Oregon DEQ Smoke Monitoring and Response

SB 83 Annual Report 2025

January 2026

State of Oregon
DEQ Department of Environmental Quality

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Executive summary

The Oregon Department of Environmental Quality is one of the lead agencies responding to wildfire and prescribed fire smoke, providing air quality information to the public, and supporting smoke preparedness and response. DEQ works alongside the Oregon Department of Forestry to implement the Oregon Smoke Management Program for prescribed burning in consultation with the Oregon Health Authority. For wildfire smoke response, DEQ partners with the OHA, federal, local and Tribes to implement the Oregon Wildfire Smoke Response Protocol for Severe Smoke Episodes. DEQ manages and maintains the state's air quality monitoring network, which is used for regulatory compliance, public information, and to provide data for exceptional event demonstrations. The DEQ Laboratory and Air Quality Monitoring teams provide annual reports on air quality, including the Wildfire Smoke Trends and AQI Report and the Oregon Air Quality Monitoring Annual Report.

In 2025, SB 83 directed DEQ to report annually to the legislature on this work. The report must include:

> (a) A status report on the implementation of community smoke response plans, a status report regarding communities with a one-hour smoke intrusion exemption and a report on wildfire smoke monitoring, including prescribed fire activities as tracked and reported by the State Forestry Department;
>
> (b) The amount of moneys expended during the prior 12 months for wildfire and prescribed fire smoke monitoring, along with amounts expended for community smoke response plan development and implementation; and
>
> (c) Any recommendations of the Department of Environmental Quality for legislative action, including but not limited to current or future resource or funding needs for the wildfire smoke monitoring program.

As required in SB 83, this report will be delivered to the Legislature, the Wildfire Programs Advisory Council, and the State Wildfire Programs Director. A copy of the full report will be posted at https://www.oregon.gov/deq/aq/Documents/2025smokemonitoring.pdf. The report includes recommendations for program improvements. Recommendations include:

- Support Community Response Plans which bolster local capacity to prepare for and respond to smoke events. Community Response Plans are a critical piece to successfully increasing the opportunities for and scale of prescribed fire for healthy forests.
- Fund equipment and staff to expand monitoring of air quality in areas of the state that are commonly impacted by smoke but lack adequate air quality monitoring data.

- Support weekend activation of staff responsible for assessment of conditions and development and delivery of wildfire smoke air quality advisories not feasible with current staff capacity.
- Support positions and projects needed to carry out Executive Order 25-26, which calls for creating fire-adapted communities, and implementation of Oregon's 20-year Landscape Resiliency Plan, including increasing the pace and scale of prescribed burns and cultural burning while minimizing smoke impacts to public health.

Introduction

The Oregon Department of Environmental Quality is responsible for ensuring clean air, water, and land for all areas of the state. The air quality program implements a broad range of programs and permits to protect the public from air pollution and provide air quality data. This includes monitoring, coordination, and communication related to smoke from wildfires, prescribed burning, and other smoke events.

DEQ publishes an annual Wildfire Smoke Trends & Air Quality Index report that summarizes air quality impacts from wildfire events. The Wildfire Trends report summarizes the wildfire events that have a significant impact on air quality in Oregon communities and shares air quality data and trends for communities that experienced an AQI of unhealthy for sensitive groups or higher.

DEQ continues to engage in cross-agency collaborative work to increase the pace and scale of prescribed fire in Oregon, building on the support outlined in the Joint Statement of Intent to Cooperate on Prescribed Fire and Smoke Management (signed in February 2024). Lessons learned during the West Bend Prescribed Fire Pilot are being evaluated and applied to the 2026 smoke management rule review being conducted in coordination with ODF and OHA.

DEQ's work to protect public health during smoke events has been the subject of several legislative sessions. In 2021, SB 762 provided DEQ limited duration staff to assist with monitoring, communications, and assistance for local governments in drafting Community Response Plans. SB 762 also funded grants for local governments to develop and implement CRPs. That funding was exhausted by 2023.

In 2025, SB 83 directed DEQ to provide an annual report on Community Smoke Plan development and implementation, communities with one-hour exemptions, wildfire smoke monitoring activity, prescribed fire activity, expenditures for each of those areas, and recommendations for future resources or legislative actions in support of wildfire smoke monitoring programs. Specifically, the bill requires DEQ to submit annually to the legislature:

> (a) A status report on the implementation of community smoke response plans, a status report regarding communities with a one-hour smoke intrusion exemption and a report on wildfire smoke monitoring, including prescribed fire activities as tracked and reported by the State Forestry Department;
>
> (b) The amount of moneys expended during the prior 12 months for wildfire and prescribed fire smoke monitoring, along with amounts expended for community smoke response plan development and implementation; and
>
> (c) Any recommendations of the Department of Environmental Quality for legislative action, including but not limited to current or future resource or funding needs for the wildfire smoke monitoring program.

This report is intended to meet the annual report requirements under SB 83 and provide recommendations to support and improve DEQs year-round role in smoke monitoring and response moving forward.

Background

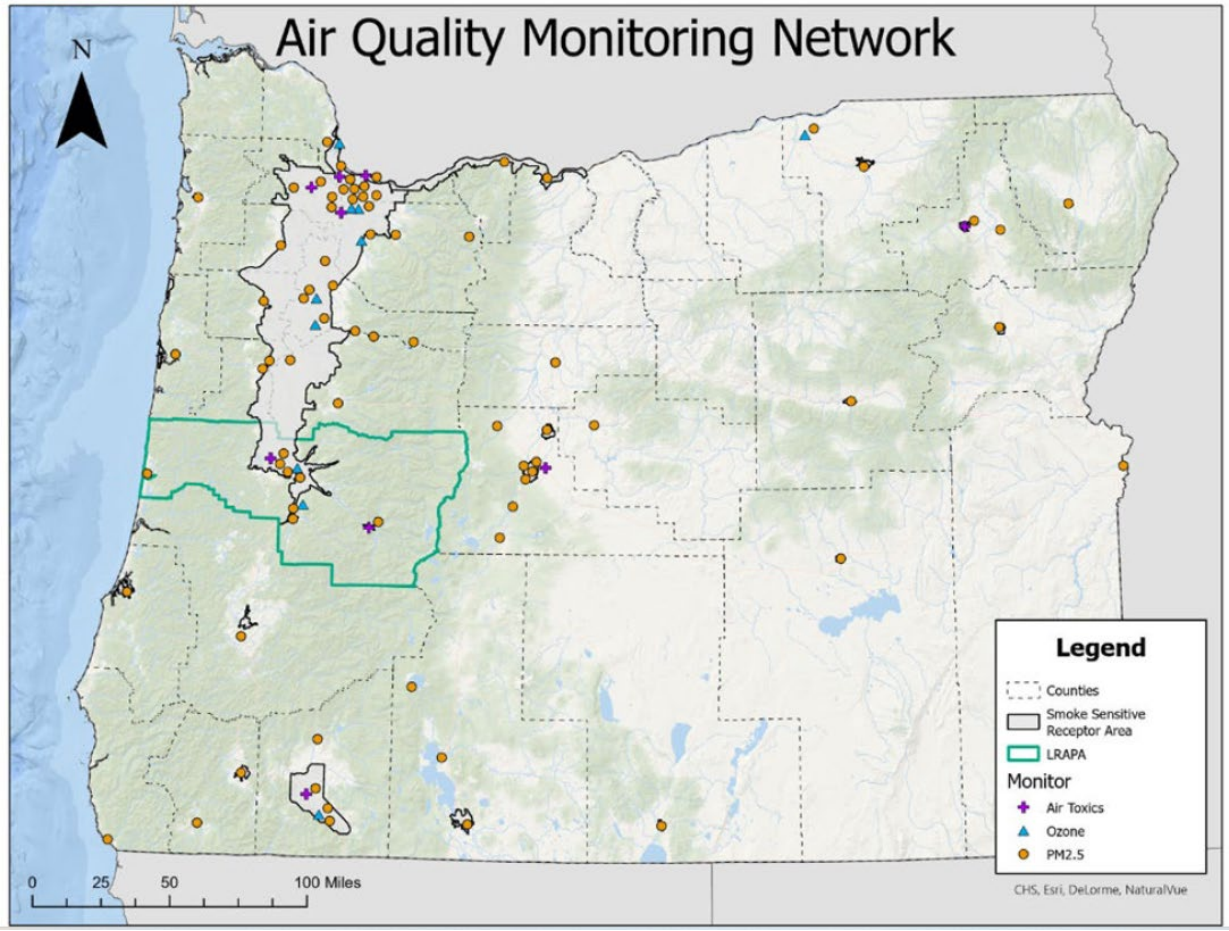
DEQs involvement in the Oregon Smoke Management Program began in 1972. Statutory authority for the OSMP is provided under Oregon Revised Statutes 477.013, 477.562, 526.016, and 526.041. The Oregon smoke management rules are housed in Oregon Administrative Rule 629-048, and DEQ has adopted the rules into the State Implementation Plan agreement with EPA under OAR 340-200-0040. The rules and the program have undergone revisions over time, but the intent remains to allow for prescribed burning to occur across ODFs protection boundaries while protecting air quality and public health.

In 2013, DEQ partnered with nine local, state, and federal agencies to develop the Oregon Wildfire Response Protocol for Severe Smoke Episodes (informally known as the Wildfire Smoke Protocol). The protocol was developed in response to a growing need to address wildfire smoke impacts across the state and to provide resources for agencies responding to smoke impacts. The Wildfire Smoke Protocol includes the process for issuing air quality advisories, resources, recommended public health actions, and message templates for local public health and other entities to use when providing messaging related to smoke and public health. Areas of responsibility for participating agencies and contact lists for participating agencies are also included. The protocol is reviewed and updated annually, incorporating feedback from participants that attend air quality advisory development meetings. It serves as a guide during wildfire season and creates transparency in the advisory decision-making process.

Air quality monitoring network

EPA has categorized six air pollutants as criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter ($PM_{2.5}$ & PM_{10}) and sulfur dioxide (SO_2). EPA sets health-based standards for these pollutants (known as the National Ambient Air Quality Standards) and requires States to operate a network of monitors to demonstrate that ambient air within the state meets those standards. Oregon's air quality monitoring network includes regulatorily required monitors, low-cost sensors, meteorological equipment, air toxics samplers, and supporting infrastructure like shelters for the monitors, utility costs and IT infrastructure. Federal funds, General funds, and fee funds are used to pay for materials and staff time. The portions of the network that collect information on particulate matter are shown in **Figure 1**.

Figure 1: DEQ Air Quality Monitoring Network



Many sensor locations include co-located meteorological equipment that is important for understanding local weather conditions. Meteorological data are employed for forecasting for advisories and public health purposes, and modeling in support of monitoring network planning. Sensors require performance testing prior to deployment and ongoing maintenance is necessary to assure accuracy. Monitor deployment requires extensive location suitability review and agreements with site owners, and efficient operation depends on year-round operation. All of the aforementioned conditions contribute to the cost and labor requirements of maintaining DEQs air quality monitoring network.

Data from monitors are reported on DEQ's air quality monitoring web page and on the OregonAir app. DEQ operates the particulate matter monitoring network year-round. During wildfire season, the particulate matter monitoring network is used to track wildfire smoke impacts and aid in determining if an air quality advisory is needed. During prescribed fire season, ODF accesses air quality data and meteorological data from DEQ's network to determine if a smoke incident or smoke intrusion (as defined in Oregon Administrative Rule 629-048) has occurred.

Approximately 12 FTE support DEQ's ongoing monitoring and reporting of particulate matter concentrations. This includes staff time spent on air quality monitoring and data management,

air quality advisory development and public communications, and engagement with cooperating agencies and stakeholders throughout the year. Those FTE are split between the Laboratory, Monitoring, Communications, and Planning teams. Resources to operate the monitoring network are fixed; federal funds allocated to the monitoring network have remained largely stagnant. DEQ received general funds to support 30 additional low-cost sensors in 2017. In 2021, DEQ received funding under SB 762 to conduct research and surveys to identify potential locations for 20 additional low-cost monitoring sites. Sites were identified but monitors were not deployed due to funding constraints. Material and services costs to maintain the network increase on annual basis. Over the same period, DEQ's monitoring network grew by more than 30 sites, effectively doubling the size of the monitoring network.

Air quality index

The color-coded Air Quality Index, or AQI (**Figure 2**) was developed by the EPA to convert criteria pollutant concentrations into understandable health risk language. In Oregon, $PM_{2.5}$ and ozone measurements typically have the highest AQI and are therefore considered drivers of air quality related health risks. During the summer, the main concern is wildfire smoke, which releases $PM_{2.5}$ and can also be a driver of high ozone concentrations when combined with high temperatures and other meteorological factors. DEQ uses the AQI on its air quality monitoring web page and the OregonAir app to clearly communicate current air quality conditions to the public.

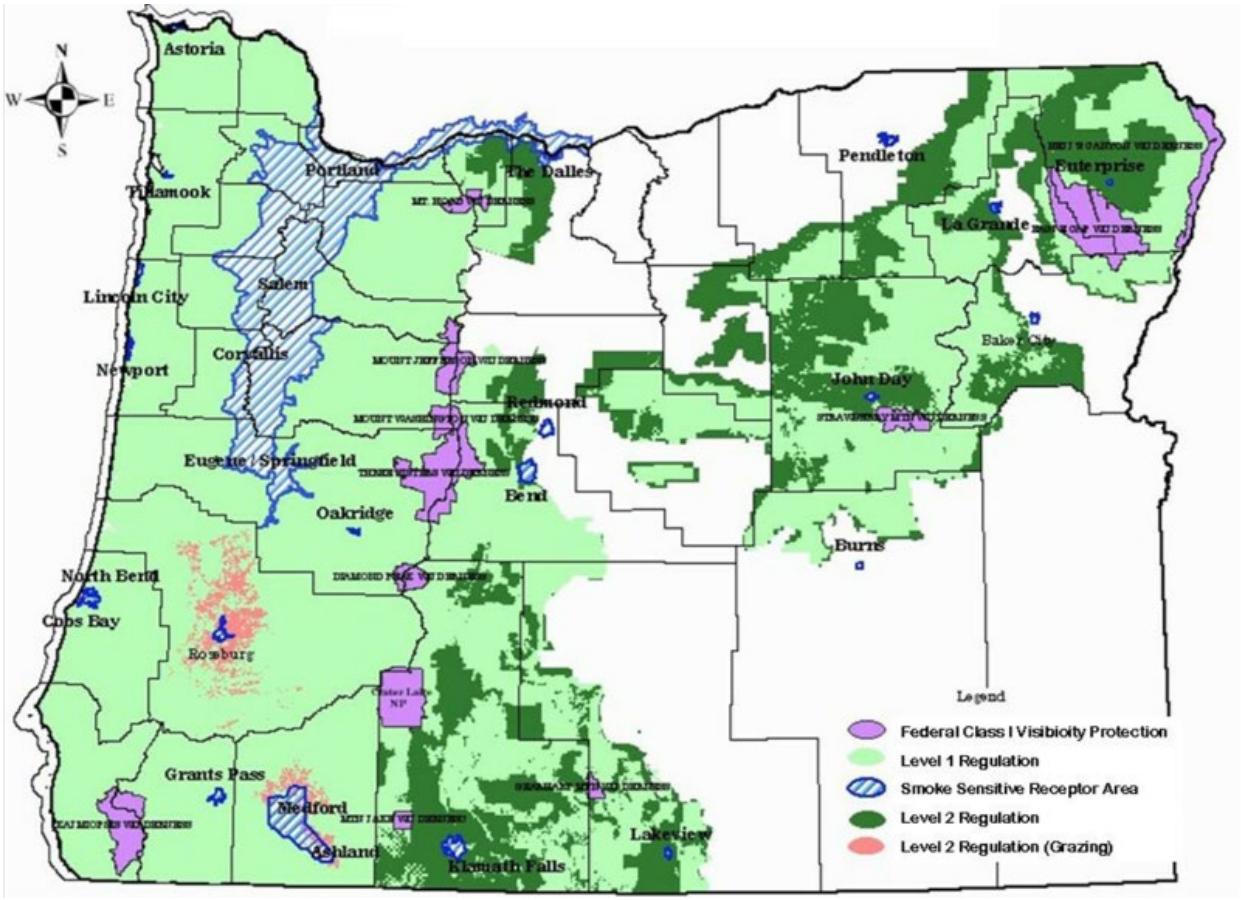
Figure 2: $PM_{2.5}$ AQI Categories

AQI Category	Index Value	Concentration (µg/m³)	Description of Air Quality
Good	0 – 50	0.0 – 9.0	Air quality is satisfactory, and air pollution poses little or no risk.
Moderate	51 – 100	9.1 – 35.4	Air quality is acceptable. There may be risk for some people, particularly those who are sensitive to pollution.
Unhealthy for Sensitive Groups	101 – 150	35.5 – 55.4	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Unhealthy	151 – 200	55.5 – 125.4	Some members of the general public may experience health effects. Members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 – 300	125.5 – 225.4	Health alert: The risk of health effects is increased for everyone
Hazardous	301 +	225.5 +	Health warning of emergency conditions: Everyone more likely to be affected.

Prescribed fire smoke response

The Oregon Smoke Management Program is a comprehensive program the Oregon Department of Forestry developed in collaboration with DEQ and OHA. ODF, with assistance from DEQ, implements the OSMP for prescribed burning on forestlands within its protection boundaries (**Figure 3**). The goal of the program is to safely use prescribed forest burning to reduce the buildup of forest fuels, maintain forest health and reduce the risk of large uncontrolled wildfires. These planned fires are ignited when fire danger is low, and weather conditions are favorable for reducing smoke impacts to communities and vulnerable populations. While pursuing these goals, the agencies also seek to keep the public informed of smoke impacts and provide them with resources to protect themselves from smoke, regardless of the source.

Figure 3: Map of SSRAs and Smoke Management Areas



Community response plans

Smoke Sensitive Receptor Areas are defined in OAR 629-048 and designated by the Board of Forestry, in coordination with DEQ. These areas are provided with the highest level of protection

from prescribed fire smoke. To be designated as an SSRA, a community typically has a history of smoke impacts, dense populations, or visibility protections, like the Columbia River Gorge. SSRAs are encouraged to develop and implement a Community Response Plan as outlined in OAR 629-048-0180. Plans should identify vulnerable populations in the community, determine how communication will occur between local officials and prescribed fire practitioners regarding upcoming prescribed burns and smoke impacts, and outline methods for communicating with the public about the potential for smoke to enter the community along with the health impacts of smoke.

SSRAs that complete a CRP in accordance with the OSMP rule requirements can apply for an exemption to the one-hour smoke intrusion threshold. The one-hour smoke intrusion threshold is defined as the verified entrance of smoke from prescribed burning into an SSRA at ground level that averages at or above 70 micrograms per cubic meter of particulate matter of 2.5 microns or less ($PM_{2.5}$) for any one-hour period. A successful request for a one-hour exemption allows the community to increase the amount of prescribed fire near the SSRA.

To date, nine communities of the 38 SSRAs designated in rule have completed a CRP, and four communities have active one-hour exemptions. Not all nine communities, however, have implemented their CRPs, which includes approval and adoption by the governing body, typically the Board of County Commissioners. A common reason for not implementing a CRP is lack of staff capacity at the local level to engage in increased coordination and communication. The most recently completed CRPs used funds from SB 762 and were completed in 2023. Those four communities were Jackson County, Klamath County, Union County, and Wasco/Hood River. The five communities that previously completed a CRP include Ashland, Bend (development was self-funded), Lakeview, Oakridge, and Wallowa County.

Communities with a one-hour exemption are Ashland, Bend, Oakridge, and Wallowa County. Communities that have a CRP but have not requested a one-hour exemption have stated a variety of reasons, including staffing and resources necessary to maintain an updated CRP and to implement the requirements of an exemption. Implementation of the CRP in these communities has still occurred with projects developed unique to each community. Projects include the development of a GIS map by Klamath County showing air quality and prescribed fire information, an air quality website hosted by the Town of Lakeview sharing air quality, smoke, and public health resources, and outreach conducted by Smoke Ready Gorge in Hood River and Wasco counties.

A summary of activities conducted in 2025 by communities with a one-hour exemption is included in **Appendix A**.

Prescribed fire activity

The Oregon Smoke Management Program and associated Oregon Administrative Rules (OAR 629-048) regulate prescribed burning for forest management in areas within ODFs protection boundaries (**Figure 3**). As part of the OSMP, ODF tracks and reports on annual prescribed fire activities in its jurisdiction.

ODF forecasters issue a daily smoke management forecast during prescribed fire season. Forecasts are developed using forecast zones and provide meteorological information, ignition timing, tonnage/acreage limits, distance between burns, and distance to downwind SSRAs. Forecasts aid in compliance with state and federal air quality and visibility requirements by minimizing smoke emissions resulting from prescribed burning. They also encourage the use of emission reduction techniques including the use of polyethylene on piles to reduce emissions. The use of ERTs is incentivized by offering a 50% increase in tonnage when ERTs are used, which maximizes the opportunity for implementation of prescribed burns.

Accomplishment reporting for 2025 has not been finalized but will be available in the ODF Smoke Management Annual Report upon completion (available under Annual Reports on the ODF Smoke Management website). **Table 1** shows detailed information about the accomplishments under the smoke management program from 2015 – 2024, including the number of units registered, number of units and acreage burned, and information on smoke incidents and intrusions.

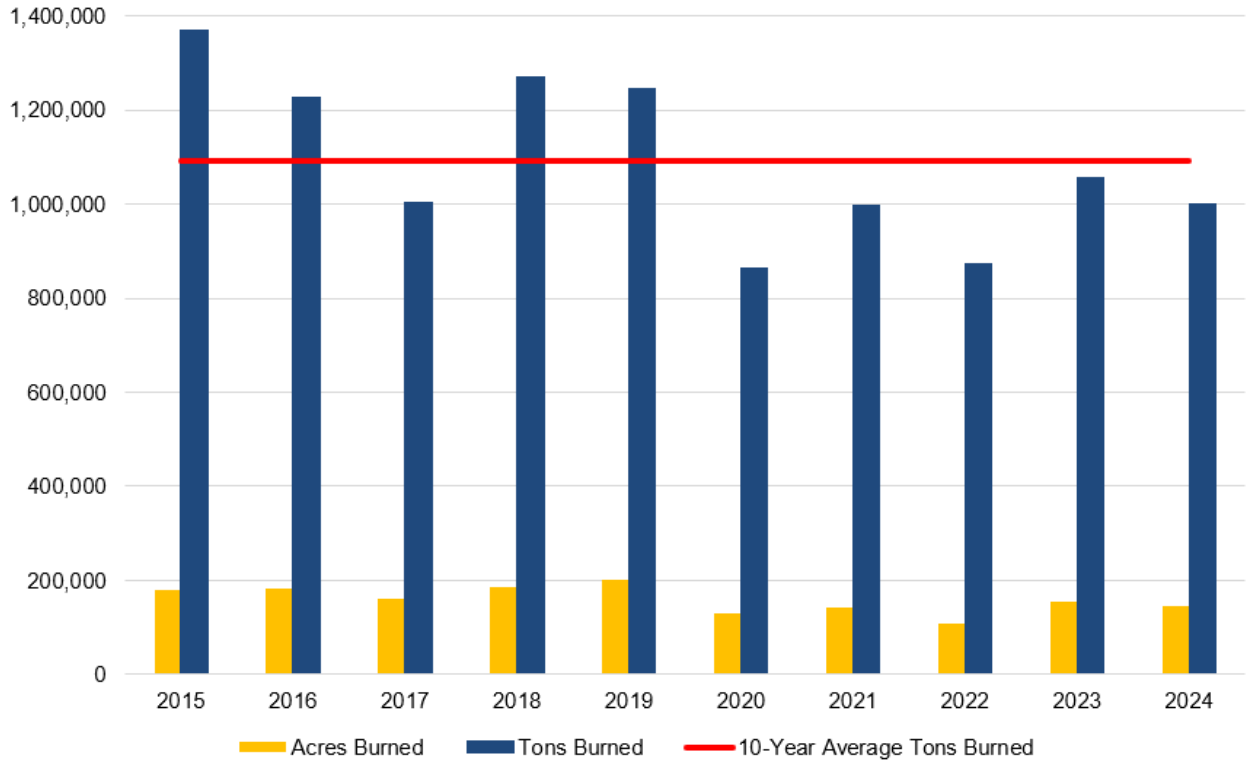
Table 1: Accomplishment Summary 2015 – 2024

Year	Total No. Units (Registered)	No. Units Burned	Acres Burned	Tons Burned	Incidents	Intrusions	Intrusions/ Ignition %
2015	3,601	3,101	179,613	1,371,114	NA	9	.24
2016	3,484	2,928	181,800	1,228,107	NA	11	.30
2017	3,597	2,868	159,624	1,004,108	NA	10	.29
2018	4,307	3,388	185,702	1,270,725	NA	18	.42
2019*	3,726	3,319	200,629	1,245,128	39	6	.14
2020	3,146	2,287	130,997	863,875	1	0	.00
2021	3,253	2,476	143,653	996,496	43	2	.06
2022	3,014	2,148	107,463	874,117	13	1	.01
2023	3,649	3,477	154,406	1,056,036	19	2	.05
2024	3,029	1,393	144,272	999,192	17	5	.05
Average	**3,381**	**2,739**	**158,816**	**1,090,890**	**22**	**6.4**	**.02**

*Based on new smoke incident and intrusion definitions implemented in the 2019 rule change.

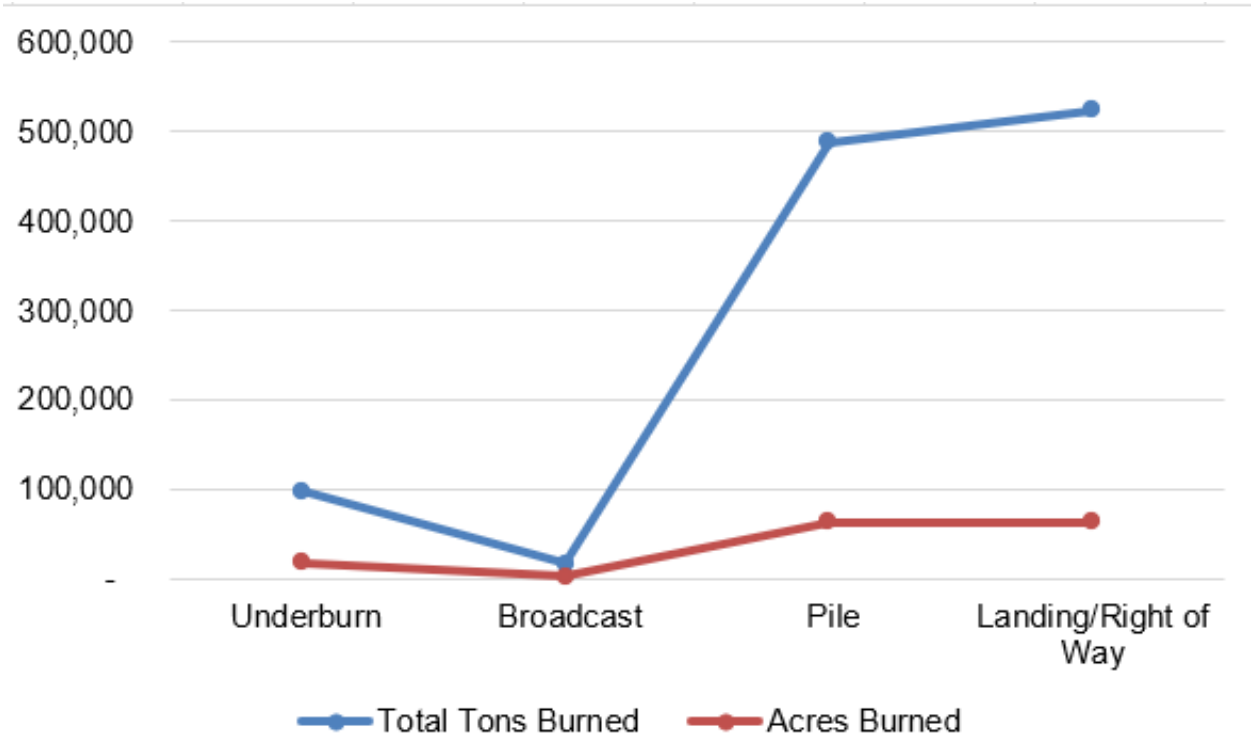
Figure 4 shows the accomplishment summary, including a 10-year average trendline for the total tons burned. This figure along with **Figure 5** provides a visual representation of accomplishment trends.

Figure 4: Accomplishment Summary 2015 - 2024



There has been a continuing effort by federal land managers to increase pace and scale of prescribed fire to mitigate the hazards of wildfire. The 10-year average acres burned in ODF protection boundaries is 144,176 acres, with a decrease in acres treated starting in 2020 due to impacts from COVID-19, although the acres treated started to increase in 2023. **Figure 5** shows accomplishments from 2024 in more detail. More in-depth analysis of prescribed fire activity trends, as well as accomplishments in 2025, will be available in the ODF Smoke Management Annual Report upon its completion.

Figure 5: 2024 Accomplishments



In 2025, two smoke intrusions into SSRAs were logged, one in Cottage Grove and one in Bend. The 10-year average is 6.5 intrusions per year. As defined in OAR 629-048-0005(27), a smoke intrusion is the verified entrance of smoke from prescribed burning into an SSRA at ground level that averages at or above 70 micrograms per cubic meter of particulate matter of 2.5 microns or less ($PM_{2.5}$) for any one-hour period and/or averages at or above 26 micrograms per cubic meter for a 24-hour period, measured from midnight to midnight.

In 2025, 30 smoke incidents were logged. As defined in OAR 629-048-0005(28), a smoke incident is the verified entrance of smoke from prescribed burning into an SSRA at levels below a smoke intrusion, other areas sensitive to smoke, or a community other than an SSRA. Twenty-three of the incidents were into SSRAs and six were into communities not designated as an SSRA. The community with the highest one-hour impact was Bend which reached 203.5 micrograms per cubic meter. Bend has a one-hour exemption, and this event did not pass the 24-hour intrusion threshold, so it did not qualify as a smoke intrusion. While total emissions will be reported in the ODF Smoke Management Annual Report upon completion, the 10-year average of $PM_{2.5}$ emissions is 10,668 tons.

Wildfire smoke response

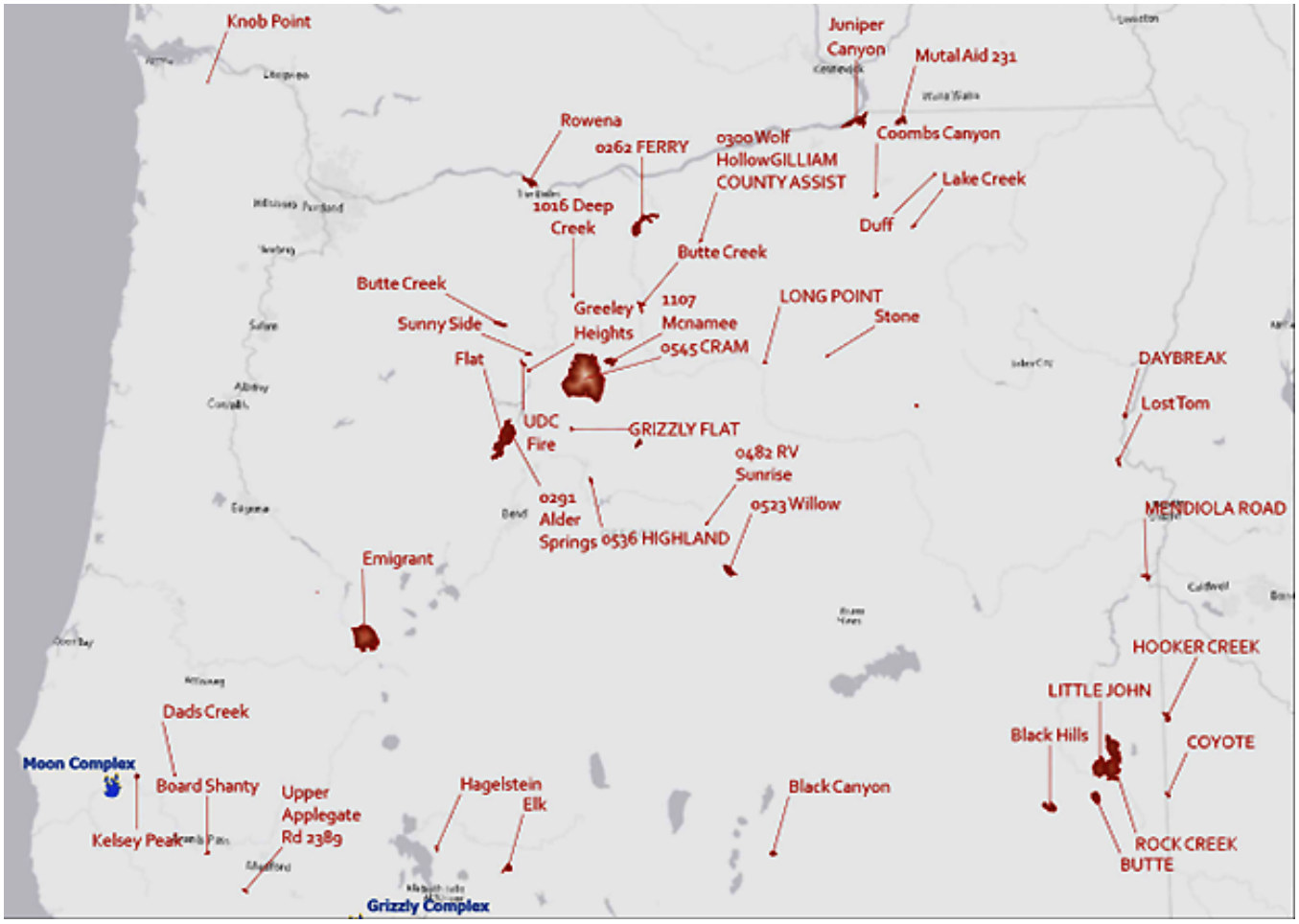
Wildfire smoke impacts communities throughout Oregon for days and weeks at a time each wildfire season, typically mid-June through mid-October. Wildfire smoke often occurs at much higher concentrations and for longer periods of time than prescribed fire smoke and can be transported long distances. These factors, along with the unpredictable and unplanned

occurrence of wildfire smoke, mean agencies and communities need to be prepared to respond quickly to smoke impacts.

The 2025 wildfire season in Oregon was shaped by a combination of in-state fires including the Rowena Fire, Cram Fire, Emigrant Fire, Hagelstein Fire, Marks Creek Fire, Backbone Fire, and the Moon Complex, as well as several late-season fires near the Oregon and California border. While overall fire activity in Oregon was below average, long-range smoke from Idaho and Washington contributed to several mid-July smoke events in northeastern and north-central Oregon. As the season progressed, Oregon saw lower levels of smoke from fires in central, southern, and southwestern Oregon, while late-season smoldering and unfavorable nighttime ventilation produced additional short-duration air quality impacts. In late October, renewed smoldering within the Moon Complex and fires in California resulted in several brief smoke events in southwest Oregon.

A map of major fires within Oregon's borders in 2025 is shown in **Figure 6**. While only fires in Oregon are shown on the map, wildfire smoke from out of state commonly impacts Oregon communities. In the past, Oregon has responded to significant impacts from California, Washington, Idaho, Montana, Alaska, and Canada.

Figure 6: Oregon Map of Large Wildfires in 2025

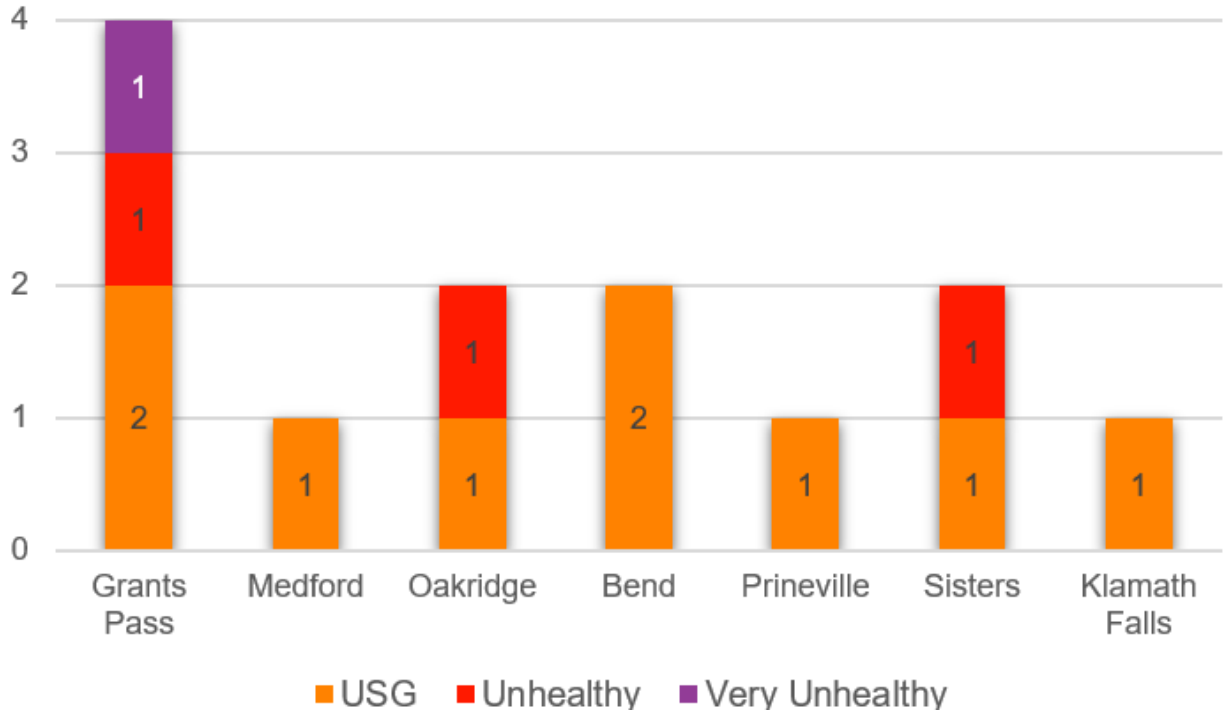


Wildfire smoke monitoring

DEQ houses the staff and equipment necessary to manage and maintain the state's air quality monitoring network. As explained above, air quality monitoring is not limited to collecting and providing data to the public during wildfire season, but includes year-round network maintenance and rigorous data validation. Monitoring work also includes publication of the annual Wildfire Smoke Trends and AQI Report and the Oregon Air Quality Monitoring Annual Report. Sections of the Wildfire Smoke Trends and AQI Report are included in this report; because the final data validation and report review is underway, some information may be updated when the final report is published online. Once all data has been validated, that report will be available on the Oregon Air Quality Monitoring website under the Information – DEQ Reports tab. Hurdles to filling current monitoring gaps and a more complete picture of air quality impacts from wildfire smoke around the state include insufficient laboratory and monitoring staffing and equipment.

Figure 7 shows the number of days in 2025 with an AQI of USG or greater for select communities. These communities are commonly impacted by wildfire smoke and were the most impacted in 2025. Figure shows days with an AQI of USG or greater for Oregon by region from 2017 through 2025.

Figure 7: 2025 AQI at Unhealthy for Sensitive Groups or Greater During Wildfire Season

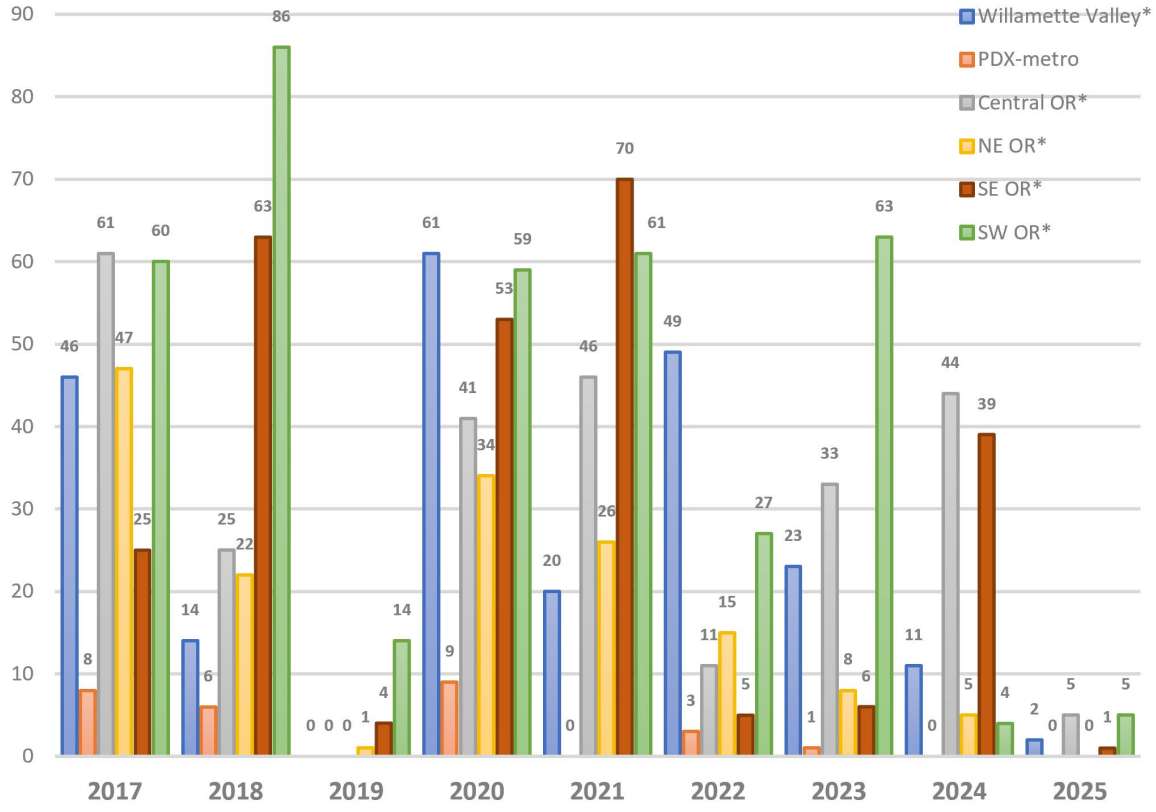


In **Figure 8**, regions are represented by DEQ air quality monitors in the following locations.

- Willamette Valley: Albany, Corvallis, Cottage Grove, Oakridge, Salem, Sweet Home, Eugene, Roseburg
- Central OR**:** Bend, Sisters, John Day, Prineville

- NE OR: La Grande, Pendleton, Enterprise, The Dalles, Baker City
- SE OR: Lakeview, Burns, Klamath Falls
- SW OR: Cave Junction, Grants Pass, Medford

Figure 8: Number of Days ≥ USG from 2017 – 2025



Air quality advisories

During wildfire season, in accordance with processes outlined in the Oregon Wildfire Response Protocol for Severe Smoke Episodes, DEQ works in coordination with local, state, and federal agencies to review wildfire activity, air quality conditions, and public health concerns related to wildfire smoke. DEQ and OHA host coordination calls to review current conditions and determine if an air quality advisory is warranted. The DEQ Communications team drafts and releases air quality advisories via GovDelivery, on the Oregon Smoke Blog, and on X. Advisory messaging is amplified by our partners at all levels of government, from the National Weather Service to local public health officials.

Air quality advisories are issued when the AQI is forecasted to average USG or greater for 24 hours. For smoke impacts below this threshold, DEQ and partner agencies, including local public health, may notify the community of smoke and public health impacts, but an official advisory will not be issued.

The 2025 wildfire season started in all areas of the state on June 9th and ended on October 25th. During this time, the team responsible for wildfire smoke response held nine coordination calls to discuss smoke impacts. The team issued 13 unique air quality advisories (10 for $PM_{2.5}$ and three for ozone) that resulted in 24 days with a community under an advisory (see **Table 2**). An additional 17 days had messaging related to smoke impacts below advisory thresholds. In comparison, during the 2024 wildfire season, 26 coordination calls were held, 24 advisories were issued, and 61 days had an air quality advisory in place between June 27th and October 14th.

Table 2: 2025 $PM_{2.5}$ Air Quality Advisories

Advisory Duration	Area Under Advisory	Source of Smoke
7/16/2025 – 7/17/2025	Jefferson	Cram
7/16/2025 – 7/17/2025	Klamath	Hagelstein & Elk
8/22/2025 – 8/25/2025	Deschutes	Flat
8/22/2025 – 8/25/2025	Jefferson	Flat
8/22/2025 – 8/25/2025	West Crook	Flat
8/29/2025 – 9/1/2025	South Deschutes	Emigrant
8/29/2025 – 9/1/2025	Klamath	Emigrant
9/2/2025 – 9/4/2025	East Lane (Oakridge)	Emigrant
9/4/2025 – 9/5/2025	East Lane	Emigrant
9/4/2025 – 9/5/2025	Douglas	Emigrant
9/5/2025 – 9/7/2025	Crook	Marks Creek
9/5/2025 – 9/7/2025	East Lane	Marks Creek
9/5/2025 – 9/7/2025	East Douglas	Marks Creek
9/5/2025 – 9/8/2025	Jackson	Moon Complex
9/8/2025	West Josephine	Moon Complex
9/29/2025 – 9/30/2025	West Douglas	Moon Complex
9/29/2025 – 9/30/2025	Lane	Moon Complex

Areas listed in **Table 2** also experienced days with intermittent smoke; smoke present at high concentrations at some point during the day but that was not forecasted to exceed the air quality advisory threshold. Those days are not qualified as being under advisory and are not captured in Table 2. Other counties that experienced intermittent smoke but were not under an air quality advisory during the 2025 wildfire season include Baker, Union, Umatilla, Wallowa, and Wasco.

DEQ is not currently staffed to respond to smoke impacts that occur over weekends and holidays, so communication for smoke from wildfires that start or worsen during these times must come solely from local agencies. Advisories that may have been issued in 2025 but for the occurrence of air quality degrading over a weekend when staff were not available to respond include the counties listed in **Table 3**. Weekend staffing needs depend on specific fire activity and timing in any given year. Smoke impacts in 2025 were significantly lower than previous years but still resulted in weekend impacts that were not addressed by an air quality advisory.

Table 3: 2025 Missed Advisories

Date	County	Smoke Source
8/23/2025	Klamath	Flat
9/6/2025	Josephine	Moon Complex
9/7/2025	Josephine	Moon Complex
9/27/2025	Josephine	Moon Complex
9/28/2025	Josephine	Moon Complex
9/28/2025	Jackson	Moon Complex

Summary of expenditures

DEQ staff time spent on air quality monitoring and data management, air quality advisory development and communications, and engagement with cooperating agencies and stakeholders throughout the year is split between the Laboratory, Monitoring, Communications, and Planning teams. Wildfire locations and intensity cannot be predicted, requiring DEQ to maintain a statewide network to maximize coverage, regardless of the forecasted severity of the smoke season.

Year-round operation and maintenance are necessary for the following reasons: The monitoring network must be actively maintained and operated, including necessary maintenance downtime that should be occurring outside of wildfire season. Monitors are used outside wildfire season to detect $PM_{2.5}$ from other sources including smoke from prescribed burning, woodstoves, and backyard burns. The monitoring network is an integral part of ODFs Smoke Management Program, used to track and investigate potential prescribed fire smoke impacts. The monitoring network is used to issue air quality advisories due to air stagnation events during winter months. OHA relies on DEQ's air quality data to prepare the annual Climate and Health in Oregon report, documenting how wildfire smoke is impacting public health. Residents and other agencies access the air quality monitoring network year-round to determine current air quality information in their area.

The expenditures to support work done by these teams in 2025 was approximately $2,636,052, of which approximately $1,419,169 was expended during the wildfire season.

As demonstrated in **Figure 8**, smoke impacts from the 2025 wildfire season were lower than in past years. The estimated costs provided in this report associated with performing DEQ's air quality advisories and operating the air quality monitoring network are generally applicable to the wildfire smoke impacts experienced by Oregon communities in 2025.

During 2025, no communities pursued development of a new CRP. Oakridge submitted, and was approved for, a one-hour smoke intrusion exemption. DEQ, ODF, and OHA also reviewed and commented on the annual reports from the three communities with existing one-hour exemptions: Bend, Ashland, and Wallowa County.

Demands on DEQ staff and the monitoring network will increase as communities request additional resources (including an expanded monitoring network) and support. While DEQ does

not directly track prescribed fire activity, work done by the DEQ directly supports work done under the OSMP. As prescribed fire implementation increases, additional DEQ staff capacity will be required to meet the basic requirements of the OSMP. As the pace and scale of prescribed fire increases and communities gain interest in completing CRPs to allow for increased prescribed fire near and in their wildland urban interface areas, it is anticipated more staff time will be required to provide technical assistance and review reports, and more funding support will be requested by communities. Limited Duration positions at DEQ to provide technical assistance to communities developing CRPs expired in 2023, leaving the agency without resources to proactively engage communities across the state. It also prevents timely review of and approval of CRPs and exemption requests when they are submitted.

The DEQ expenditures in **Table 4** are broken down by expenditures by each team for staff, services and supplies, equipment and software. The expenditures included in this report exclusively represent staff time and equipment for DEQ that can be reasonably attributed to tasks described in this report. Other DEQ teams and resources, and other agencies at all levels of government are engaged in this work and their time is not represented here.

Table 4: 2025 Expenditures

Activity	Expenditures
Laboratory & Monitoring Staff	$2,360,119
Planning Staff	$225,223
Communications Staff	$7,176
Field and Lab Supplies, Misc Supplies	$43,534
Total	**$2,636,052**

During the 2025 wildfire season, staff expenditures by the Laboratory and Monitoring team was approximately $1,306,00, the Planning team was approximately $97,000 and for equipment was approximately $15,600.

Recommendations

In order to increase the pace and scale of prescribed fires and ensure resilient communities in the face of increased wildfire threats, communities need technical support for the development of response plans to protect citizens from the negative impacts of smoke. Communities also need information on smoke impacts in areas that are un- or under-monitored.

One of the main tools DEQ has to support communities in becoming more resilient to wildfire and prescribed fire smoke is technical assistance and funding to support the development and implementation of Community Response Plans. Funding acts as a main driver to generate interest in and support for CRP development by local policy makers, as shown by the fact that only one of the existing nine CRPs was locally funded.

It is also true that even with funding, local public health, as the main agency in charge of developing and implementing a CRP, often lacks capacity for continued community engagement

called for by a successful CRP. Local public health offices are typically responsible for a variety of inspections, communications, and specialized projects. They provide invaluable support to DEQ during wildfire season and to their community during prescribed fire season through message delivery and coordination with prescribed fire agencies. No funding has been made available for this work since the 2021-2023 biennium, significantly slowing progress developing and implementing CRPs across the state.

Senate Bill 762 (2021) also funded data analysis and outreach necessary to determine where to place 20 additional low-cost SensORs (air quality monitors developed by DEQ) are needed to fill gaps in the monitoring network

Figure 9 and **Figure 10** demonstrate how areas in central and eastern Oregon experienced smoke impacts from the Emigrant Fire on August 29, 2025. Air quality monitoring in these areas is limited. Coordinating air quality advisory calls and issuing advisories relies on validated air quality data from monitors that are regularly maintained. Costs for deploying and maintaining air quality monitors and reviewing the associated data continue to increase. The current staffing cannot support additional monitors and their required maintenance, data analysis, site operations, and quality assurance and quality control required to maintain data integrity and reliability.

Figure 9: August 29, 2025 Satellite Imagery

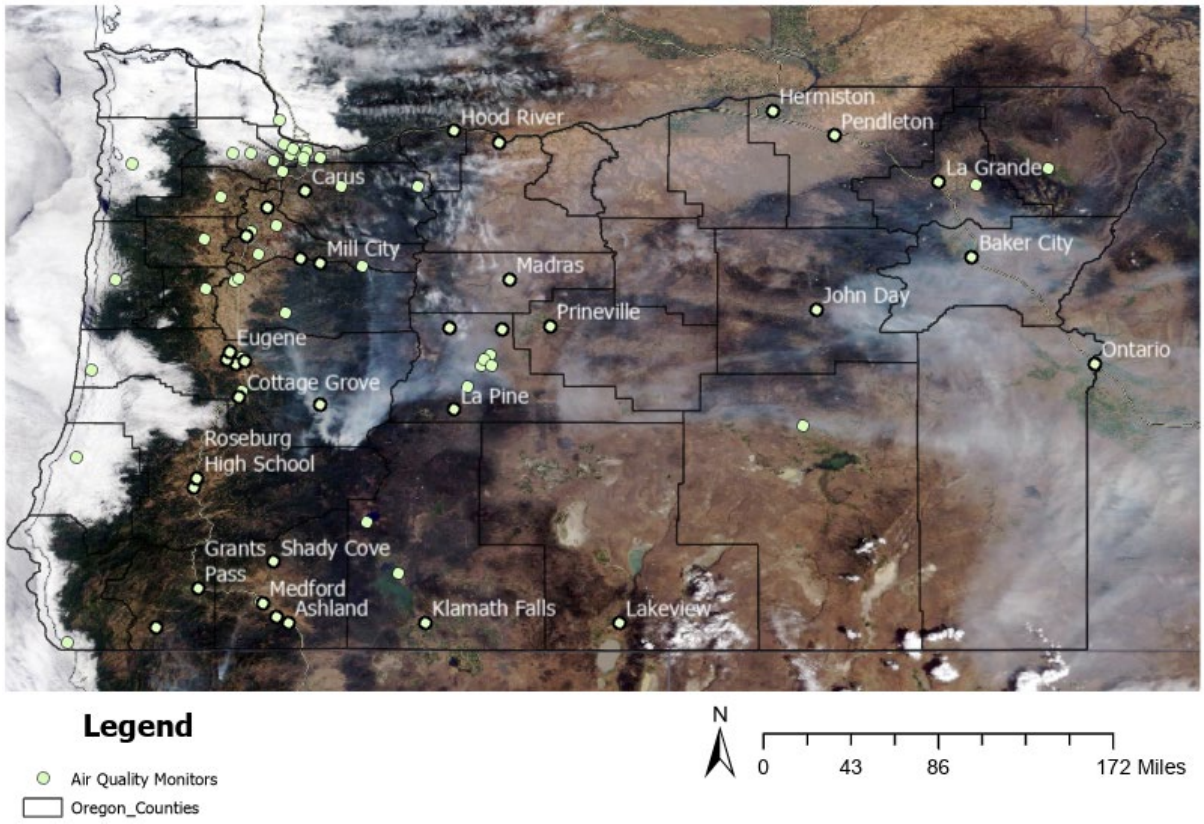
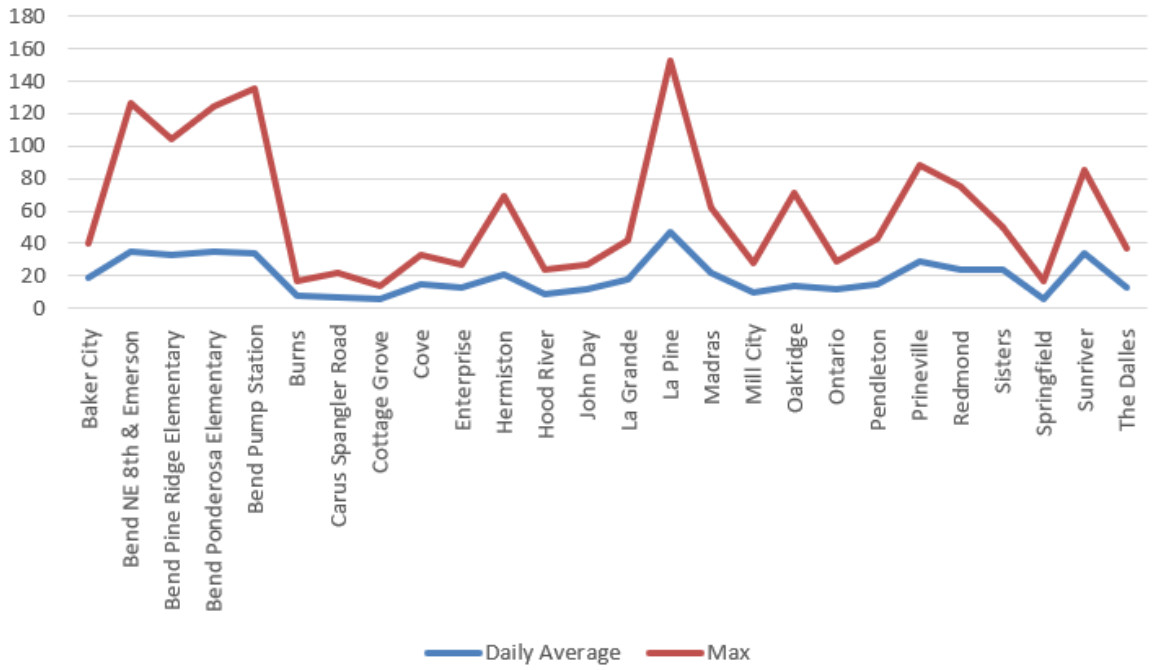


Figure 10 shows daily averages and daily maximums for monitors that showed the highest smoke impacts on August 29, 2025 and corresponds with the map in **Figure 9**. While the map above is a snapshot in time, when viewed in tandem with air quality data, it shows the hourly and daily variability in smoke concentrations. Communities to the east like Ontario and La Grande appear to be inundated. However, over the 24-hour period, central Oregon communities had higher average AQIs, as shown by La Pine and Bend in the chart below.

Figure 10: August 29, 2025 Daily Average and Daily Maximum (in µg/m3)



Because smoke conditions can change rapidly, agencies at the state and local level need access to accurate air quality data and need to be prepared to deliver messaging that meets the community's needs and on-the-ground experience. DEQ staffing is not currently staffed to develop and deliver wildfire smoke air quality advisories over weekends and holidays. Coordination meetings are not held over the weekend and messaging to the public may be delayed. This creates gaps in messaging and public health coordination for wildfire smoke events that occur or worsen over weekends. Costs for weekend coverage varies by year and is dependent on fire activity and timing of smoke impacts. For example, the last time calls were held on weekends was in 2023 and seven weekend advisory calls. It is anticipated total staff time for weekend coverage during wildfire season can vary between 50 and 100 hours per season. Executive Order 25-26 directs state agencies to take urgent action to promote the resilience of our communities and natural resources and working lands and waters. Action outlined in the EO includes implementation of Oregon's 20-year Landscape Resiliency Strategy. The EO, along with the 20-year Strategy call for increasing the pace and scale of prescribed and cultural burning in Oregon while minimizing smoke impacts to public health. To effectively carry out this mandate, gaps in monitoring, communications, and coordination will need to be addressed. Modeling and forecasting support will be necessary to ensure prescribed burns are conducted during times when smoke will be carried away from communities. Communities will

need to be prepared to protect public health during smoke intrusions. The resource needs and collaboration necessary to plan for and carry out larger prescribed burns near communities was tested during the West Bend Prescribed Burn Pilot, which was initiated in 2023 and carried out in 2024. That project brought to light the opportunities and challenges, as well as additional staff necessary, to implement increased pace and scale of prescribed fire on the landscape.

The Agency supports the following recommendations:

- Support Community Response Plans which bolster local capacity to prepare for and respond to smoke events. Community Response Plans are a critical piece to successfully increasing the opportunities for and scale of prescribed fire for healthy forests while protecting public health.
- Fund equipment and staff to expand monitoring of air quality in areas of the state that are commonly impacted by smoke but lack adequate air quality monitoring data.
- Support weekend activation of staff responsible for assessment of conditions and development and delivery of wildfire smoke air quality advisories not feasible with current staff capacity.
- Support positions and projects needed to carry out Executive Order 25-26, which calls for creating fire-adapted communities, and to implement Oregon's 20-year Landscape Resiliency Plan, including increasing the pace and scale of prescribed burns and cultural burning while minimizing smoke impacts to public health.

In 2025, DEQ provided air quality monitoring data, smoke communications, and coordinated with partner agencies on wildfire smoke response and prescribed fire smoke preparedness. However, as demands increase for an expanded monitoring network, as implementation of prescribed fire increases, and as communities require additional resources to protect public health, DEQ programs will need to grow to meet those needs. Without additional resources, including staff and equipment, DEQ will be unable to expand the programs and support currently offered.

Appendix A

One-hour exemption updates

An approved one-hour exemption includes the requirement to submit an annual report outlining when during the year the CRP was initiated to respond to prescribed fire smoke impacts, methods used to communicate smoke impacts to the public, and any meetings held to discuss or update the CRP. A one-hour exemption may be revoked if there are three or more occurrences in five years where the 24-hour smoke intrusion threshold is exceeded (26 micrograms per cubic meter averaged midnight to midnight) or if prescribed burning contributes to two or more NAAQS exceedances (24-hour average of 35 micrograms per cubic meter, averaged over three years).

Communities with a one-hour exemption include Ashland, Bend, Wallowa County, and Oakridge. Oakridge is the most recent community with an approved exemption request, which was approved in March 2025. The following sections include a summary of updates from those communities for 2025.

Ashland, Oregon

Ashland developed its Community Response Plan for Smoke in 2021 using a $110,000 grant from DEQ, which was part of $250,000 designated for Community Response Plan development in the 2019 Legislative session. The final plan and one-hour exemption request were approved in February 2021. In 2021, under SB 762 DEQ awarded a staffing and implementation grant to Ashland totaling $75,000.

As part of its CRP and one-hour exemption, Ashland conducts community outreach related to prescribed fire, potential smoke impacts, and how residents can protect themselves from smoke. Through the Ashland Forest Resiliency Stewardship Project (AFR) and SmokeWise Ashland, a suite of resources have been developed including health guidance, how-to guides for air filtration devices, and general smoke preparedness. Messaging has expanded to include wildfire smoke events. Ashland maintains a text line (888-777) that alerts subscribers of controlled burns and wildfire smoke impacts. Staffing and implementation funding helped them expand public education programs and air filtration deployment. They also developed a GIS map that shows data from a variety of sources including DEQ air quality monitors, locations of wildfire, locations of prescribed burns, satellite hotspot detections, and traffic cameras. Ashland Forest Resiliency has developed partnerships for prescribed fire planning and communication, including the City of Ashland, Lomakatsi Restoration Project, the Rogue-River Siskiyou National Forest, and the Nature Conservancy. SmokeWise Ashland also partners with Asante Community Hospital, Jackson County Health and Human Services, Ashland Chamber of Commerce, the Oregon Shakespeare Festival, and Southern Oregon University for additional smoke communications and adaptation planning.

Leading up to prescribed fire season, a calendar of major recreation and outdoor community events is updated to inform prescribed fire planning and minimize smoke impacts. Maps of planned burns are updated and shared with the public, and an email with health and prescribed fire resources is shared with organizations that serve vulnerable citizens. During prescribed fire season, AFR partners initiate messaging for burns of any size that could impact the Ashland area. Weekly coordination calls occur between burn bosses and AFR partners and daily notifications are sent for approved burns.

In 2025, Ashland used its text line and social media to notify the community of eight prescribed burns (as of 12/4/2025), one wildfire smoke event, and one smoke preparedness workshop. Additionally, public information on controlled burning and how to sign up for notifications is delivered through the City Source Newsletter (in utility bills), social media, the AFR webpage, the Everbridge notification system, and the Ashland Chamber and Travel Ashland newsletters and websites.

Updating the Ashland Community Wildfire Protection Plan was a main focus in 2025. This included integration of existing smoke response and planning into the CWPP. Updates to the CRP made in December 2024 served as the basis for integration of smoke information into the CWPP. Smoke planning is included in two sections of the CWPP; Community Health and Safety (mostly referenced in the Smoke Impacts section) and Economic Stability, and smoke is referred 124 times. During the CWPP update process three meetings and community outreach events were held in the spring and early summer of 2025.

As identified in the CWPP, improvements could be made to community awareness of smoke impacts on public health and proactive measures people can take to protect themselves from smoke. While Ashland has implemented portions of its CWP, staff responsible for the programs are largely grant funded and the city has no plans to hire staff dedicated to plan implementation. Partner agencies also do not have staff dedicated to smoke preparedness.

Bend, Oregon

The Community Response Plan for the Bend Smoke Sensitive Receptor Area was the first plan completed in Oregon. The plan was finalized in spring 2019 and the one-hour exemption request was approved in December 2019. While the development of the initial CRP was not funded by DEQ, $75,000 in funding for staffing and implementation was awarded through a DEQ grant, using SB 762 appropriated funds, in 2021.

Deschutes County Public Health and the Deschutes National Forest partner to issue press releases about planned prescribed burns and how people can protect themselves from smoke. Messages are posted to the Central Oregon Fire Info website and X account, the Deschutes County and Deschutes County Health Services Facebook, X and Instagram accounts, through Central Oregon Fire Info text alerts and email subscription lists, and at community events. In 2025, 27 press releases, 23 text alerts, and 72 Central Oregon Fire Info posts were published to provide information to the community.

As part of the coordination that occurs between public health, land managers, and air quality regulators, bi-weekly meetings were held mid-April through early June. These meetings discussed the schedule of community events during the spring season that precluded burning. The group also discussed size and location of units planned for burning, smoke considerations, and how communications would be delivered to the community. A review of the year's activities was conducted during a meeting with local partners in early December.

One goal of the 2025 prescribed fire season was to replicate the accomplishments of the West Bend Prescribed Burn Pilot in 2024. Along with the work done locally, a meeting was held in November with EPA and other key pilot participants to discuss lessons learned and necessary components for replicating the pilot in other communities.

Wallowa County, Oregon

Wallowa County completed a Smoke Management Community Response Plan in spring 2021, with a one-hour exemption request for the SSRA of Enterprise approved in June 2021. Funding of $35,000 for CRP development was awarded as part of a $250,000 grant appropriated in the 2019 Legislative session. In 2021, under SB 762, DEQ awarded a staffing and implementation grant to Wallowa totaling $75,000.

The Wallowa County Air website provides the public with information and resources related to air quality, the health impacts of smoke, wildfire information, and health protective measures you can take when smoke is present. This site is also used to communicate prescribed fire information, along with the Wallowa County Natural Resources website, and the Wallowa County Government Facebook page. The public can also sign up for text alerts for air quality and prescribed burn notifications. During 2025, two prescribed burn event notifications were delivered through various communication channels. One meeting was held to review the CRP and discuss potential updates to the plan.

Oakridge, Oregon

The City of Oakridge developed the Oakridge Smoke Safety Plan, in coordination with the Lane Regional Air Protection Agency, in 2021 using a $35,000 grant from DEQ (appropriated during the 2019 Legislative session). In 2021, under SB 762, DEQ awarded a staffing and implementation grant to Oakridge totaling $75,000. Oakridge collaborated with a variety of local, state, and federal partners, as well as non-governmental organizations during its plan development. Funding also allowed for the formation of Oakridge Air, a program with the goal of permanently reducing and sustaining the average 24-hour $PM_{2.5}$ concentration below 30 $\mu g/m^3$. After a review and update of the existing CRP, Oakridge received approval for its one-hour exemption request in March 2025.

Oakridge contracts with Southern Willamette Solutions to assist with its CRP and one-hour exemption. SWS utilizes social media as its primary outreach channel for disseminating prescribed burn updates to the public. They also maintain readerboards located throughout the community that play a critical role in communicating timely information, particularly for residents

who may not regularly social media or other online sources of information. These boards provide highly visible, real-time messaging during prescribed burn operations.

Starting in March 2025, the Southern Willamette Forest Collaborative posted prescribed burn messaging 20 times on Facebook and 14 times on Instagram, reaching 686 and 121 followers respectively. Oakridge Air posted complimentary messaging on its platforms, with 15 posts each to Facebook and Instagram that reached a combined 928 followers. Communications were also shared on relevant local community Facebook groups to further expand reach, enhance engagement, and ensure timely delivery of information to impacted communities. During the pile burning season, three seasonal updates were displayed on the City of Oakridge and Oakridge School District reader boards as part of coordinated community outreach efforts.

The Oakridge Fire Safe Council is a volunteer-based organization participating in a multi-agency, citizen-led effort to reduce wildfire risk in the Upper Middle Fork Watershed, in the southeast portion of Lane County. The FSC is a private initiative that is not convened or managed by outside agencies. They meet monthly to coordinate wildfire risk mitigation activities, share information among partners, and support implementation of the CRP. Through regular meetings, the FSC provides a forum for collaboration, planning, and ongoing refinement of community-based wildfire preparedness and response strategies.