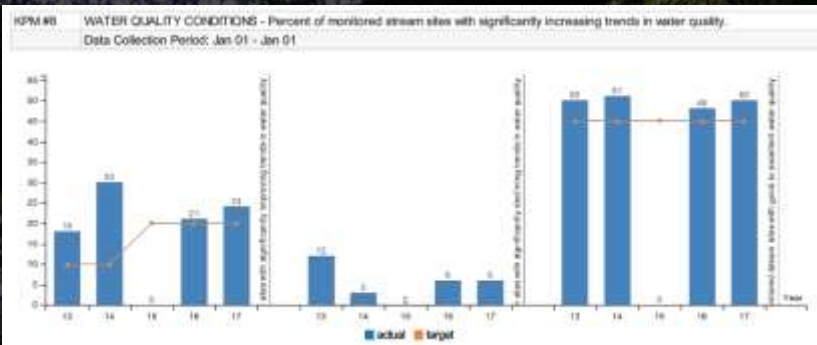


Oregon 2021 State of the Environment

Item I

July 23, 2021

Oregon Environmental Quality Commission meeting



DEQ Quarterly Measure Review 4th Quarter - 2017 Oct, Nov, Dec

Total Measure on track: 5/5
Total Measure at Risk: 0/0

Measure	Target	Actual	Status	Notes
Customer Experience	85%	85%	On Track	85%
Process Performance	85%	85%	On Track	85%
Workplace Safety	0%	0%	On Track	0%
Transparency	85%	85%	On Track	85%

Environmental Data Collection and Management at DEQ

Lori Pillsbury



Collecting Data for Environmental Outcomes

Our Core Work – Monitoring the environment over time

Water Quality

- Status & Trends Monitoring
 - Ambient Rivers & Streams
 - Oregon Water Quality Index
 - WQ Toxics monitoring
 - Biomonitoring
 - TMDL development / implementation
- Human Health / Vulnerable Communities
 - Statewide Groundwater Monitoring
 - BEACH monitoring

Air Quality

- Status & Trends Monitoring
 - National Air Toxics Trends Sites (NATTS)
 - AQ KPM
 - PM2.5 / Criteria pollutant sites
 - AQI
- Human Health / Vulnerable Communities
 - Air Toxics Assessments
 - SensOR



Collecting Data for Environmental Outcomes

Responding to Changing Conditions



Lake Billy Chinook, July 2020
Source: Oregon Health Authority



Sample from Brownlee Reservoir, OR
6/29/2020, DEQ



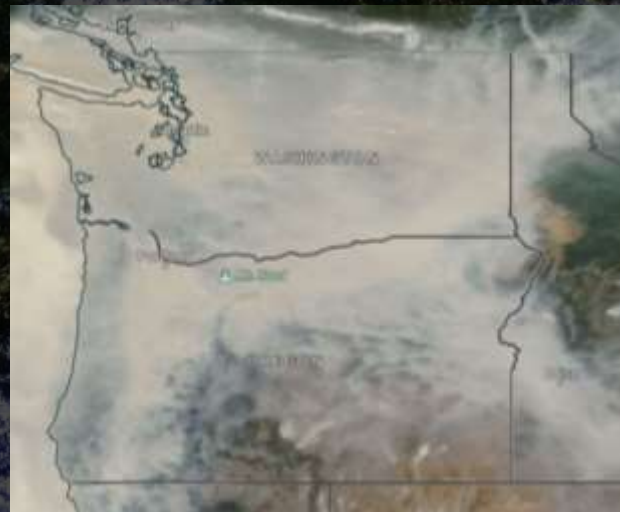
ELISA Instrument, DEQ

Water Quality

- Increased HABS monitoring
- Wildfire Response Monitoring
- Developing PFAS capabilities

Air Quality

- Expansion of SensOR network
- Community science focus
- Forecast & prediction



September 12, 2020

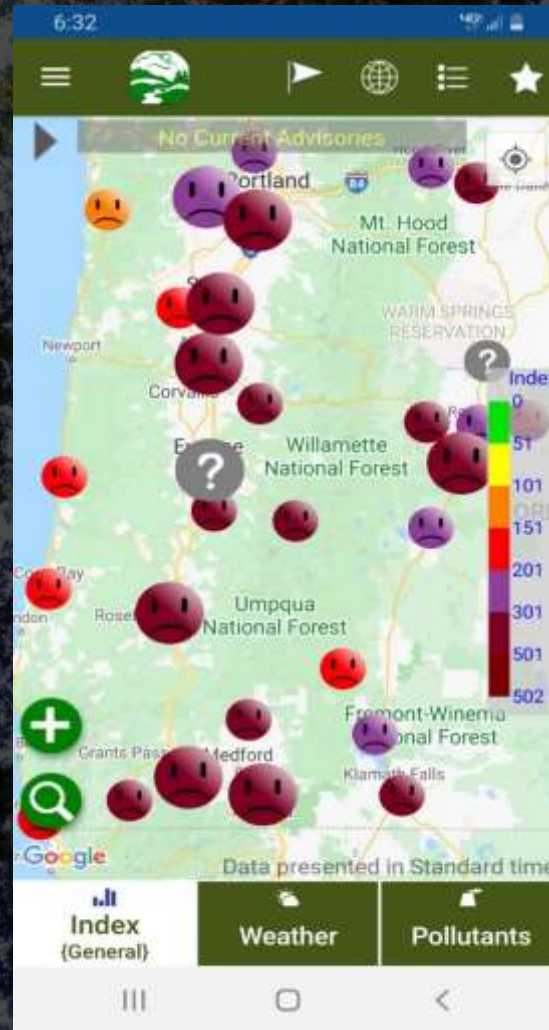
August 13, 2020		September 12, 2020	
AQI Category	AQI Value	AQI Category	AQI Value
Good	37	Hazardous	438

Site: Eugene Hwy 99
Source: DEQ

Data Generation and Management

Water Quality

- Real-time continuous data collection & evaluation
- Collaboration with sister agencies
- Inclusion of regulated community data (ambient)



Air Quality

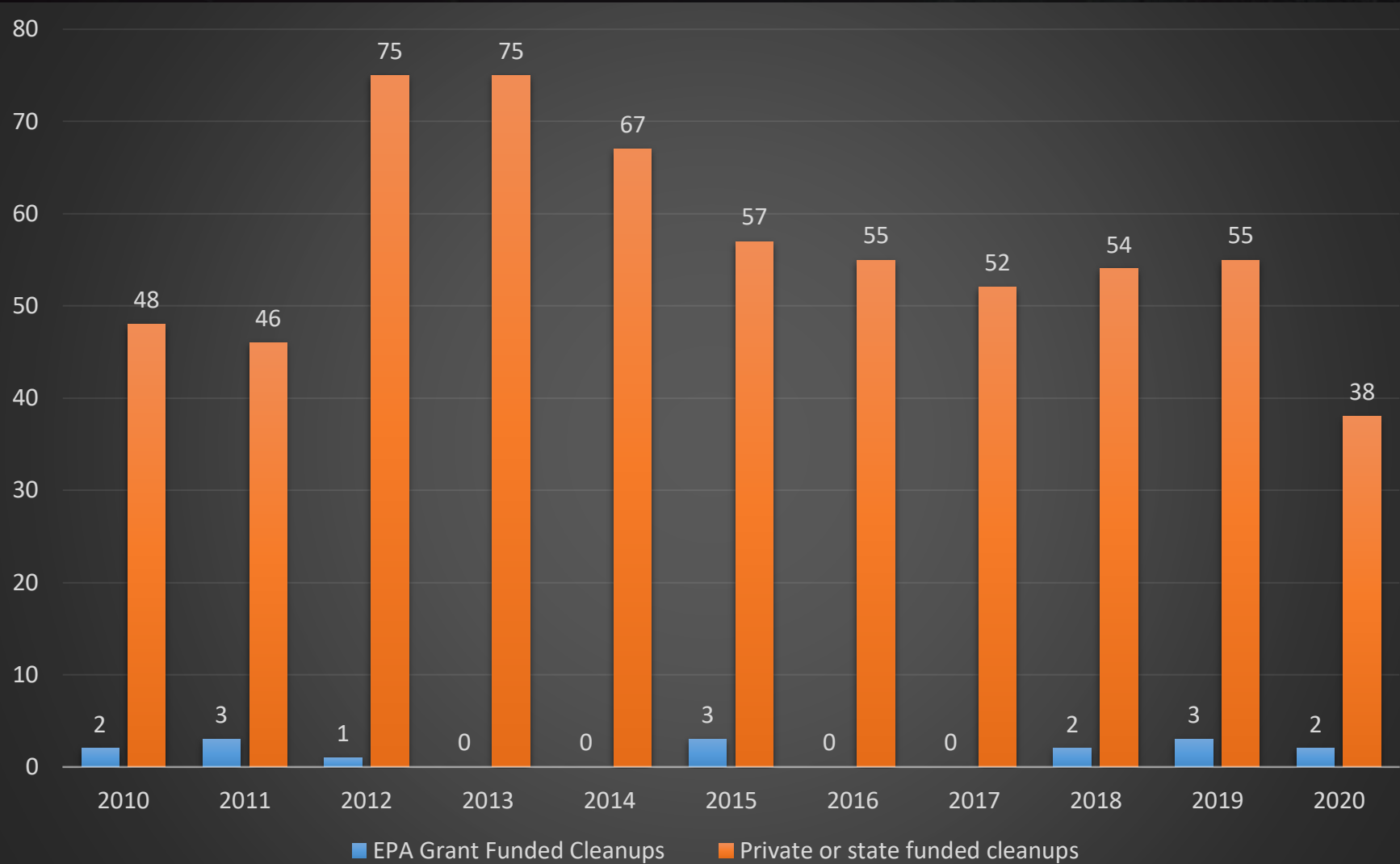
- Expansion of SensOR PM2.5
- Replacement of monitors with automated continuous samplers
- Cloud-based AQI
- Inclusion of PAMS monitoring

September 12, 2020
Source: DEQ

Safe and Productive Lands, and Sustainable Use of Materials

Lydia Emer

Brownfields Cleanups Completed



1,974 Acres
ready for reuse

Cleanups
Active

308

HW Facility Inspections



2020
INSPECTIONS

56

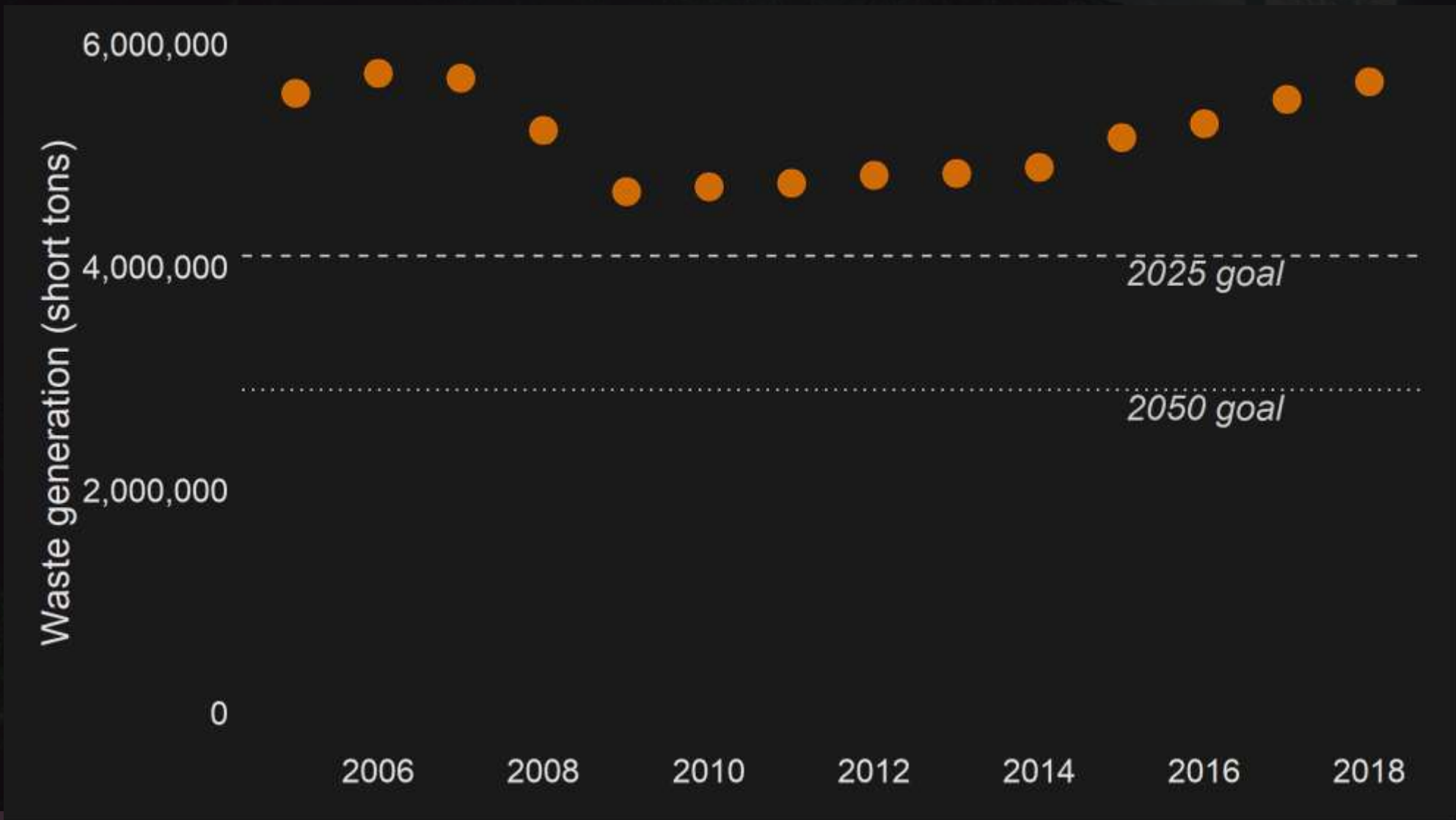
~533 HW Facilities in 2020

Most Common Violations

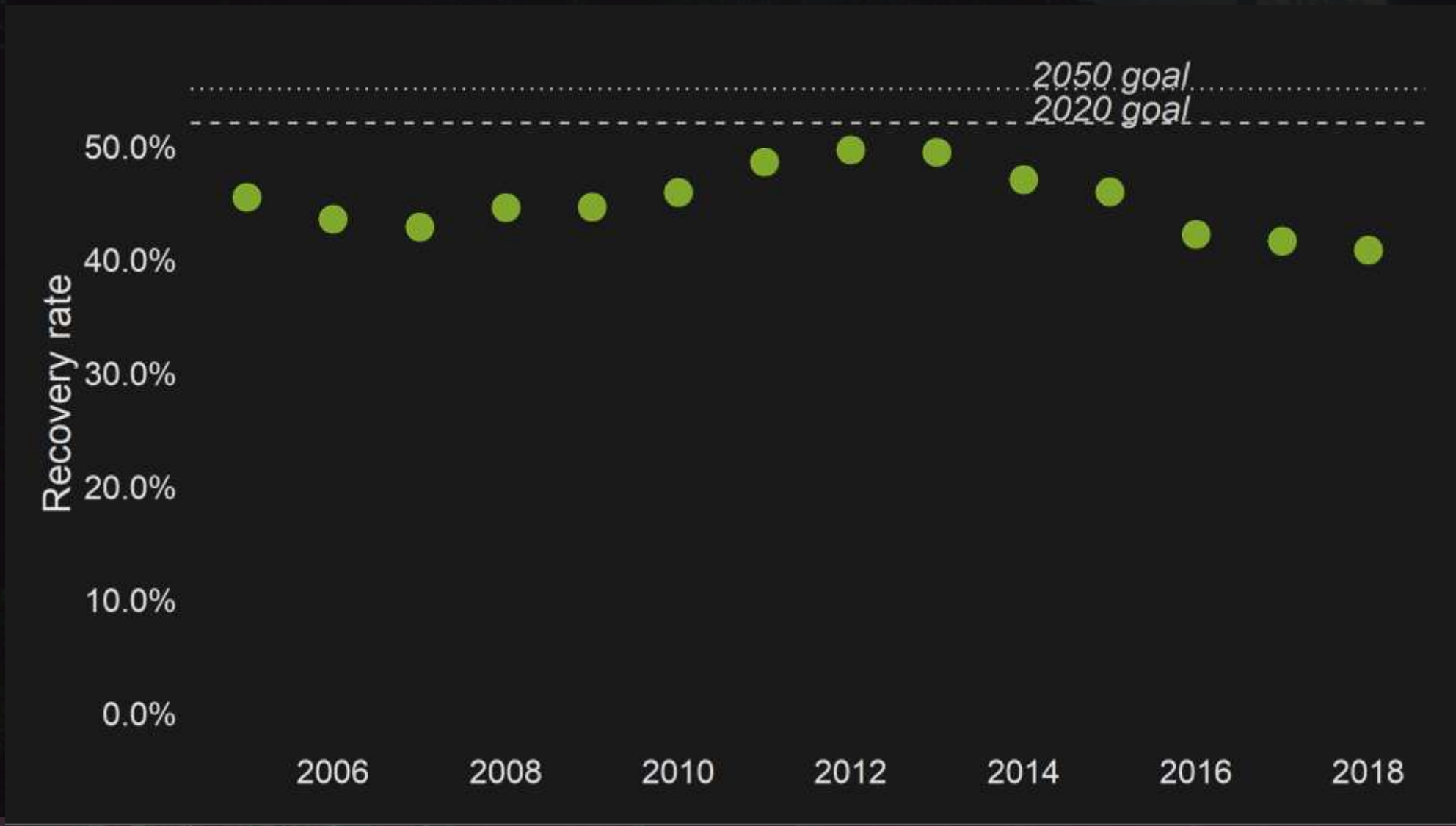
- ❏ Failure to make HW determination
- ❏ HW Management
- ❏ HW Piping leak detection

1 Inspection / 3 years

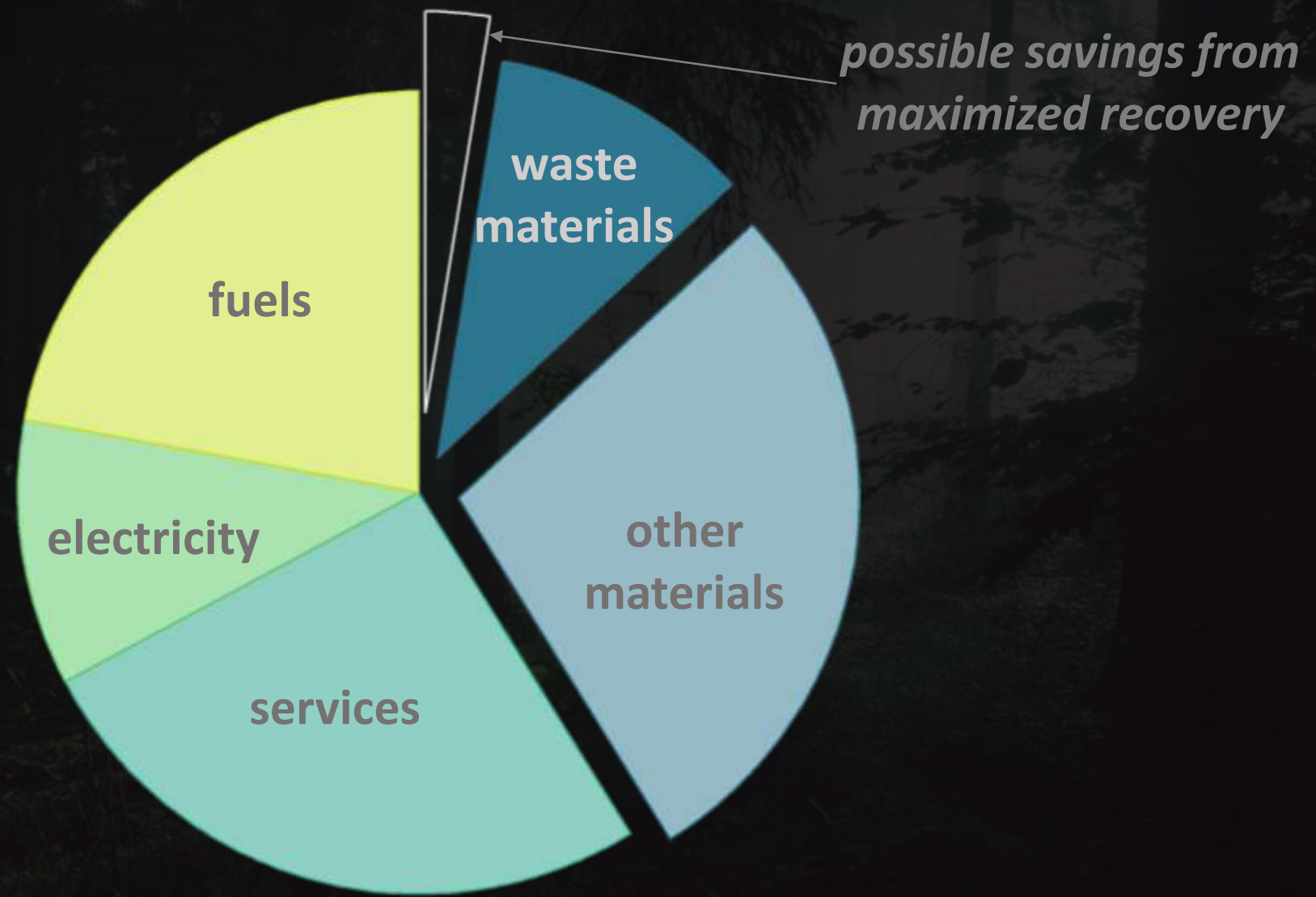
In recent years, generation has tracked economic activity



Recovery rate has been affected by marketplace changes



New view: Recycling will only be a small part of the solution



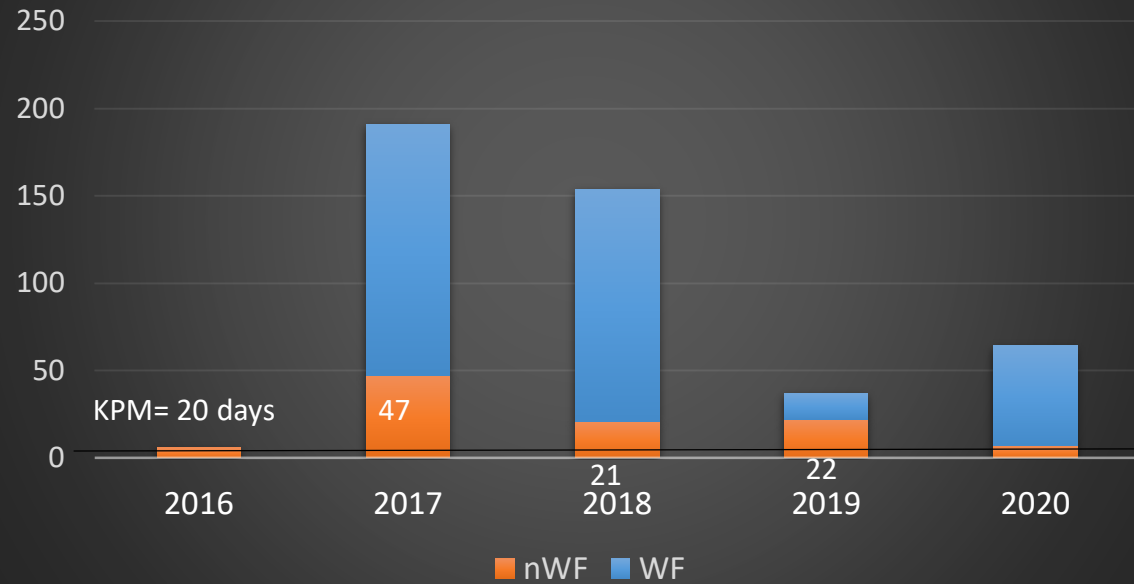
Clean Air

Ali Mirzakhali

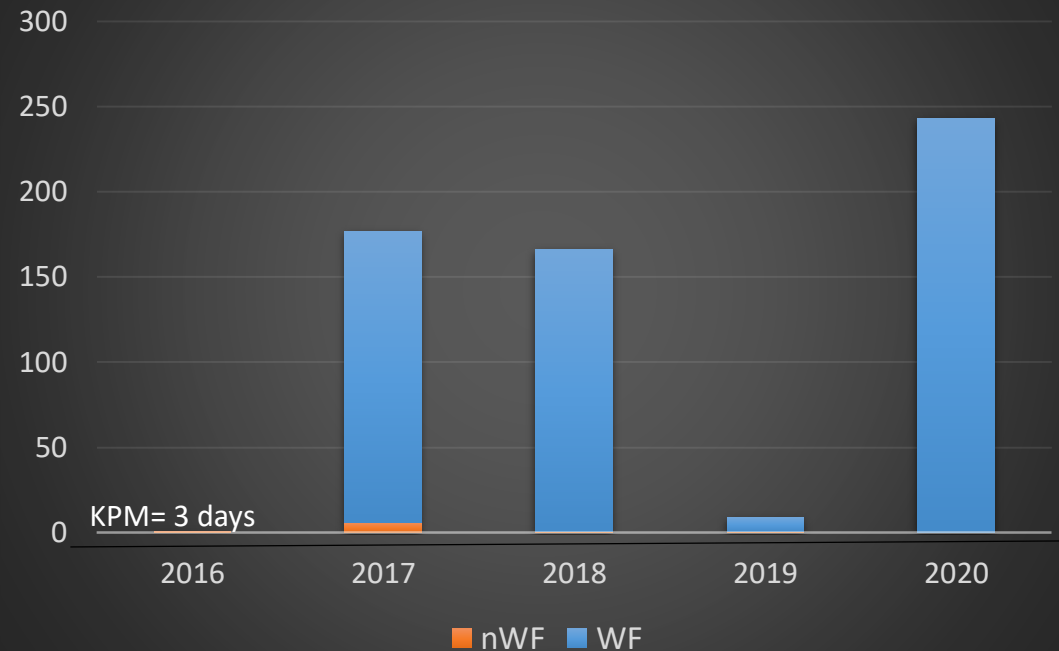


Statewide Totals, Unhealthy Air Quality Days

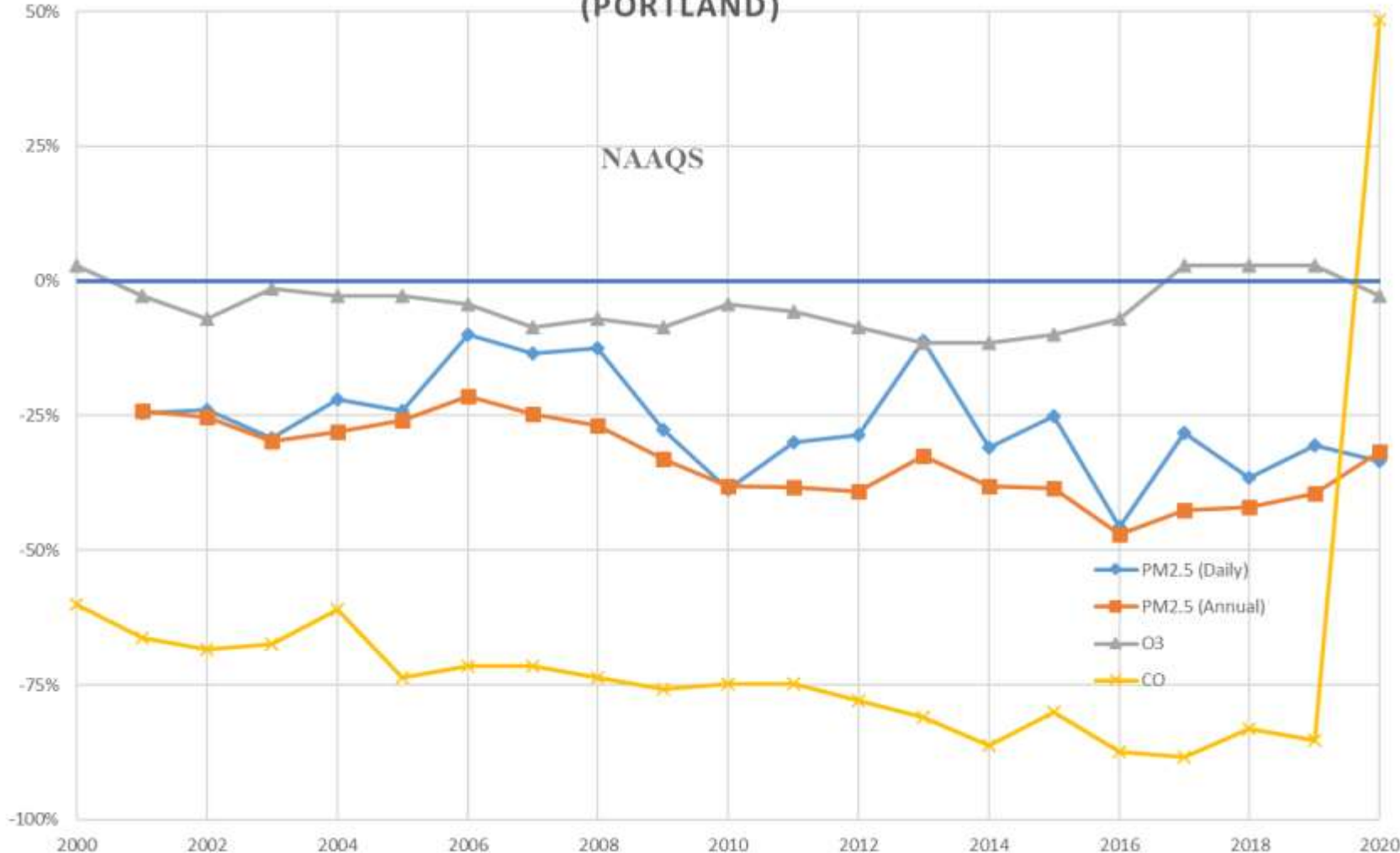
Unhealthy Days for Sensitive Groups



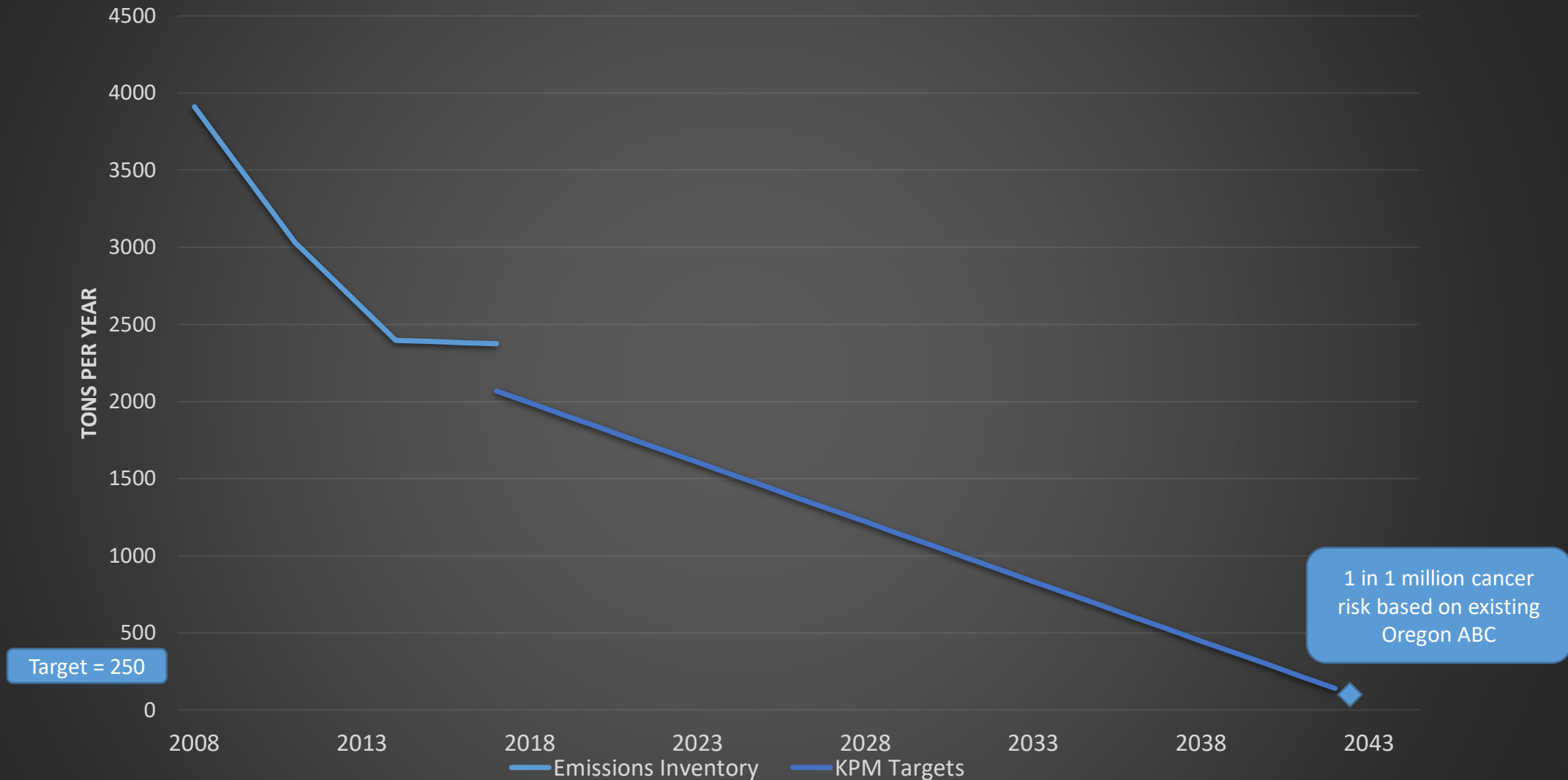
Unhealthy days for All



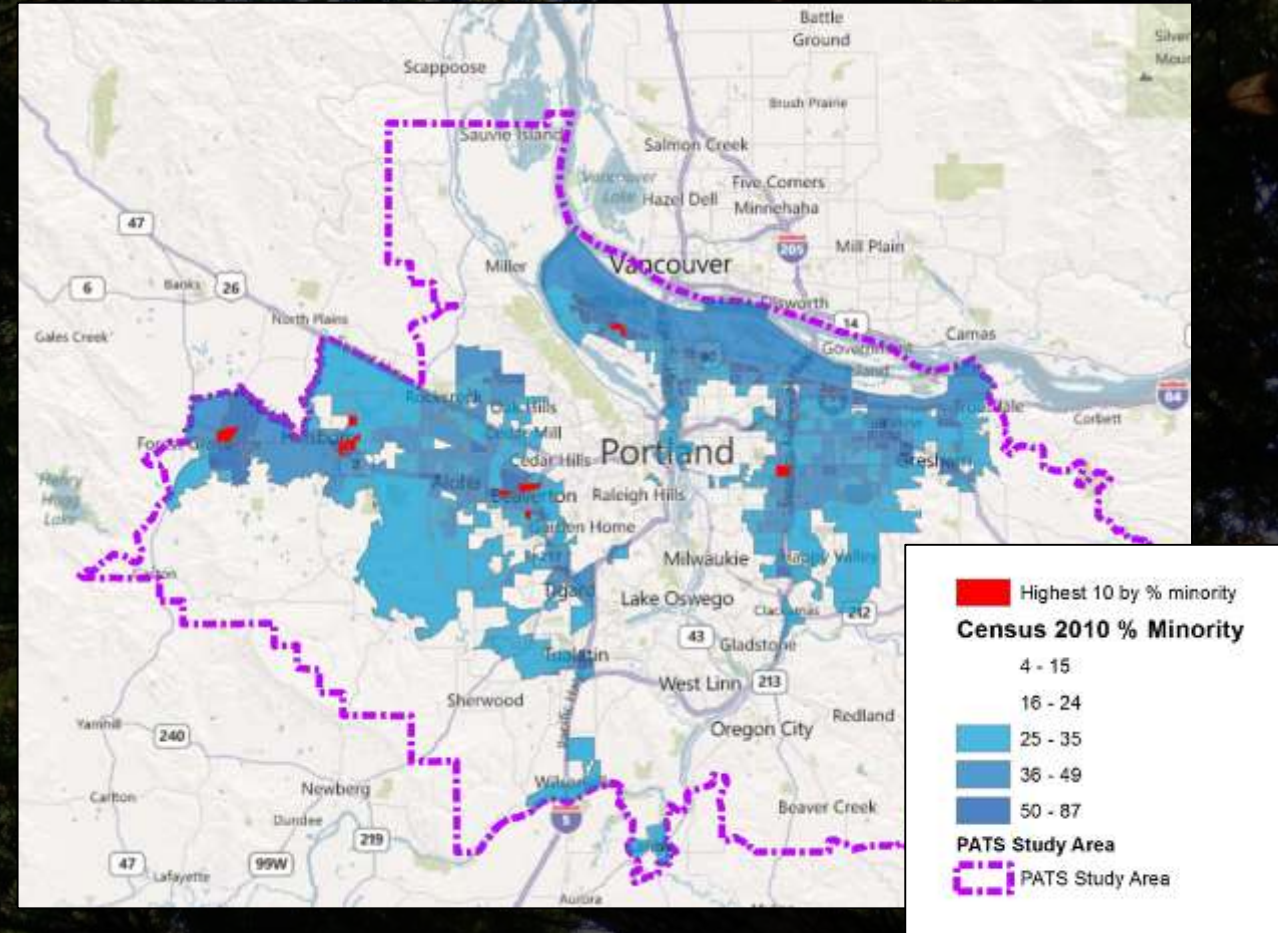
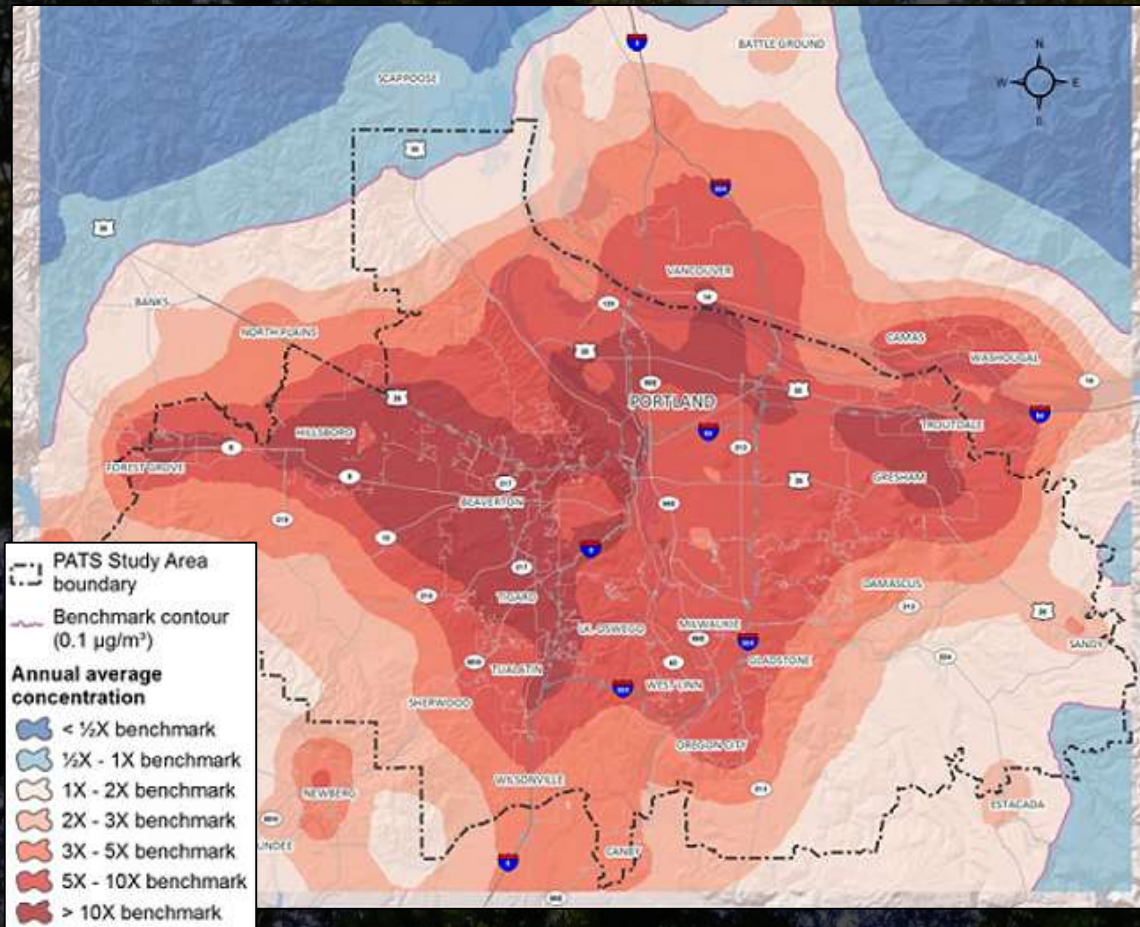
CRITERIA POLLUTANT LEVELS AS A PERCENT OF THE NAAQS (PORTLAND)



Diesel Fine Particulate Emissions in Oregon



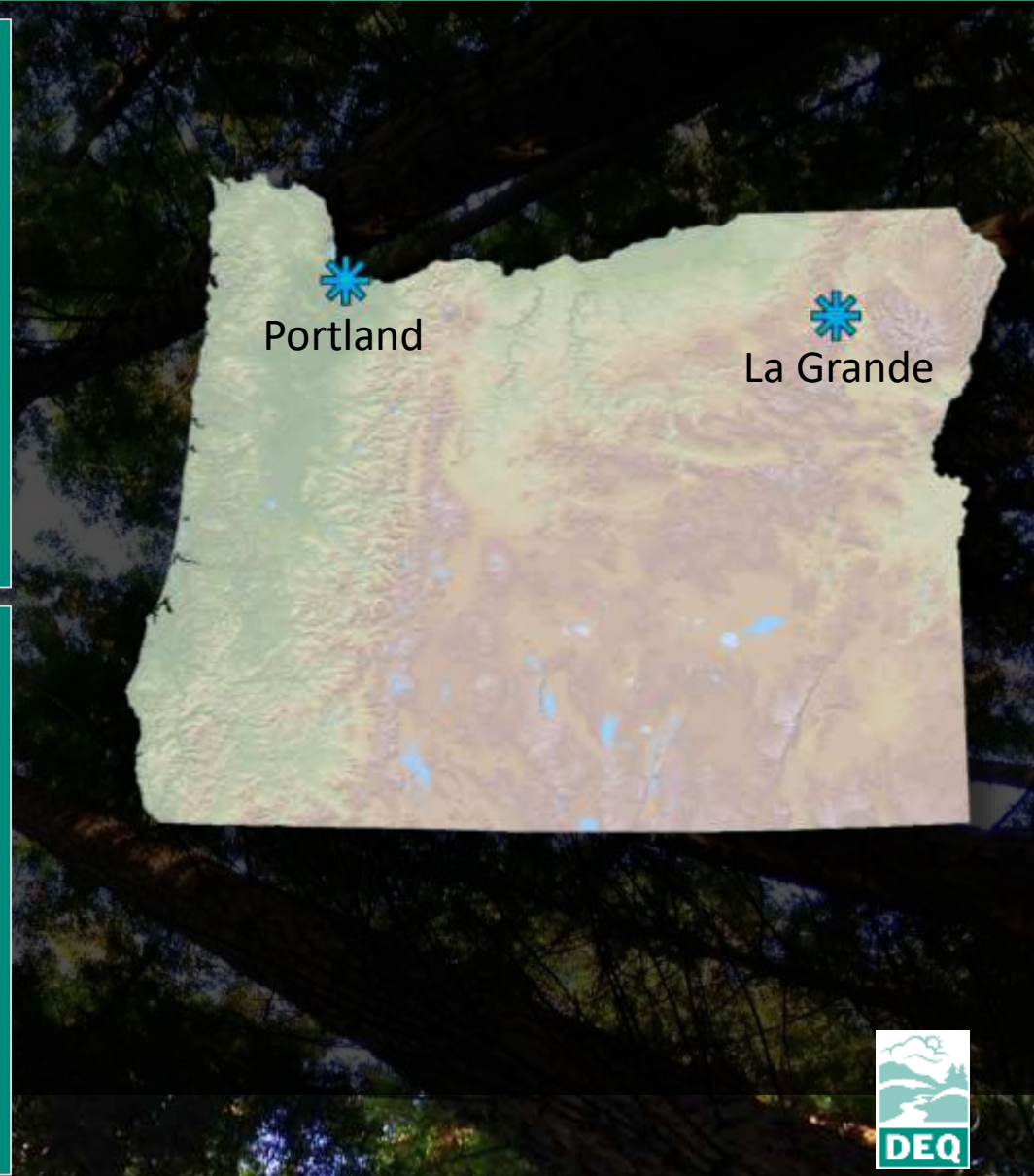
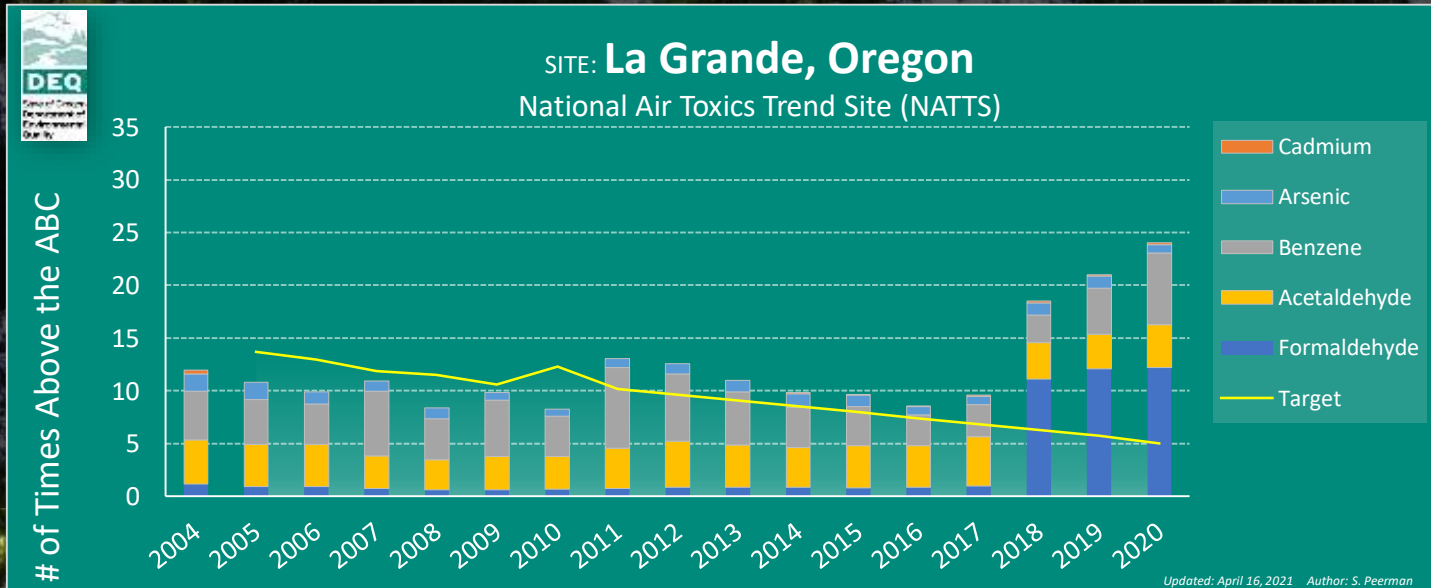
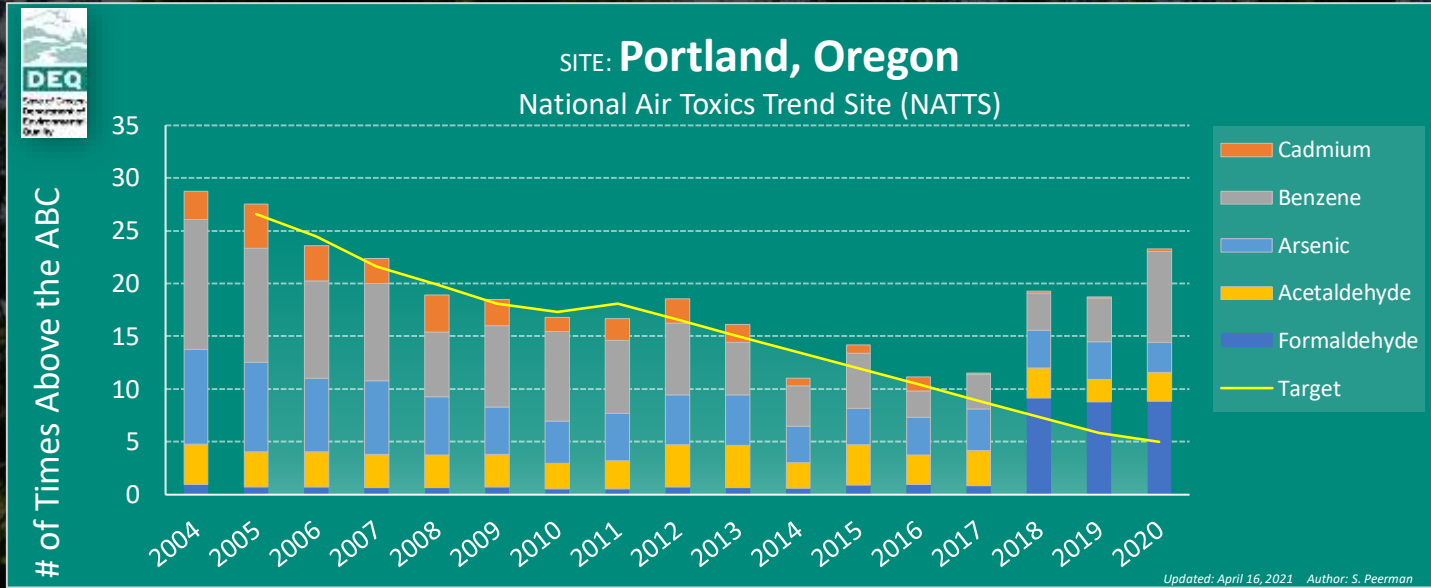
Diesel Exhaust and Environmental Justice





2018 Review of Ambient Benchmark Concentrations

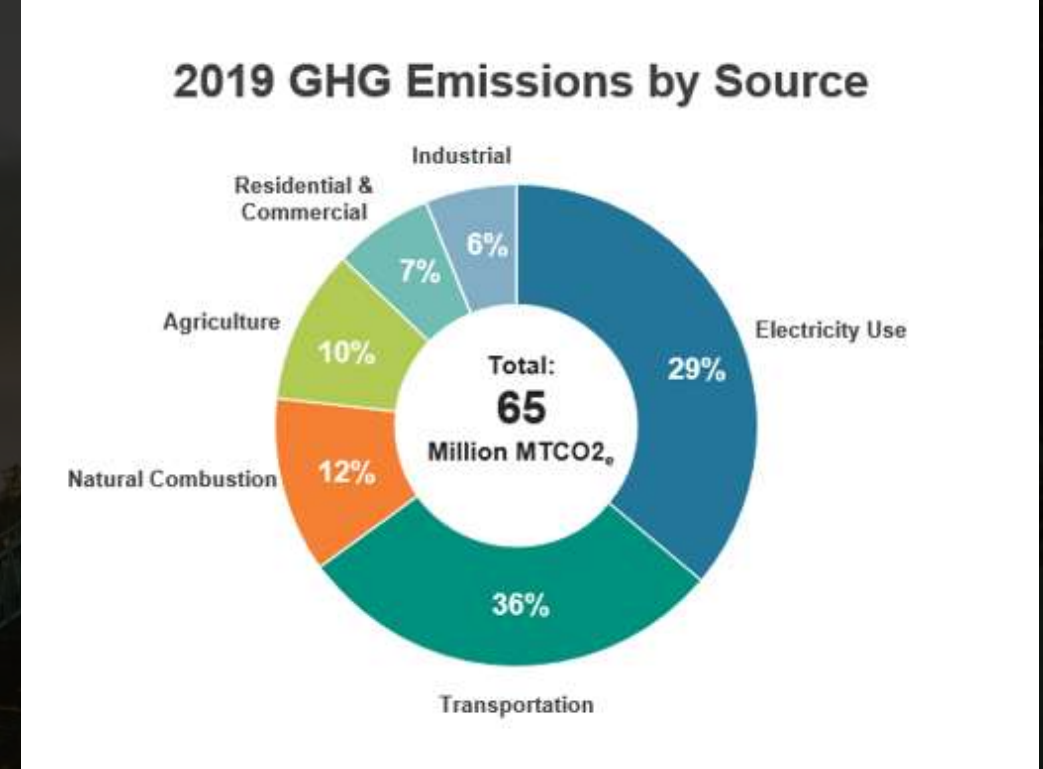
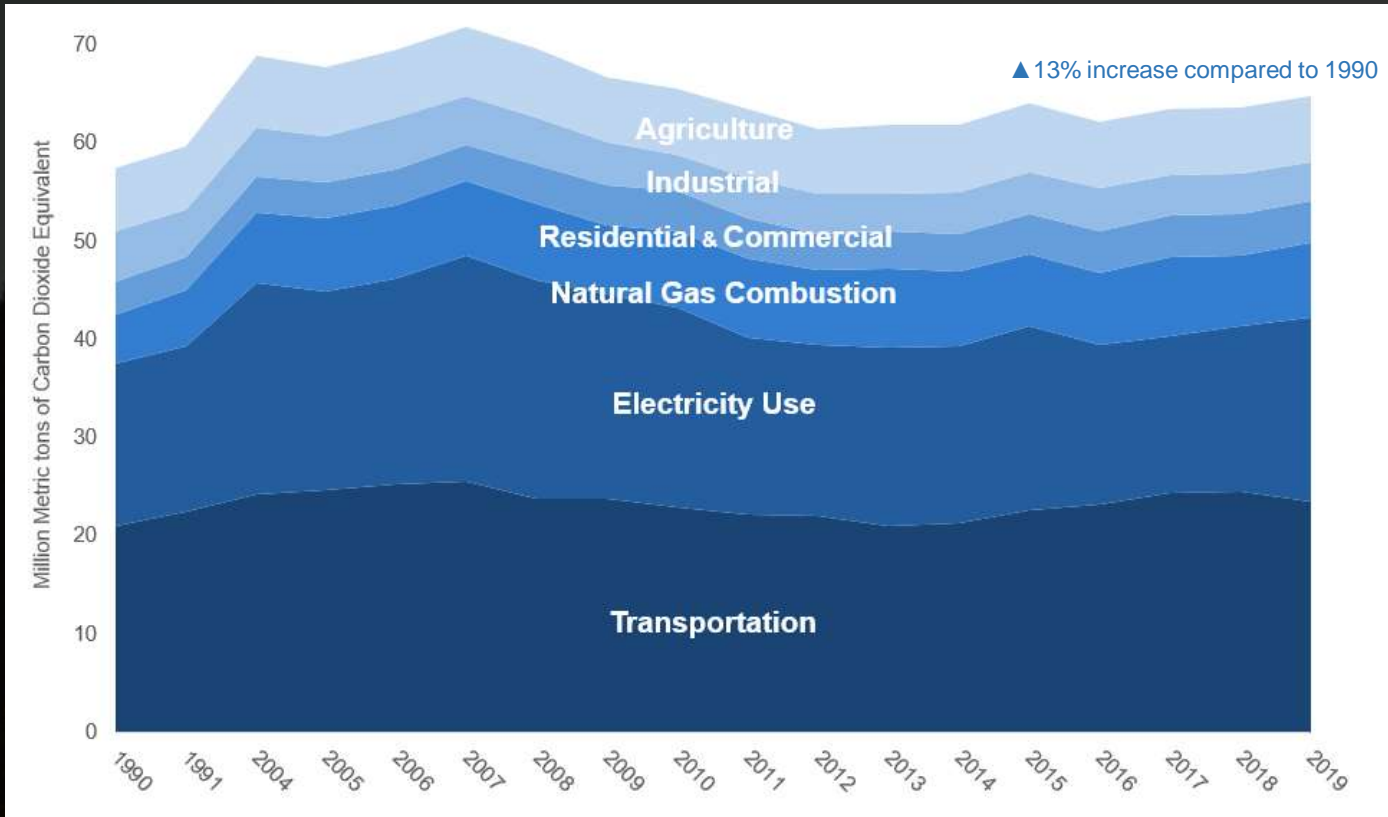
Formaldehyde ABC **3.0** $\mu\text{g}/\text{m}^3$ \longrightarrow **0.2** $\mu\text{g}/\text{m}^3$



Climate and Greenhouse Gas Emissions

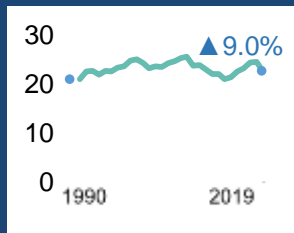
Colin McConnaha

Sector-based Greenhouse Gas Emissions 1990-2019

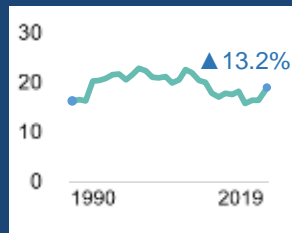


Emissions by sector 1990 vs. 2019

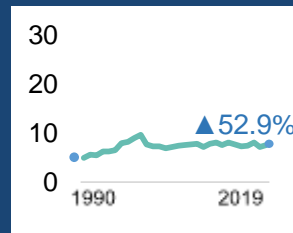
Transportation



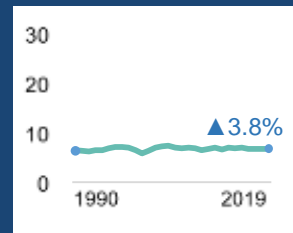
Electricity



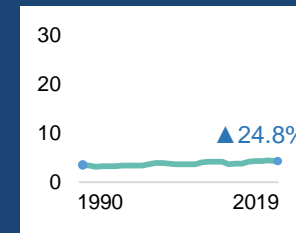
Natural Gas



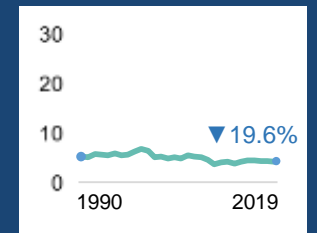
Agriculture



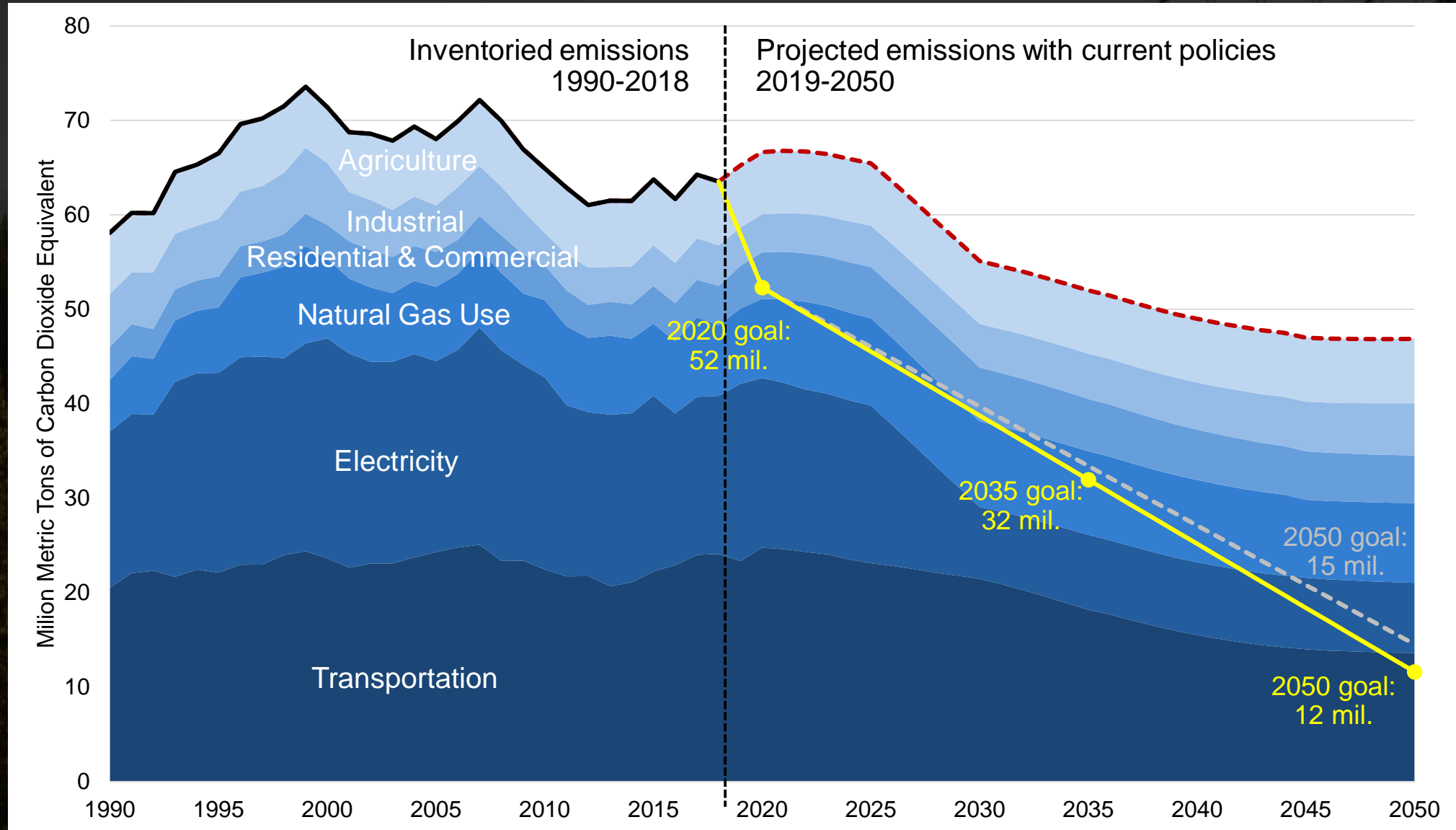
Residential and Commercial



Industrial



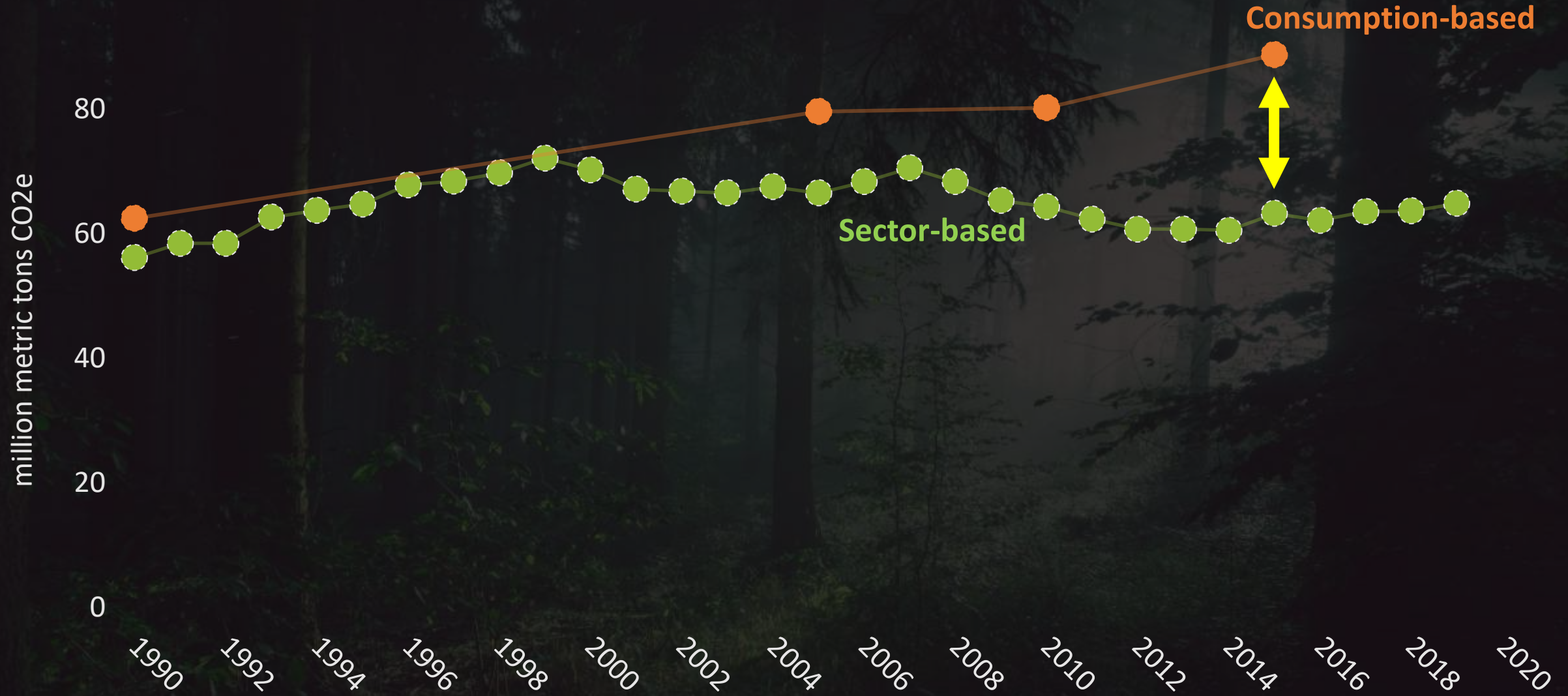
Sector-based Greenhouse Gas Emissions, Projections and Goals



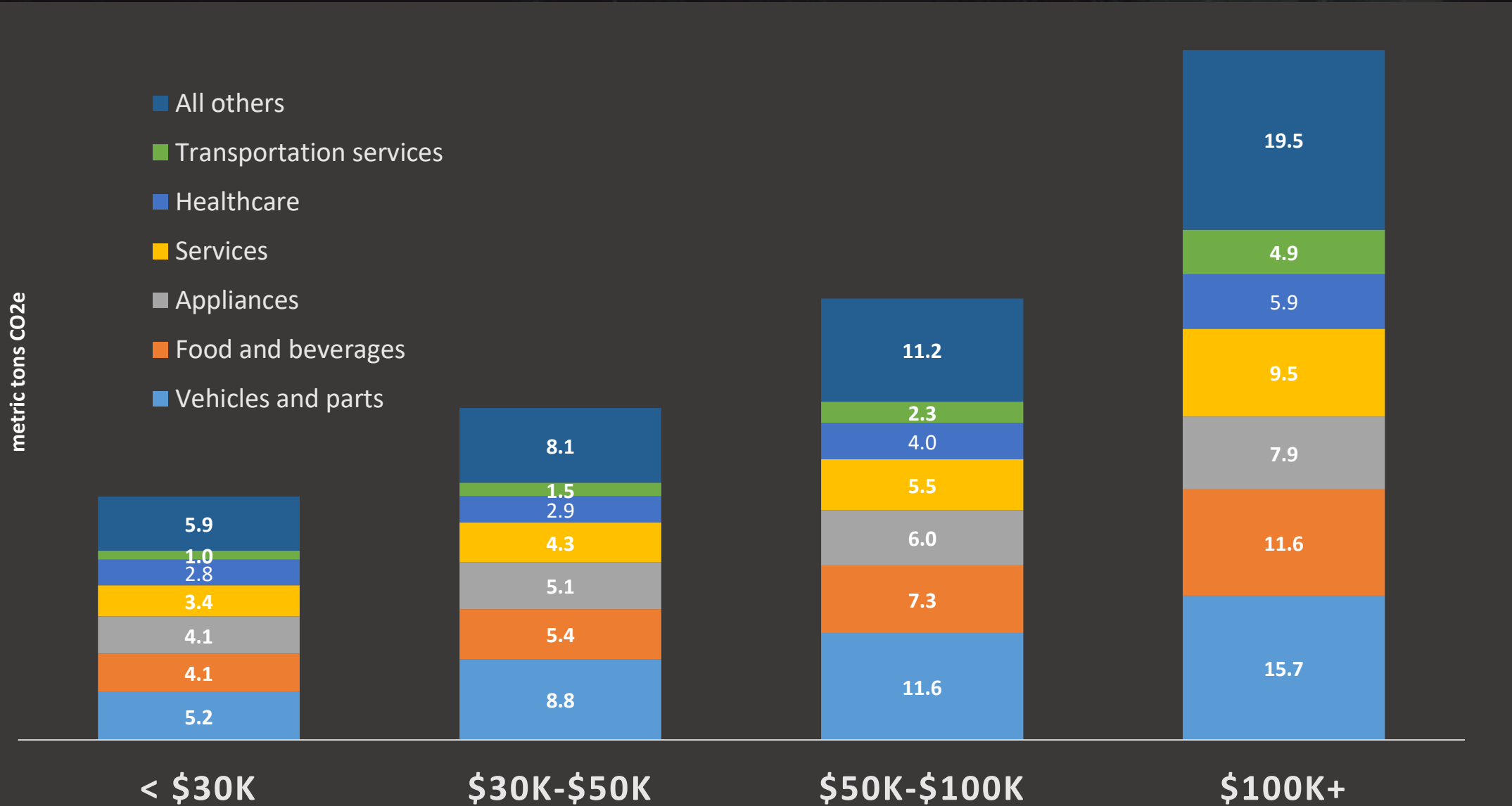
Oregonians are also responsible for some emissions outside our borders



Increasingly, Oregon is “exporting” emissions to other places



Higher-income households are responsible for more emissions

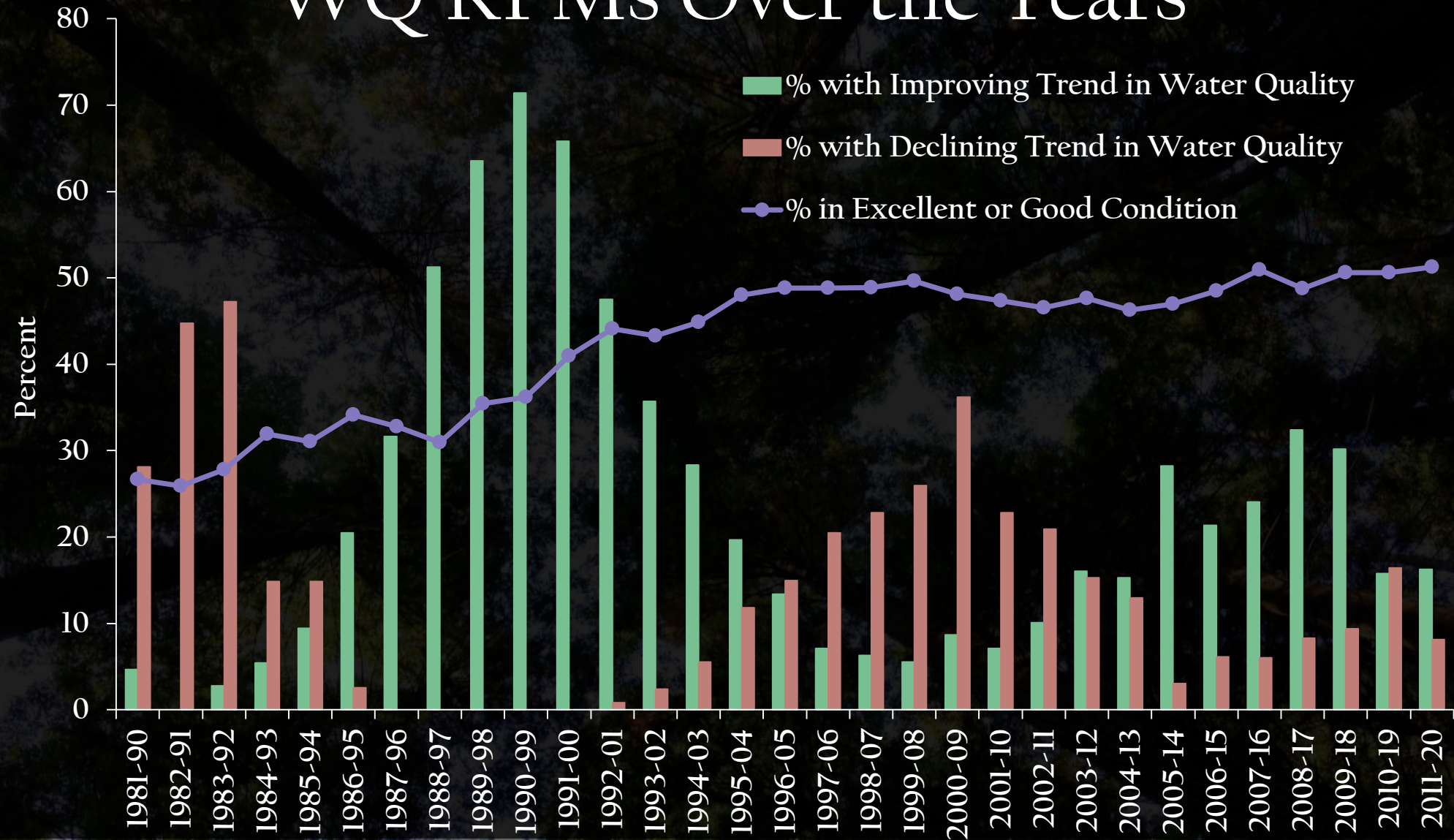


Clean Water

Justin Green



WQ KPMs Over the Years



Assessment Unit Summary

Table 8: Summary of assessment unit status across the state.

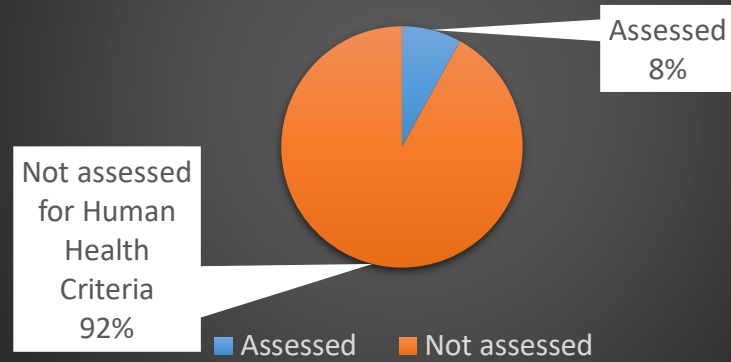
Pollutant	Attaining	Not Attaining	Unassessed
Dissolved Oxygen	133	337	903
Enterococcus	0	0	1
Escherichia Coli	157	166	491
pH	334	122	896
Temperature	119	498	848
Total Phosphorus	1	3	1058
Total Suspended Solids	0	2	1077

Water Quality Trends 1999-2018

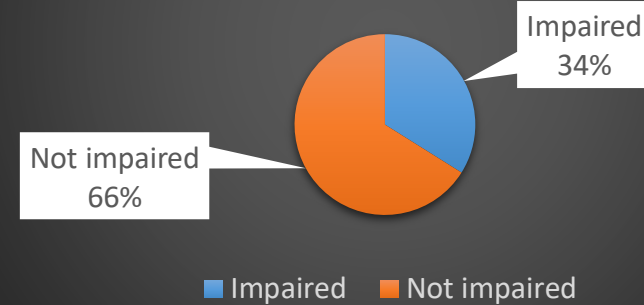
Table 11: Statewide summary of trends at stations across the state.

Pollutant	Improving	Degrading	Steady	No Significant Trend	Insufficient Data
Dissolved Oxygen	120	60	7	117	3205
Enterococcus	0	0	0	0	1
Escherichia Coli	68	49	5	141	2072
pH	0	153	65	133	3347
Temperature	40	203	4	19	3104
Total Phosphorus	33	15	60	82	1964
Total Suspended Solids	33	31	22	124	2138

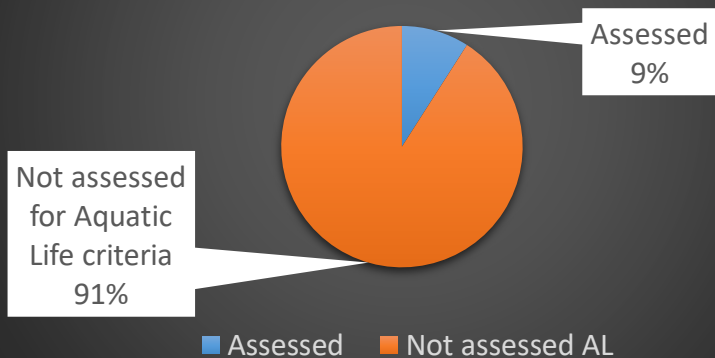
Number of AUs Assessed for Human Health Toxics



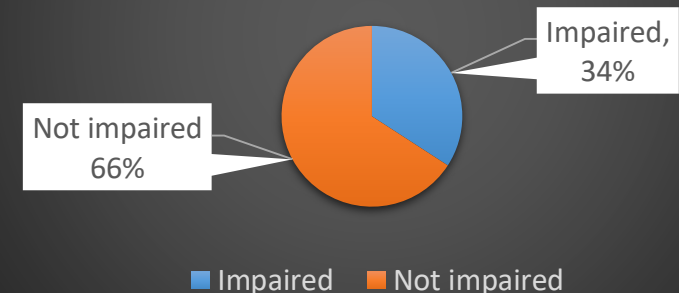
Number of Assessed AUs Impaired for Human Health Toxics



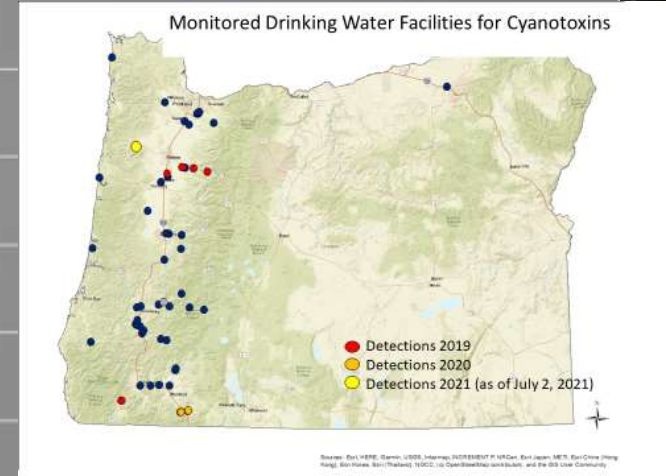
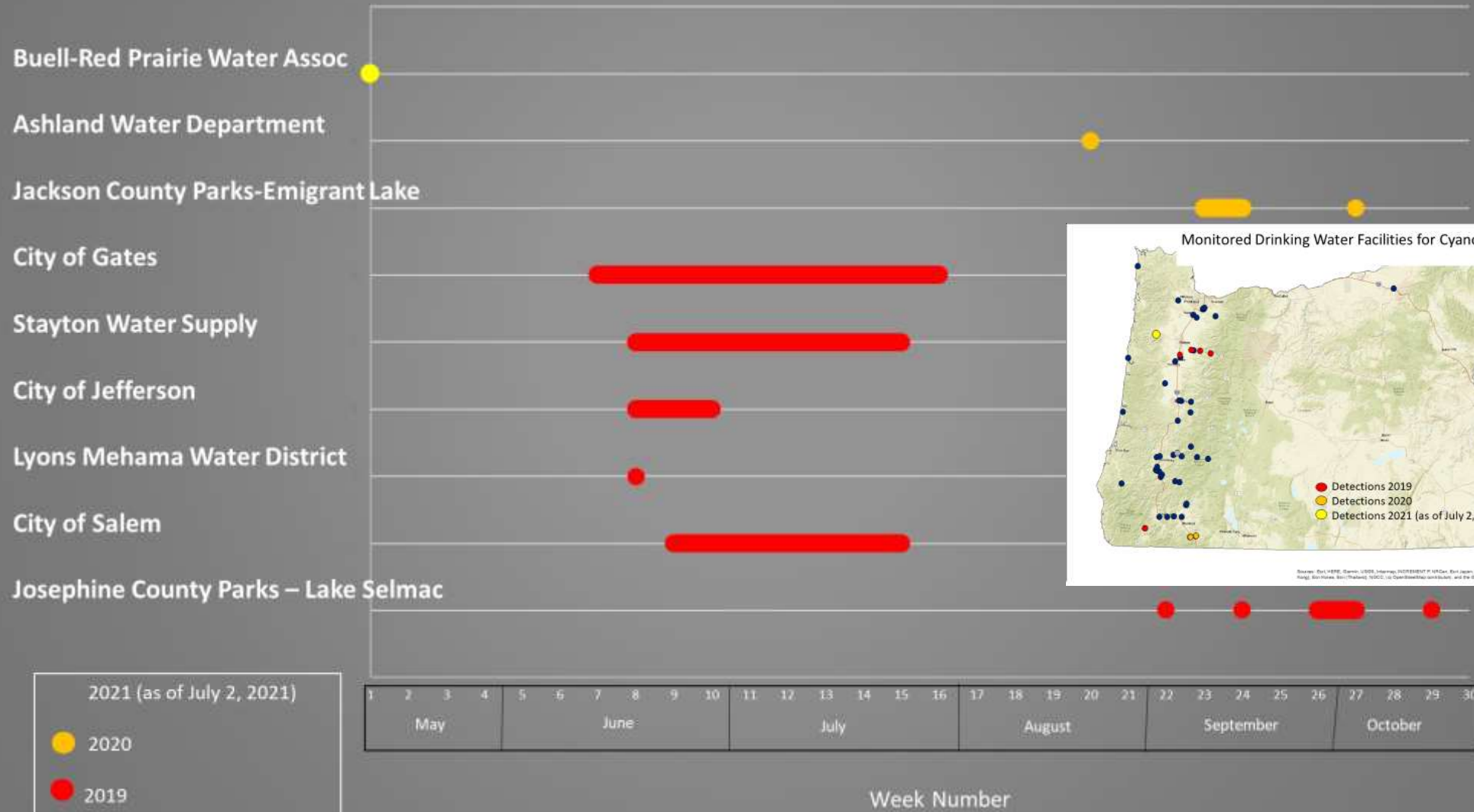
Number of AUs Assessed for Aquatic Life Toxics



Number of Assessed AUs Impaired for Aquatic Life Toxics



Number of Weeks Drinking Water Facilities Had Cyanotoxins Exceeding Action Level in Source Water



Oregon 2021 State of the Environment