Balancing revenue/expenditures, 3-part solution

- Raise fees to cover full cost of fee-based services
- Use last remaining federal funds balance from prior grant year (SRF FFY 14 set-asides – source water assessment updates)
- **No vacancies filled until revenues=expenditures!**

Statewide program is getting smaller to be sustainable (37 staff by end of 2015, retirements mostly, more to come).

Program focus going forward is on essential functions that accomplish the most public health benefit.

Essential function priorities/ranking

1. Investigate reports of waterborne disease and reports from labs of contamination of public water systems, assure follow-up and public notice
2. Conduct on-site inspections of water systems, identify deficiencies, assure correction
3. Adopt and implement safe drinking water standards and regulations
4. Maintain statewide emergency response and respond to drinking water emergencies
5. Review and approve water system construction plans

Essential function priorities/ranking

6. Receive and enter WQ tests, assure data quality, determine compliance, report to EPA
7. Certify water system operators
8. Investigate priority noncomplier water systems and certified individuals, conduct enforcement
9. Identify water systems and maintain inventory and information
10. Consult with and educate water suppliers on regulations, treatment options, operation practices

Essential function priorities/ranking

11. Train water system operators
12. Conduct outreach to water suppliers and public through newsletters and website, coordinate with stakeholders and other agencies
13. Provide financial assistance to water suppliers for safe drinking water construction projects
14. Certify backflow testers and specialists, assure communities report on local backflow programs
15. Analyze compliance data to identify workload and compliance trends for program management and improvement

Essential function priorities/ranking

16. Maintain, manage, and upgrade safe drinking water database
17. Provide technical assistance to smaller water suppliers with operational problems
18. Accredit drinking water laboratories
19. Update source water assessments
20. Regulate non-EPA water systems
21. Assure water systems have technical, financial, and managerial capacity to provide safe drinking water
22. Conduct oversight of domestic well testing

2016 outlook

- Fee increase implementation
- RTCR implementation
- Source water assessment updates
- EPA Compliance Monitoring Data Portal pilot implementation – promote electronic reporting
- Other opportunities to streamline our activities and processes
- Focus on highest priority functions
- Stay engaged on national scene (ASDWA, EPA)
- Stay engaged in our agency improvement efforts (OHA transformation, PH modernization)

Questions?



Dave Leland david.e.leland@state.or.us 971-673-0415