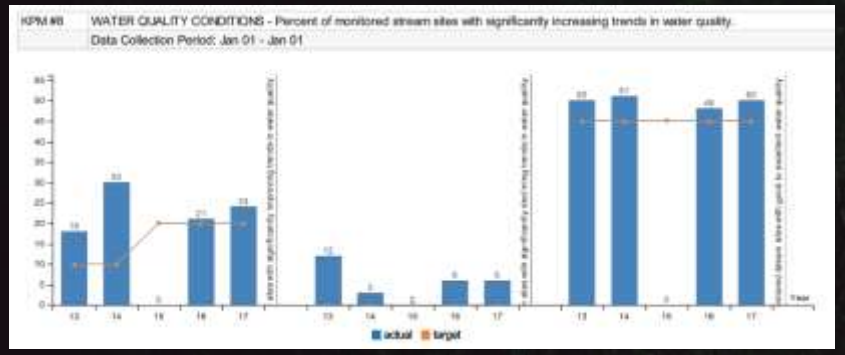
Oregon 2020 State of the Environment

Item B
Sept. 17, 2020


KPM #8
WATER QUALITY CONDITIONS - Percent of monitored stream sites with significantly increasing trends in water quality.
Data Collection Period: Jan 01 - Jan 01
actual
target


Brownfield Cleanups Since 2007
As a result of Oregon's efforts, 13,515 acres of contaminated land have been made available for reuse!
Cleanups Completed
679
Acres ready for reuse
13,515
Brownfield Cleanups in Oregon


DEQ Quarterly Measure Review
4th Quarter - 2017
Oct, Nov, Dec
Outcome
Customer Experience
Process performance
Workplace Safety
Timeliness

2020-21 DEQ Strategic Planning and Update of Performance Measures

Sample of a State Report Card

Climate

Heat and rainfall
Minnesota's climate is changing rapidly with more frequent extreme precipitation and increasing temperatures, especially in winter and at night.

Status: POOR — Trend: Problems are ahead

Greenhouse gas emissions
Despite success in the electricity generation sector, Minnesota is not on track to meet climate goals.

Status: POOR — Trend: Not much change

Climate change and wildlife
Populations of cisco — fish that walleye and trout rely on as a food source — are declining as temperatures rise.

Status: OKAY — Trend: Getting worse

Energy

Renewable electricity
Minnesota achieved 25% renewable energy in 2018 and is on track to surpass its renewable electricity standard of 28.5% by 2025. The state has the potential to go much further.

Status: GOOD — Trend: On track

Household energy use
Minnesota homes are becoming more energy efficient, but increased use of air conditioners, appliances, and personal devices is driving up overall energy consumption.

Status: GOOD — Trend: Improving

Transportation fuel
Use of fossil fuels for transportation must decline steadily to achieve the state's greenhouse gas reduction goal. Instead, fossil fuel use has been flat or growing for the past six years.

Status: POOR — Trend: Problems are ahead

Air

Air pollution
Minnesota is meeting national air standards, but air quality is still periodically unhealthy for sensitive populations.

Status: GOOD — Trend: Improving

Asthma
Asthma emergency room visits, which are linked to poor air quality, disproportionately impact communities of color and those living in poverty.

Status: OKAY — Trend: Not much change

Transit
Public transit use is decreasing, and the Twin Cities metro is not meeting its ridership goals, and transit needs in the rest of the state are unmet.

Status: POOR — Trend: Getting worse

Water

Lakes and rivers
We have reduced pollution from sewers and industry in the last several decades. However, pollution from agriculture, lawns, and roads is increasingly found in our drinking water supplies, rivers, and lakes.

Status: OKAY — Trend: About the same

Nitrate in water
Nitrate is one of the most common water pollutants in MN groundwater. In areas with vulnerable groundwater, wells are more likely to have elevated nitrate. Elevated nitrate in drinking water is a health hazard, especially for infants.

Status: POOR — Trend: About the same

Sustainable water use
Minnesota is at risk of depleting its water supplies in several areas of the state. Sufficient water supply is vital to our public health, economy, and ecosystems.

Status: OKAY — Trend: About the same

Land

Pheasants
Recent declines in pheasant and other grassland bird populations reflect significant losses of prairie and grassland habitat.

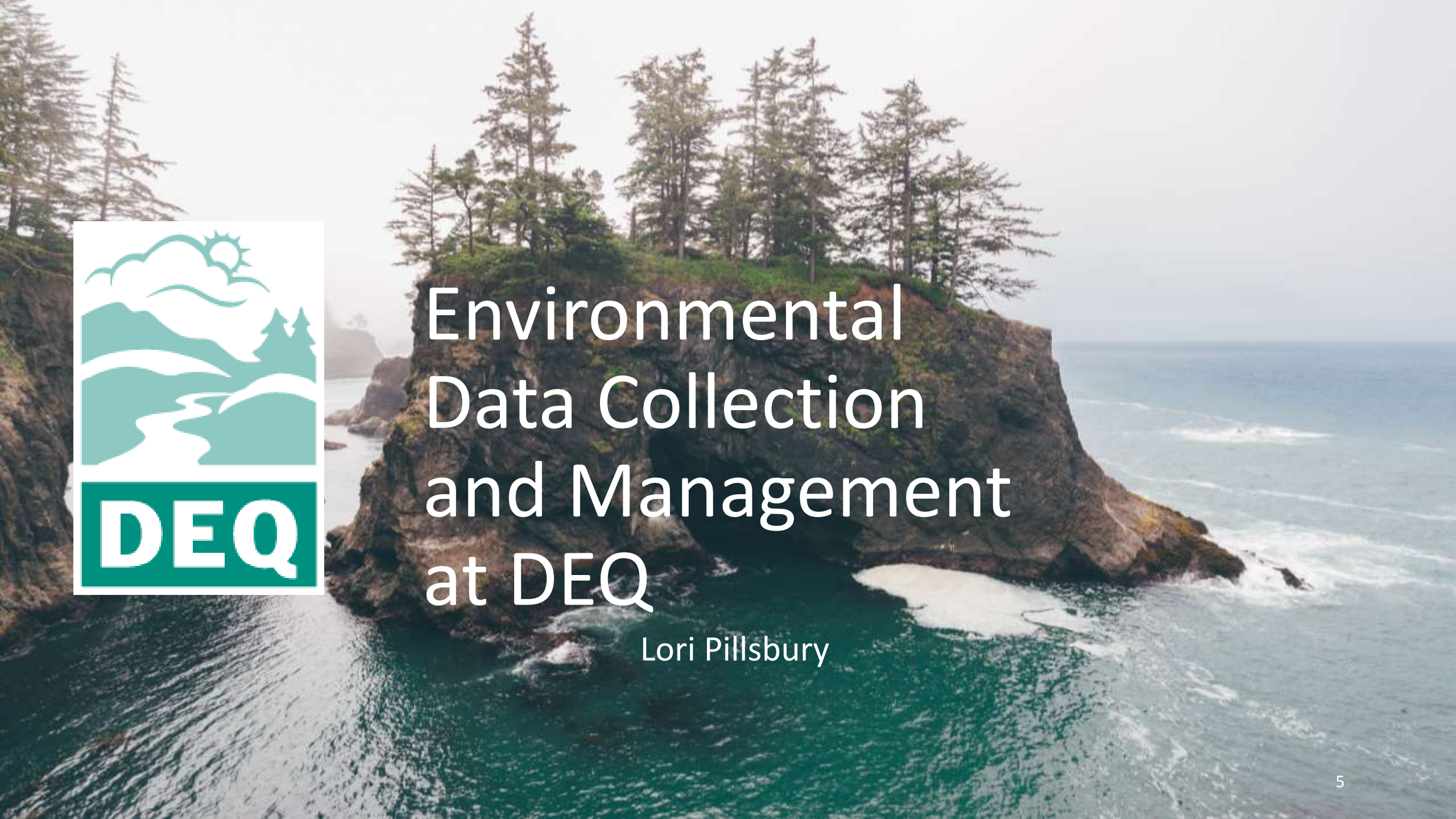
Status: POOR — Trend: Getting worse

Sprawl
Since 2002, the rate at which farmland, forest, wetlands, and wildlife habitat is converted into urban and suburban development has decreased.

Status: OKAY — Trend: On the right path

Recycling
About one-third of our waste is still sent to landfills. More of this waste could be recycled.

Status: POOR — Trend: About the same



Environmental Data Collection and Management at DEQ

Lori Pillsbury

Collecting Data for Environmental Outcomes

Monitoring environment over time

- Ambient river monitoring
- WQ Toxics monitoring
- National Air Toxics Trends Sites (NATTS)
- PM2.5 / Criteria pollutant sites

Protecting human health / vulnerable communities

- Statewide Groundwater Monitoring
- Cyanotoxin Drinking Water project
- Air Toxics Community Assessments
- BEACH monitoring
- Air Quality Index

Engaging partners & citizen science

- WQ Volunteer Monitoring
- AQ Low Cost Sensor Network
- WQ Pesticide Stewardship Partnerships

Data Management

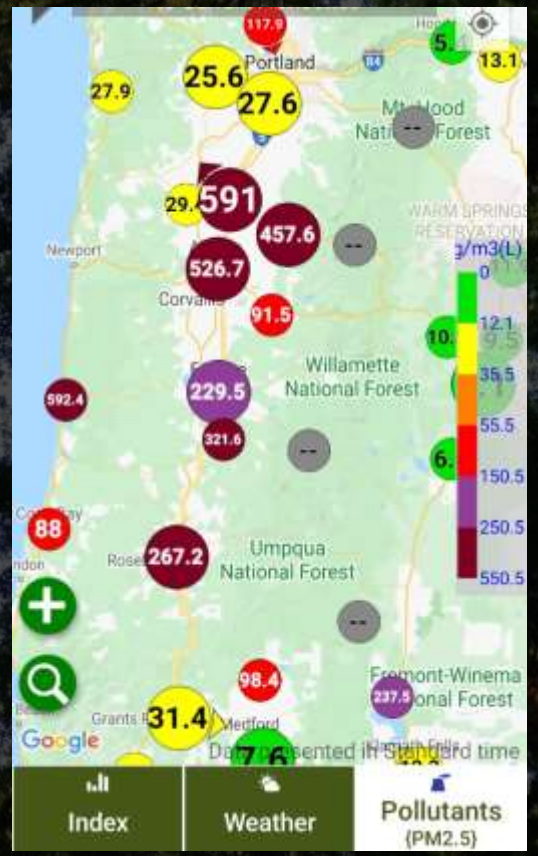
Current Status & Future Work

Water Quality

- AWQMS – public facing database
  - DEQ collected data
  - OWEB funded volunteer monitoring
  - Integrated Report – Call for data
  - Data exchanged to EPA

Future Work

- Further collaboration with sister agencies
- Inclusion of regulated community data
- Expansion of real-time data
- Public display & reporting



Air Quality

- Dr. DAS – internal datasystem
  - DEQ collected sensor data
  - Serves data for Air Quality Index online & phone app
- EPA AQS – data uploaded quarterly

Data Analysis & Reporting

Air Quality

- Air Quality Index
  - Online
  - Phone app
- Air Quality Advisories
  - Wildfire, ozone
  - Partner with OHA, AQ Division
- NATTS Air Toxics Trends
  - Data feeds KPM
- Air Toxics Community Assessments
  - Rotating sites
  - Community, not source, monitoring

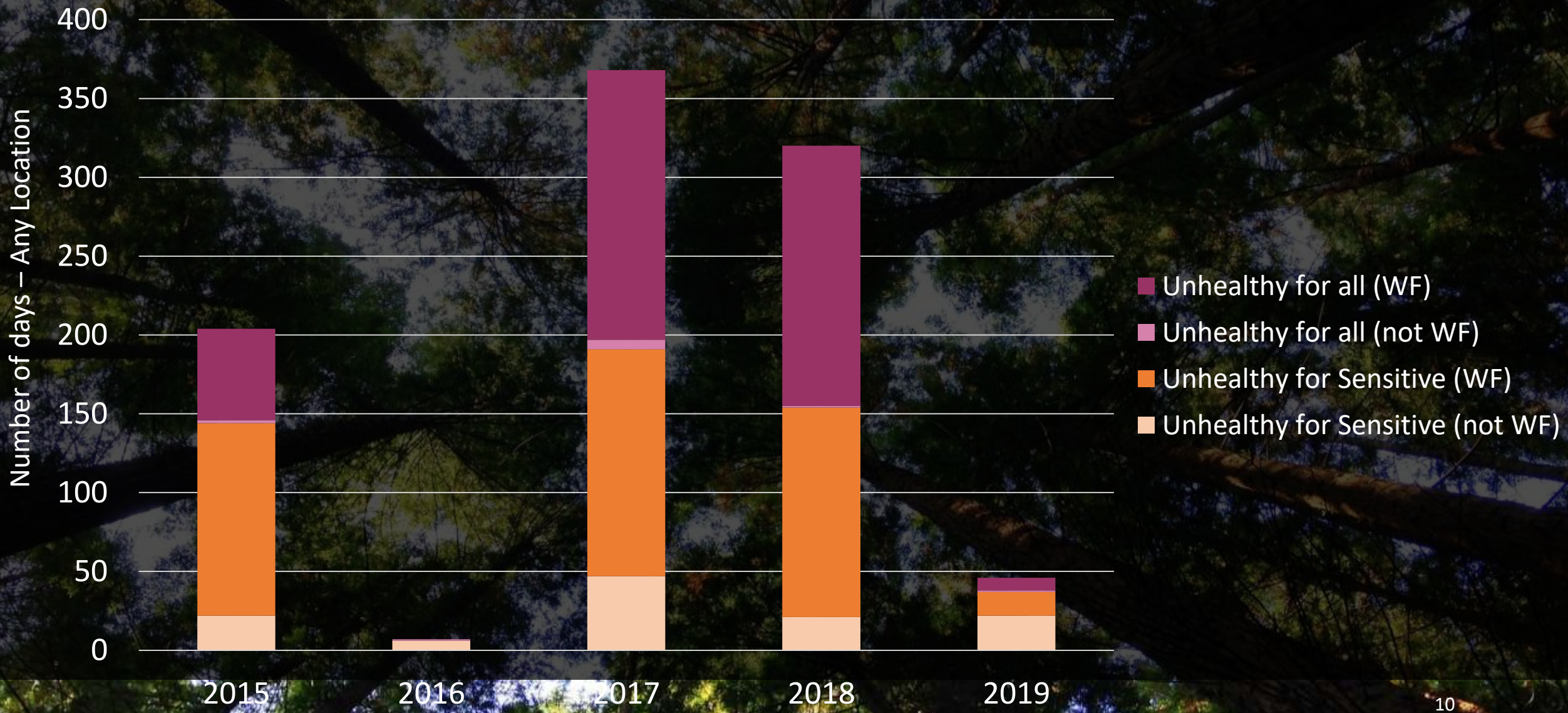
Water Quality

- WQ Toxics Monitoring
  - Analysis of presence & prevalence of toxics across Oregon
- Oregon Water Quality Index
  - Data feeds KPMs
  - General status of long term sites
- Well Owner Reports
  - Homeowner data from statewide GW monitoring
- GW Study Area Reports
  - Summary of GW survey areas

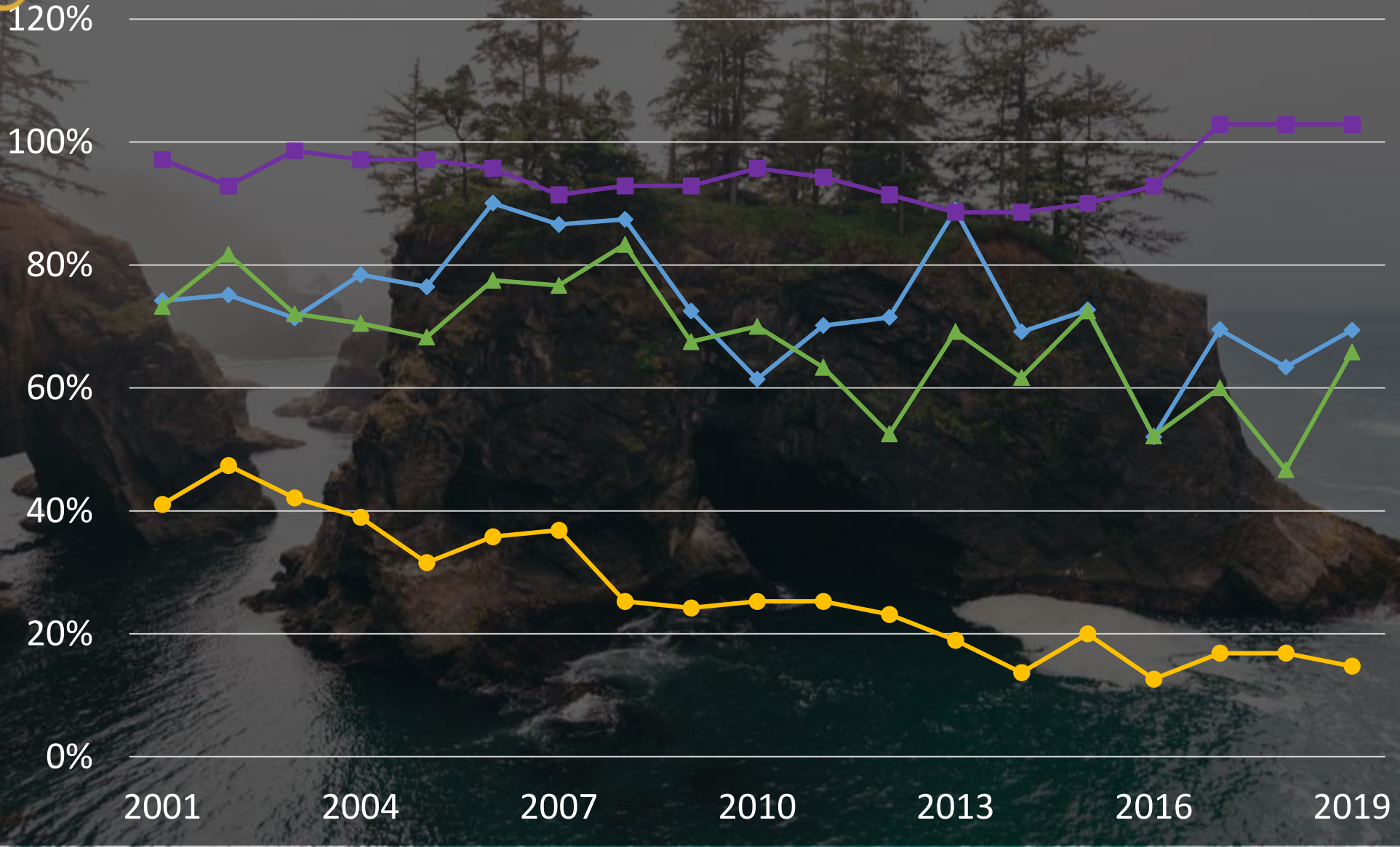
Clean Air

Ali Mirzakhalili

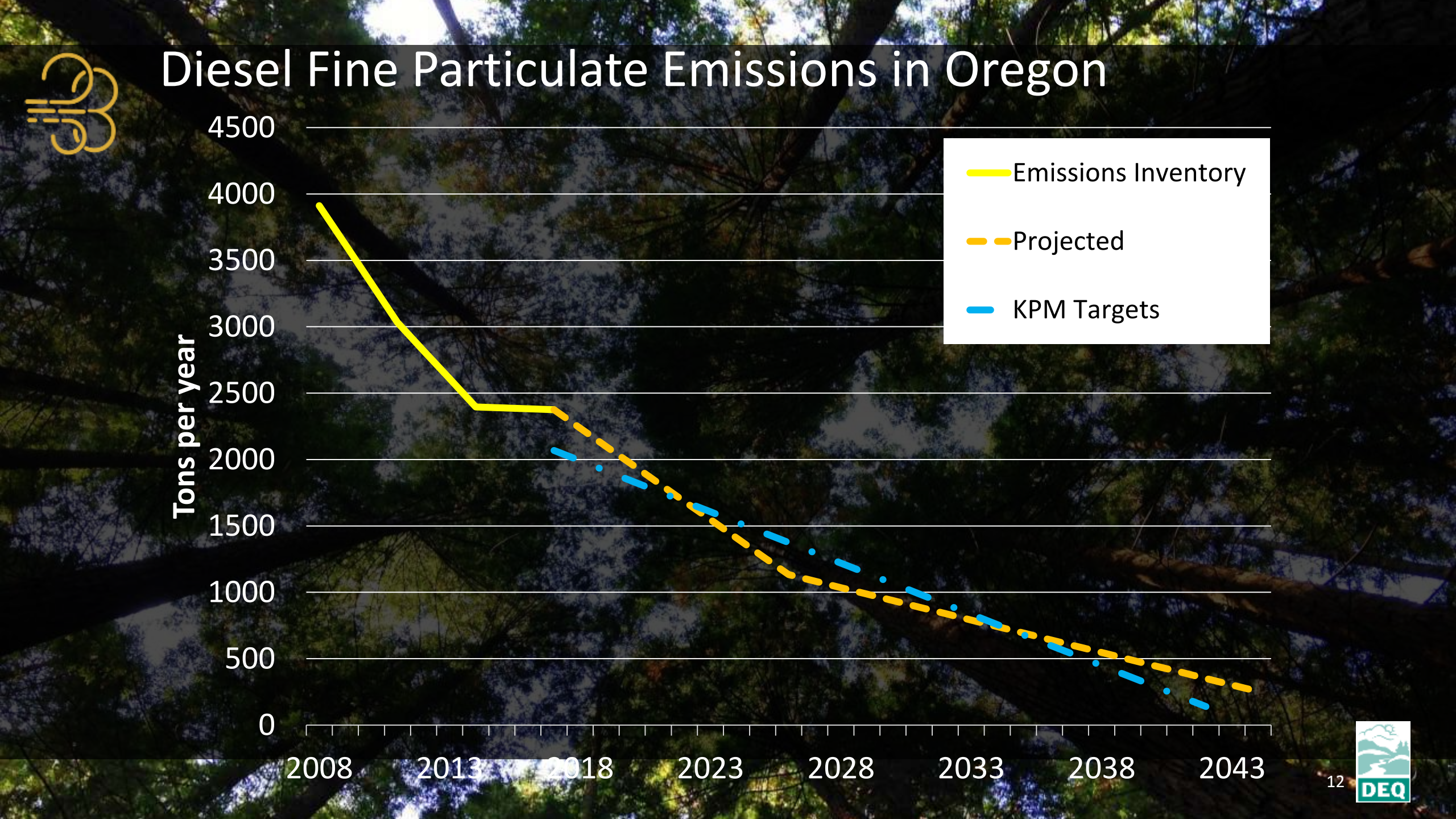
Statewide Totals, Unhealthy Air Quality Days



Trend in Criteria Pollutant Levels as a Percent of the NAAQS (Portland)



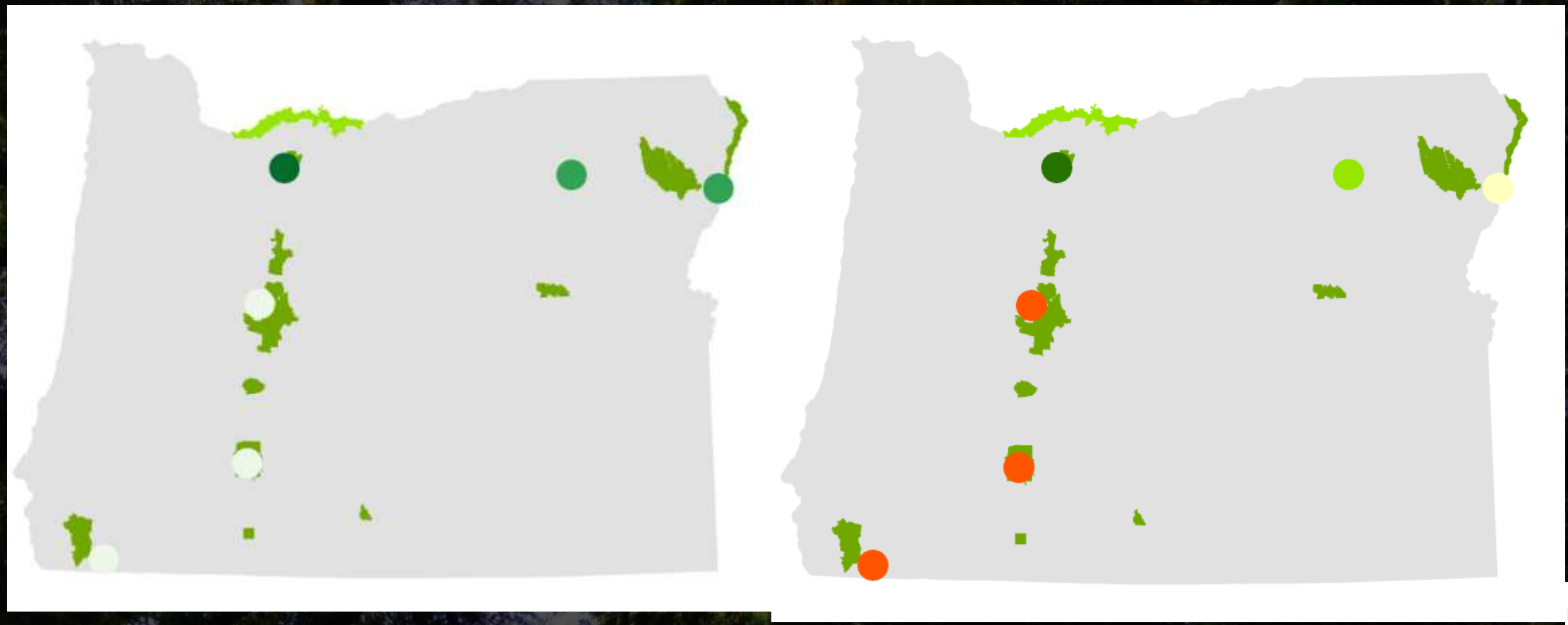
Diesel Fine Particulate Emissions in Oregon



Regional Haze Trend

20% Most Impaired Days (deciviews)
Percent Different from Glidepath

2018 **2028**

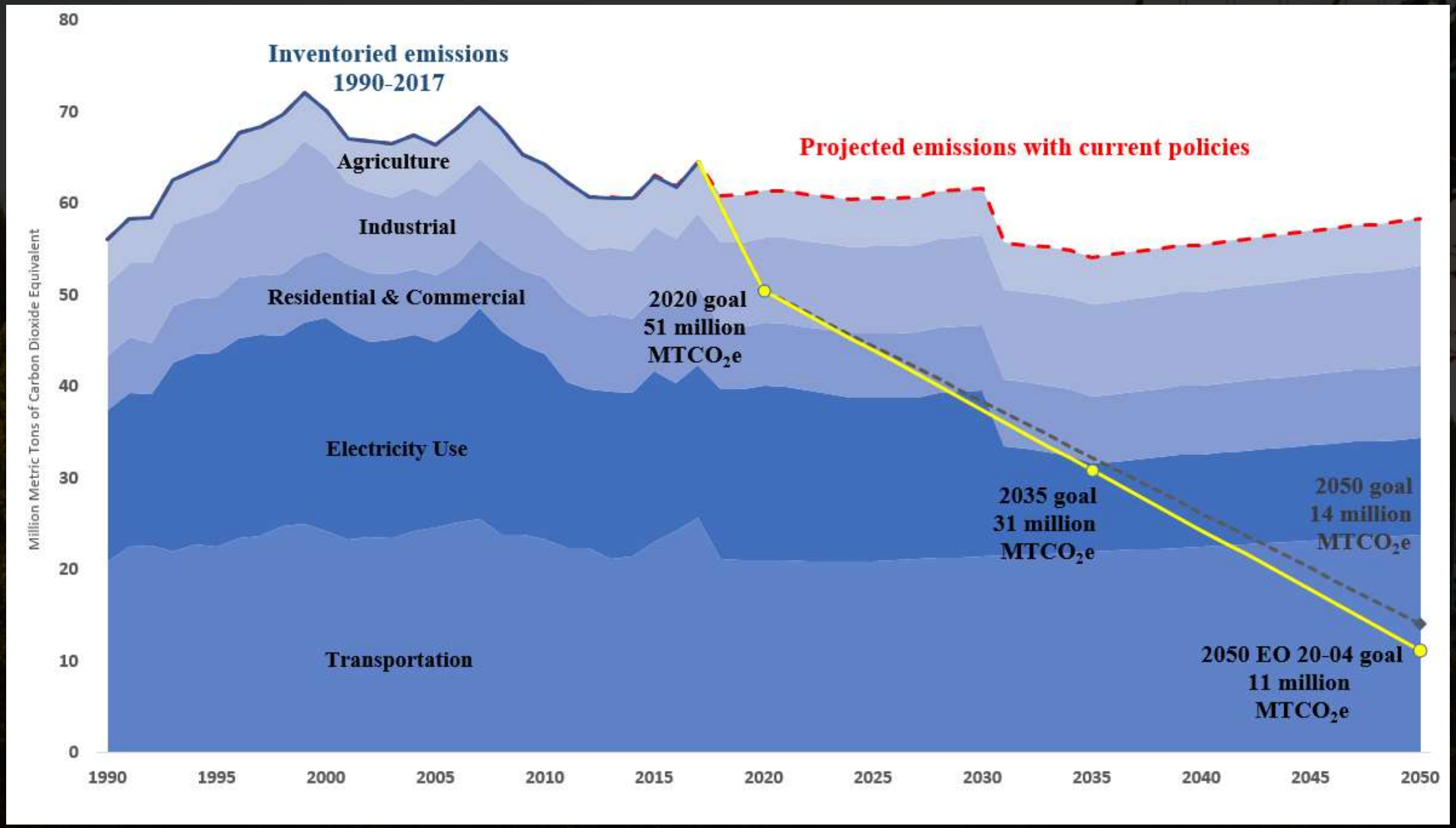



SITE: Portland, Oregon
National Air Toxics Trend Site (NATTS)
# of Times Above the ABC
0
5
10
15
20
25
30
35
40
45
50
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Cadmium
Benzene
Arsenic
Acetaldehyde
Formaldehyde
Target
Updated: September 1, 2020 Author: S. Peerman


SITE: La Grande, Oregon
National Air Toxics Trend Site (NATTS)
# of Times Above the ABC
0
5
10
15
20
25
30
35
40
45
50
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Cadmium
Arsenic
Benzene
Acetaldehyde
Formaldehyde
Target
Updated: September 1, 2020 Author: S. Peerman


Portland
La Grande

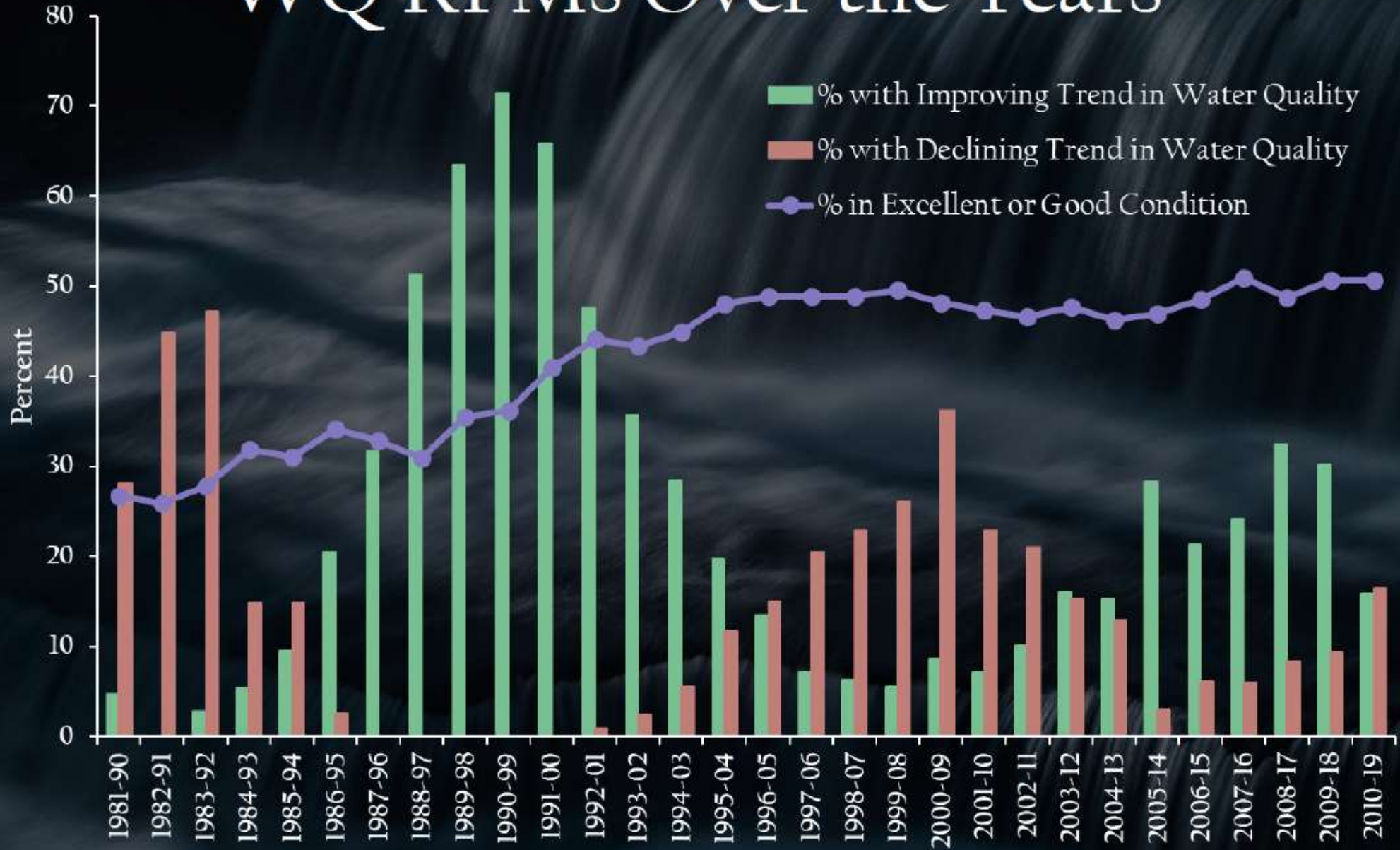
Sector-based Greenhouse Gas Emissions, Projections and Goals



Clean Water

Jennifer Wigal

WQ KPMs Over the Years



Assessment Unit Summary

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

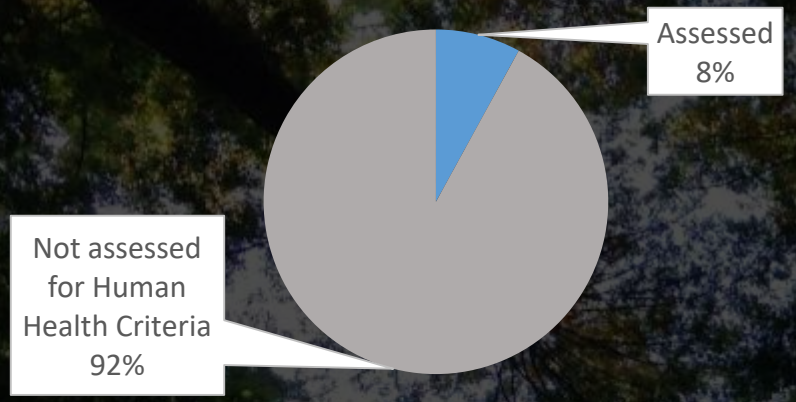
Pollutant	Attaining	Not Attaining	Unassessed
Dissolved Oxygen	133	337	903
Enterococcus	0	0	1
Escherichia Coli	157	166	491
pH	334	122	896
Temperature	119	498	848
Total Phosphorus	1	3	1058
Total Suspended Solids	0	2	1077

Water Quality Trends 1999-2018

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

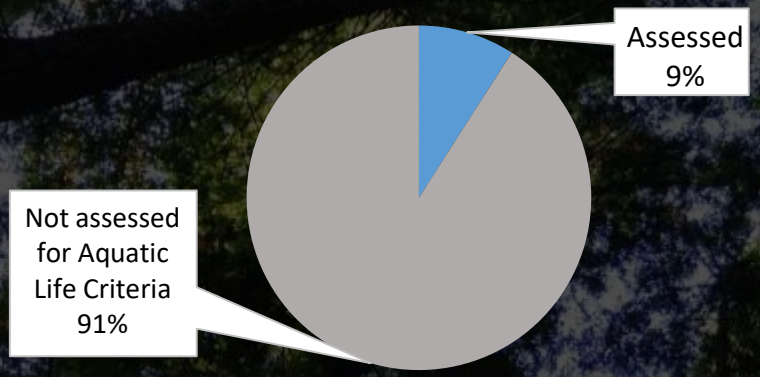
Pollutant	Improving	Degrading	Steady	No Significant Trend	Insufficient Data
Dissolved Oxygen	120	60	7	117	3205
Enterococcus	0	0	0	0	1
Escherichia Coli	68	49	5	141	2072
pH	0	153	65	133	3347
Temperature	40	203	4	19	3104
Total Phosphorus	33	15	60	82	1964
Total Suspended Solids	33	31	22	124	2138

Number of AUs Assessed for Human Health Toxics

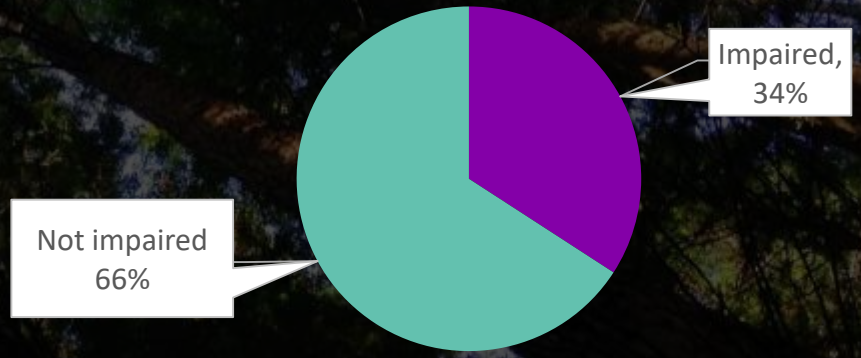


Number of Assessed AUs Impaired for Human Health Toxics

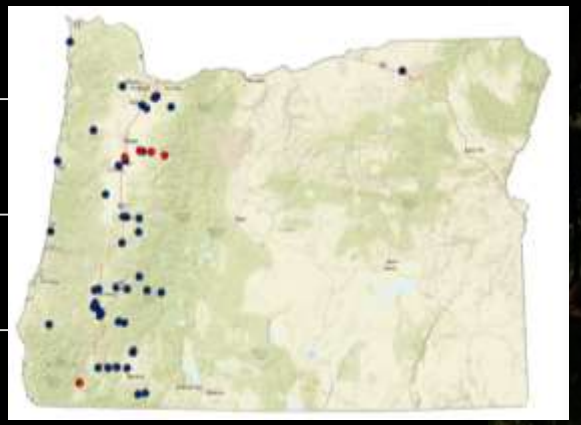
Number of AUs Assessed for Aquatic Life Toxics



Number of Assessed AUs Impaired for Aquatic Life Toxics



of Weeks Facilities Had Cyanotoxins Exceeding Action Level



Ashland Water Department

City of Gates

Stayton Water Supply

City of Jefferson

Lyons Mehama Water District

City of Salem

Josephine County Parks – Lake Selmac

2019

2020

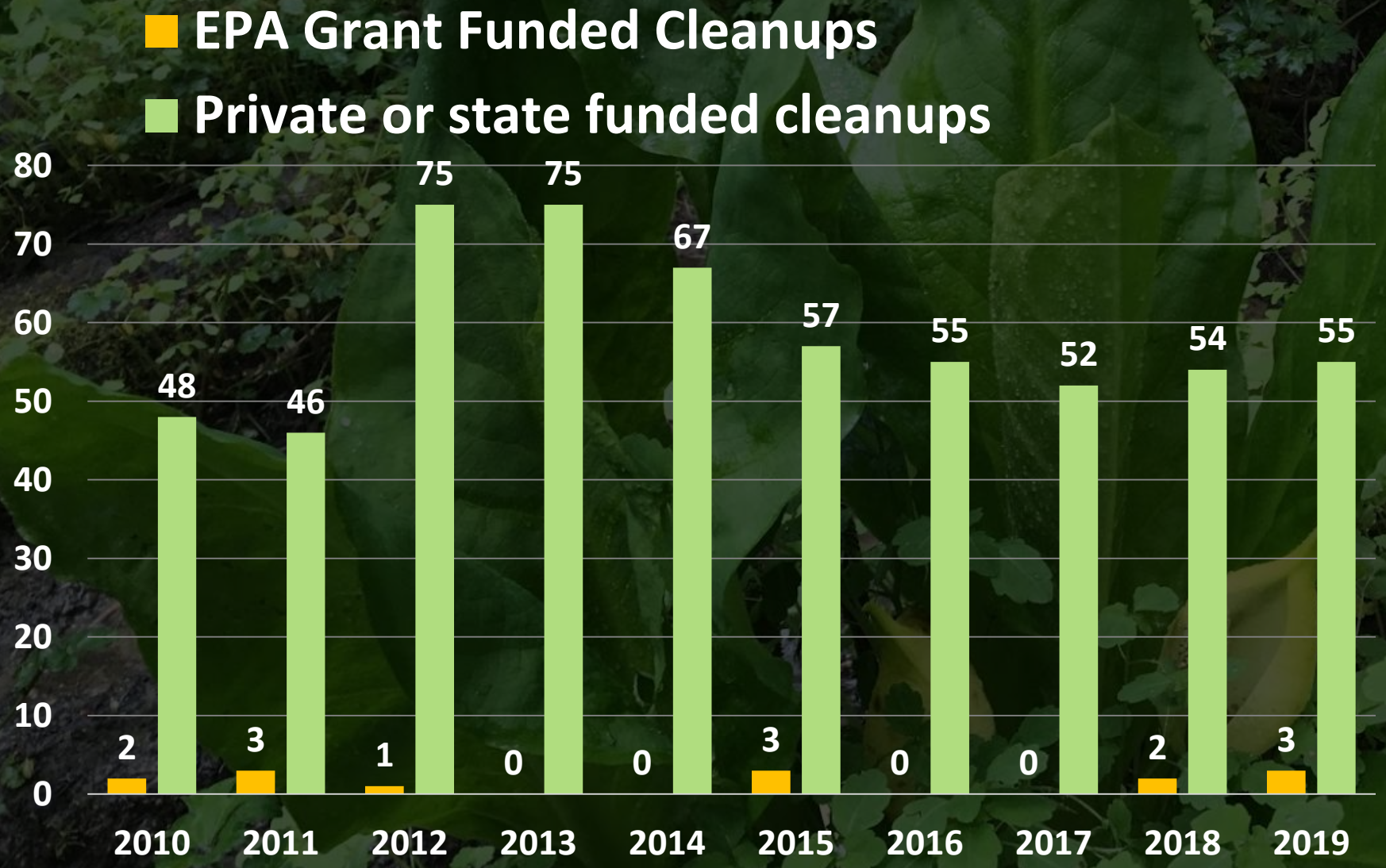
1 2 3 4	5 6 7 8	9 10 11 12 13	14 15 16 17	18 19 20 21	22 23 24 25 26	27 28 29
May	June	July	August	September	October	November

week #

Safe and Productive Lands, and Sustainable Use of Materials

Abby Boudouris

Cleanups Completed



Since 2007

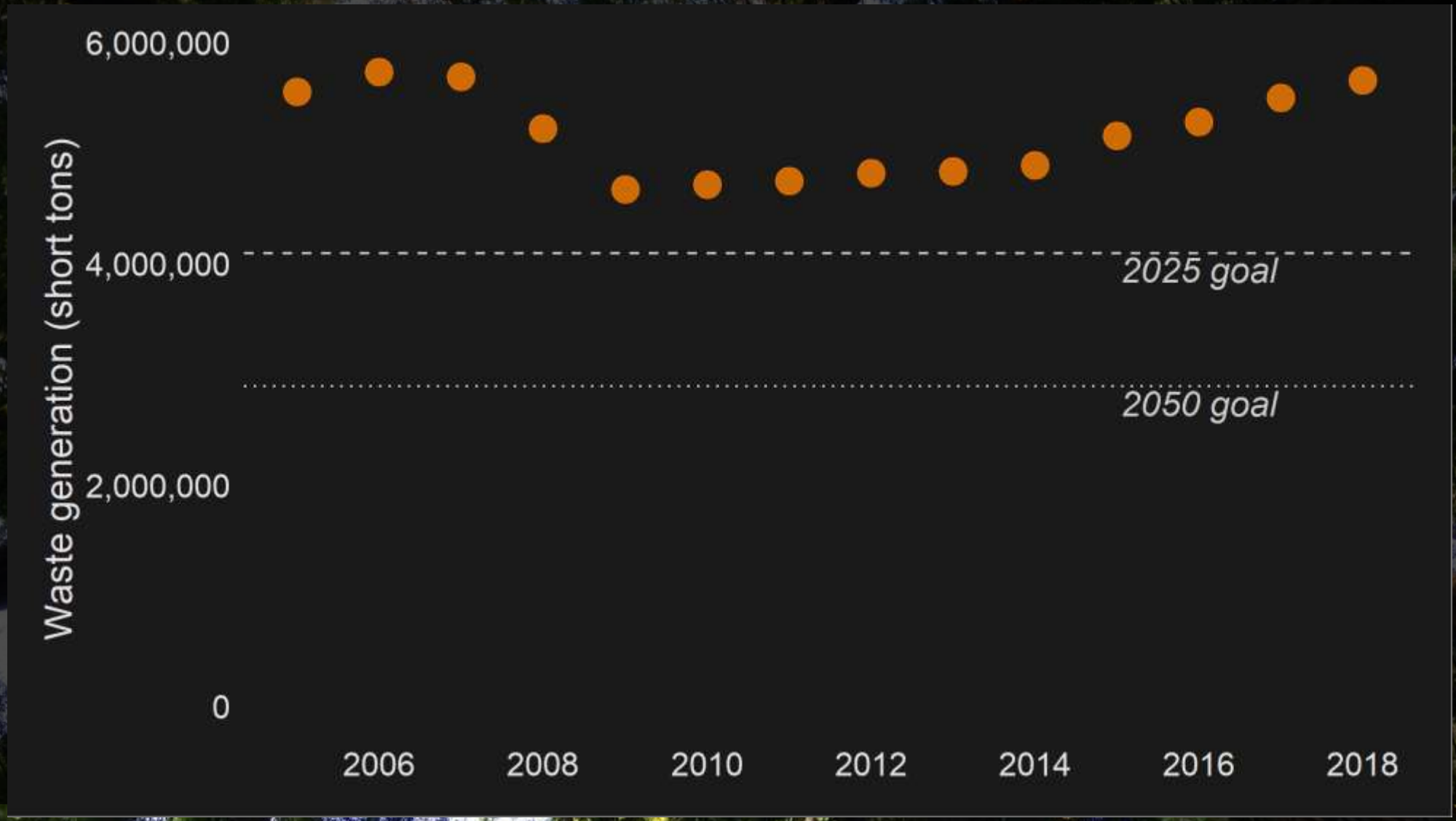
17,553 Acres

ready for reuse

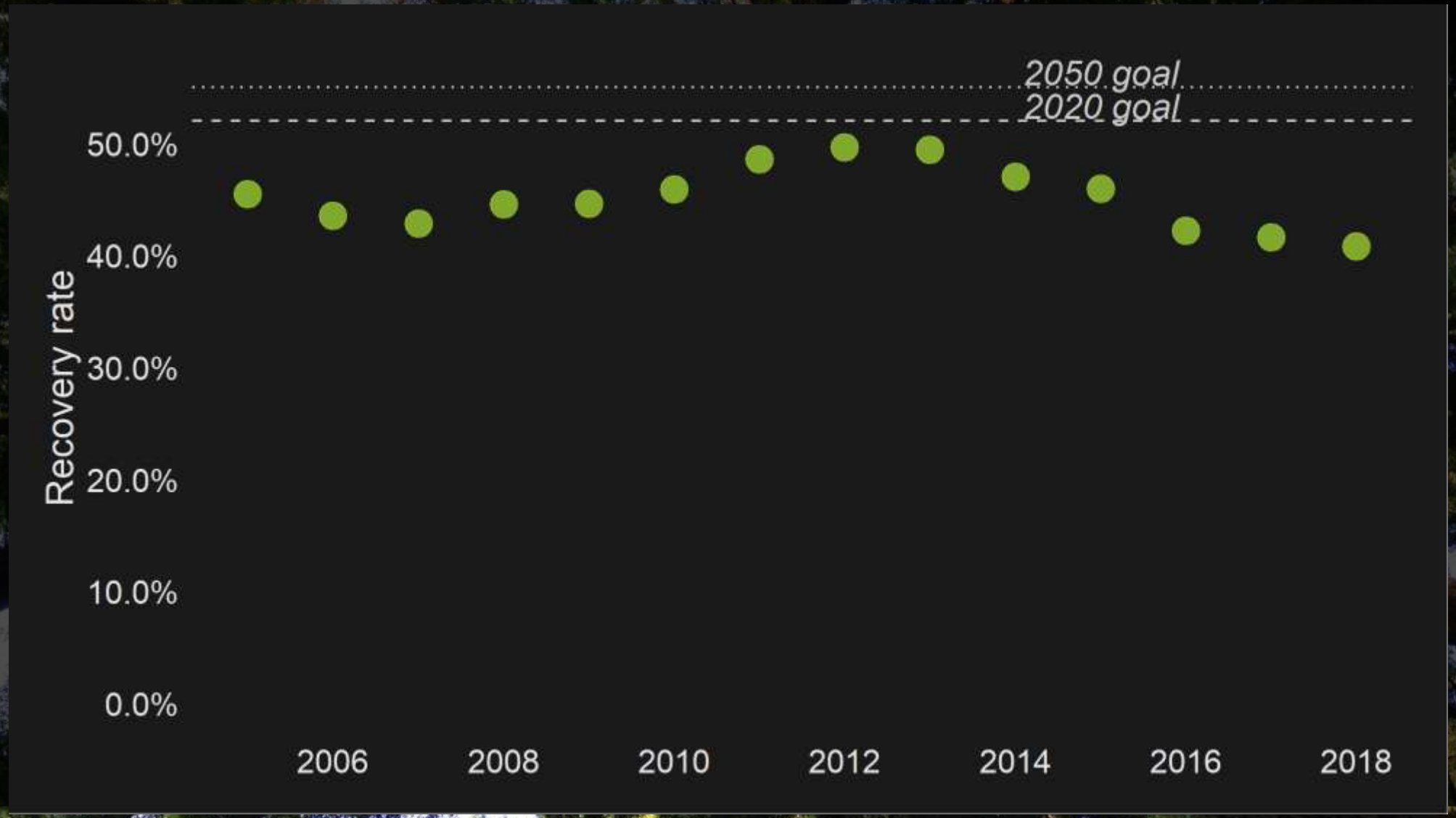
Cleanups Active

341

In recent years, generation has tracked economic activity



Recovery rate has been affected by marketplace changes



Environmental impacts occur over a whole materials life cycle

Oregon 2020
State of the Environment