

SMOKE MANAGEMENT

PROTECTION DIVISION

2022

MITIGATION & POLICY DEPT.



2022 Welcomes our new Policy and Planning Branch Mitigation Unit Manager Stacy McCarter over the Smoke Management Program which is now under the Mitigation & Policy Department! Stacy has an extensive background in business management and rolls with a Type 1 Incident Management Team on ODF Team 2 for the past 9 years.



Welcome Amanda Rau who joined us in February as the Prescribed Fire Planning Coordinator. Amanda has 23 years of operational, and policy management experience and comes with creative solutions for cross border partnerships in prescribed fire.



Welcome Christie Shaw who joined us in December. Christie is a powerhouse of organization and comes to help us in our Policy & Grant department.



Staff that joined in earlier: Welcome Sherri Pugh who joined us in July and Gary Votaw who joined in 2020. Both are new forecasters to the program that bring a plethora of experience in meteorology.

Oregon Smoke Management Annual Report 2022

Photos: Stacy McCarter top-left, Amanda Rau top-right, Sheri Pugh bottom-right, Christie Shaw bottom-left. Photo of Gary not available.

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EXECUTIVE SUMMARY REPORT

Acres burned – 107,463 Statewide acres were ignited. Due to an unprecedented high pressure creating stagnant air across most of the state for about 4 weeks fall of ‘22, and the 90-day Federal burn ban; this was the lowest number of acres burned during the last 10 years. The 10-year average is 189,292 acres. Both the 10-year average, and the 2022 acres burned, have decreased from the 2021 yearly acres since the start of the pandemic.

Intrusions – There was only 1 smoke intrusion into Smoke Sensitive Receptor Areas (SSRAs) based on the new 2019 definition (see below) of a smoke intrusion. This represents a lower number of intrusions recorded. The 10-year average is 8 intrusions.

Smoke impacts – There were 13 smoke impacts (smoke incidents) recorded with highest impacts in La Pine at 344.6 and 108.6 microns per cubic meter.

Emissions - Emissions were 8,641 tons of PM 2.5. This is considerably less than the 10-year average of 12,146 tons.

**OREGON DEPARTMENT OF FORESTRY
FIRE PROTECTION DIVISION
SMOKE MANAGEMENT AND FUELS**

PROGRAM OVERVIEW

The Oregon Smoke Management Plan was developed as a voluntary program in 1969 and adopted as a regulatory program by the State Forester and the Environmental Quality Commission (EQC) in 1972. The plan has gone through several major revisions since then. The last revision to the plan was completed in early 2019. Implementation started March 1 of that year.

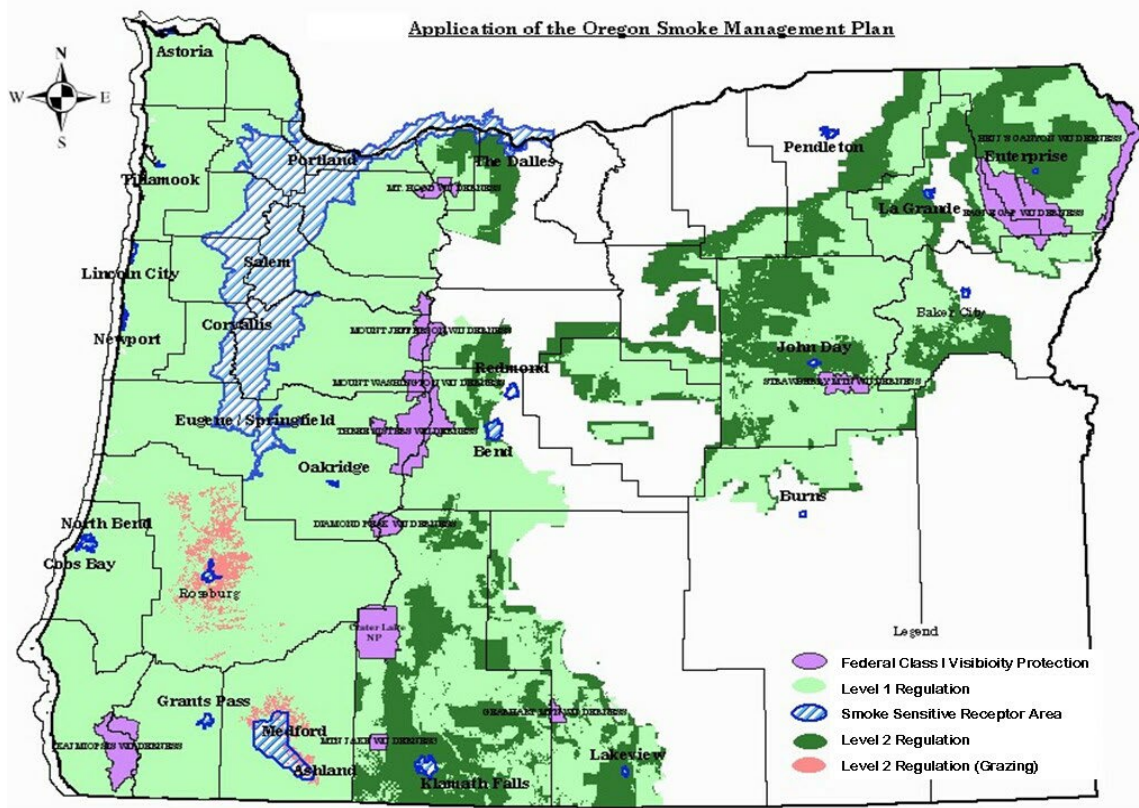
Key elements changed in the plan include: *

1. The definition of a smoke intrusion to include a threshold for a short-term (hourly) smoke impact and a threshold for a 24-hour average impact.
2. Development of a communication framework and community response plans. Approved community response plans will allow for an exemption to the one-hour threshold of a smoke intrusion.
3. Increasing the amount of polyethylene sheeting allowed to cover burn piles to keep them dry in order to reduce smoke emissions.

*See OAR 629-048 for the details of these changes.



SMOKE MANAGEMENT ANNUAL REPORT



PROGRAM SUMMARY

Audits:

The Oregon Smoke Management Plan's goal is an annual audit of approximately one percent of the prescribed burns conducted in the Regulated Area (see map on left). Approximately half of the audits are conducted on the day of the burn and half are conducted prior to ignition. The purpose of these audits is to maintain consistent data reporting and monitor the effectiveness of the Oregon Smoke Management program.

The Smoke Management Field Coordinator devotes significant time to overseeing the audit program and improving the compliance for conducting audits. This year 33 audits were completed, for a total of 32,532 audited tons. The audit breakout was 14 pre-burn audits and 19 burn-day audits. Forest Service, BLM, state, and private units were audited. At least one of these audits were mutually agreed upon and performed on a non-regulated neighboring agency in a successful relationship building and information-sharing visit.

Trends continue to show that reported tons are generally within the acceptable range of audited tons. This is an improvement from the under reporting of tons in past years.

The Smoke Management Field Coordinator continues to teach both agency and non-agency personnel the proper way to estimate fuel loading through on-the-job training during site visits, ... - continued

PROGRAM OVERVIEW CONTINUED

The plan's overall purposes are:

1. To improve the management of prescribed burning as a forest management and protection practice.
2. To minimize emissions from prescribed burning consistent with the air quality objectives of the federal Clean Air Act.

The plan applies to all lands classified as forestland and all federally managed forestland, whether classified or not, within a forest protection district.

In general, all federal forestland and Class I forestland in western Oregon is regulated at a higher level but all forestland owners and managers must comply with most or all aspects of the program.

The Oregon Smoke Management Plan contains six principal objectives. These objectives are to:

1. Minimize smoke emissions resulting from prescribed burning.
2. Provide maximum opportunity for essential forestland burning.
3. Protect public health by avoiding intrusions.
4. Coordinate with other state smoke management programs.
5. Comply with state and federal air quality and visibility requirements; and
6. Promote the further development of alternatives to burning and emission reduction techniques.

PROGRAM SUMMARY CONTINUED



Collaborating with USFW to restore ecosystems.

Continued: ... burn boss refresher training courses, the regional Rx-301/341, and Rx-410 Smoke Management Techniques course, and fuel-load estimation briefing papers.

An entire series of video tutorials on how to do a fuels transect, estimate tonnage, and use tools to help burners have also been advertised and published to the field.

In addition, the SIMPLE fuel-loading calculator has been accepted by Forest Service and BLM researchers. Research and testing are ongoing as the field continues to use the new fuel-loading tool. Our federal partners have adopted its use and ODF's fuel-loading estimation methodology as their standard operating procedures. A white paper on the technique and where to get more information was developed by the Smoke Management Field Coordinator in consultation with the Forest Service's Regional Air Quality Program Manager. It's anticipated this outreach and education effort will lead to more precise fuel-load estimates.

Meteorological Services:

Oregon Department of Forestry meteorologists provide written daily

Smoke Management forecasts and burning instructions statewide from October – June, as well as year around phone consultation for prescribed burning operations.

Through a cooperative agreement with DEQ they are making the open burning forecast for the Willamette Valley north of Lane County throughout the year. In addition, ODF provides the Department of Agriculture field burning forecasts for the north Willamette Valley, Jefferson County, and Union County during the summer field burning season (July 1- October 15).

Other forecast services include weather support for significant weather events (heavy rain, wind, etc.) and for weather events that may increase the chances for wildfire and its spread.

SMOKE MANAGEMENT ANNUAL REPORT



PROGRAM ACCOMPLISHMENT DATA

ALTERNATIVES TO BURNING, EMISSION REDUCION TECHNIQUES

As part of a recommendation from the 2013 review of the Smoke Management Plan, the program is tracking acres of treated forestland where alternatives to burning were employed instead of using prescribed fire. In addition, emission reduction techniques of prescribed burn units are also tracked. See results:

Total statewide acres using emission reduction techniques including landing, grapple, hand-piled, and right-of-way piles according to ODF Smoke Management Database: 99,775.

Alternative to burning techniques include biomass removal, scattering material, chipping, crushing, firewood removal, non-treatment, or other techniques for reducing fire hazards and/or creating planting spots without using prescribed fire.

Emission reduction techniques including piling clean piles instead of broadcast or underburning, use of rapid ignition techniques, covering piles with polyethylene sheeting to keep the piles dry, and other techniques used to reduce particulate and gaseous emissions while burning.

The goal is to show the program is not exclusively focused on prescribed burning but all treatment methods that most effectively reduce fire hazard, maintain productive and resilient forests, and keep or improve air quality.

PRESCRIBED BURNING STATISTICS

The following tables and figures provide detailed information about the Smoke Management program. The data details accomplishments for 2022 and compares them with previous years.

**TABLE 1
2013-2022 ACCOMPLISHMENT SUMMARY**

| Year | Total No. Units (Registered) | No. Units Burned | Acres Burned | Tons Burned | Incidents | Intrusions | Intrusion/ignition% |
|----------------|------------------------------|------------------|----------------|------------------|-----------|------------|-------------------------|
| 2013 | 3,890 | 3,104 | 182,189 | 1,308,114 | | 3 | .08 [^] |
| 2014 | 4,095 | 3,492 | 208,593 | 1,405,349 | | 13 | .31 [^] |
| 2015 | 3,601 | 3,101 | 179,613 | 1,371,114 | | 9 | .24 [^] |
| 2016 | 3,484 | 2,928 | 181,800 | 1,228,107 | | 11 | .30 [^] |
| 2017 | 3,597 | 2,868 | 159,624 | 1,004,108 | | 10 | .29 [^] |
| 2018 | 4,307 | 3,388 | 185,702 | 1,270,725 | | 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 | 2,287 | 143,653 | 996,496 | 43 | 2 | .06 [^] |
| 2022 | 3,014 | 2,148 | 107,463 | 874,117 | 13 | 1 | .01 [^] |
| Average | 3,611 | 2,911 | 168,026 | 1,156,713 | 24 | 8 | 0.19[^] |

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

[^]Values were all recalculated from 2012 to intrusions per ignition.

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Figure 2A

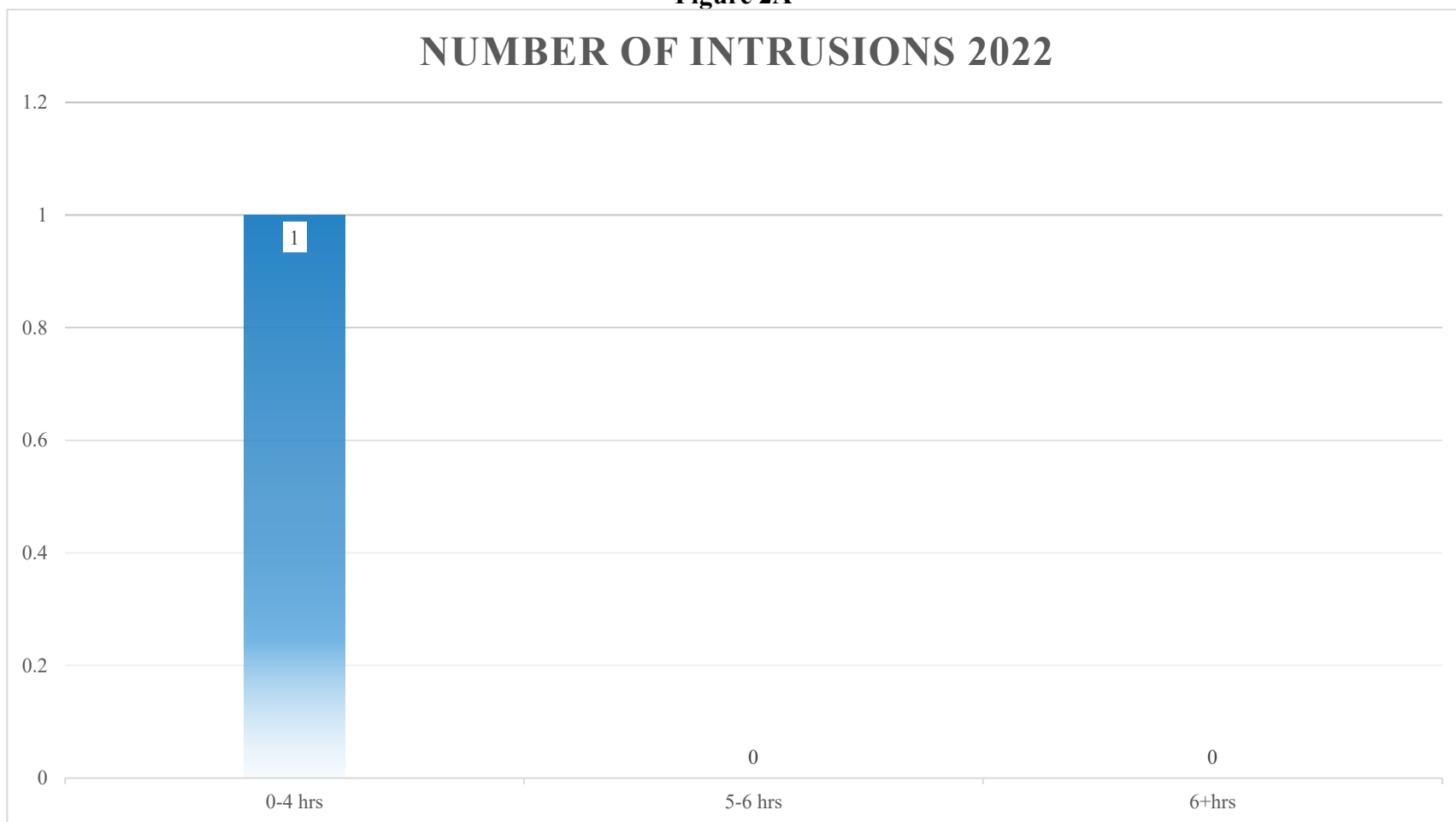
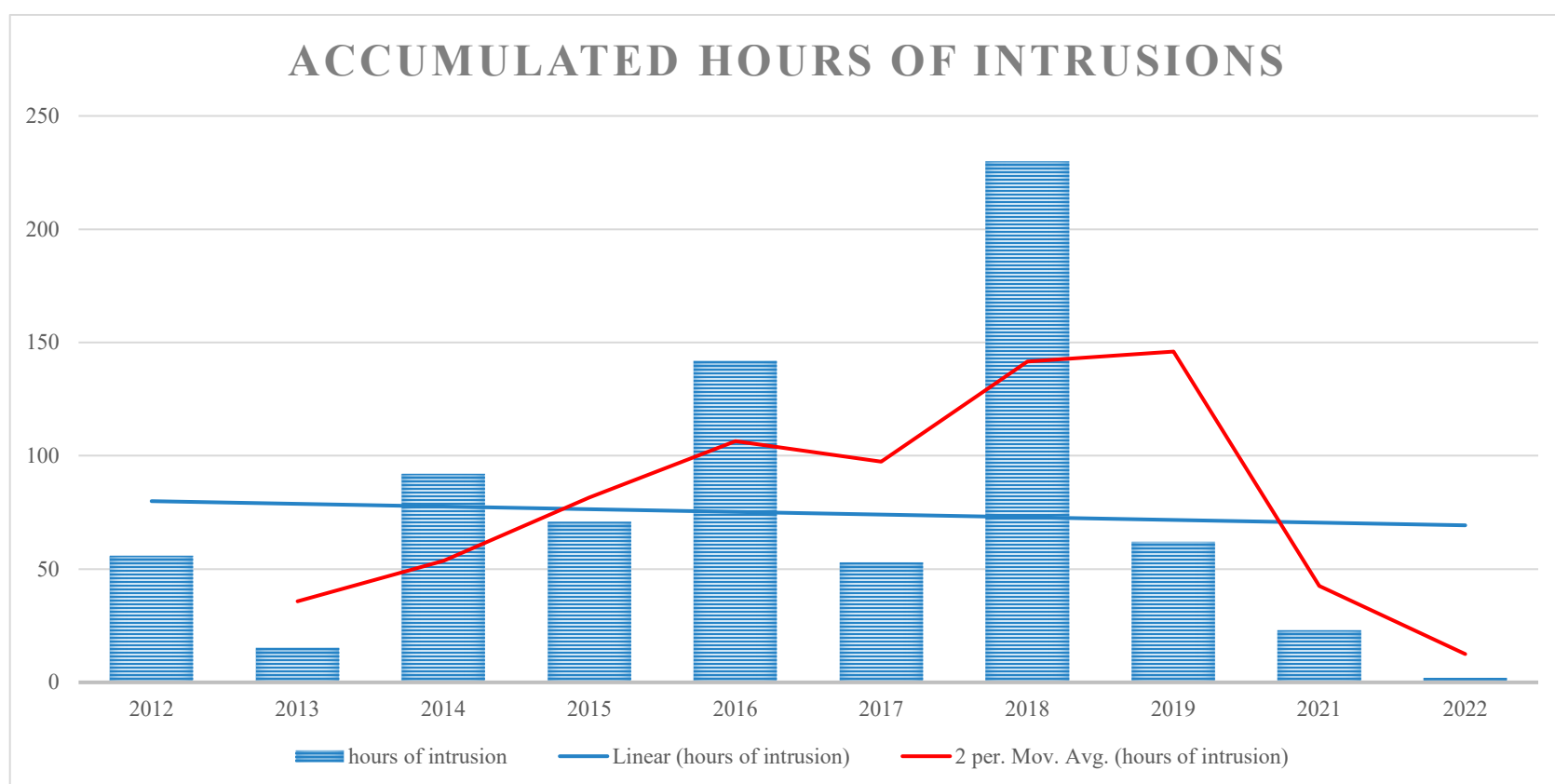


Figure 2B

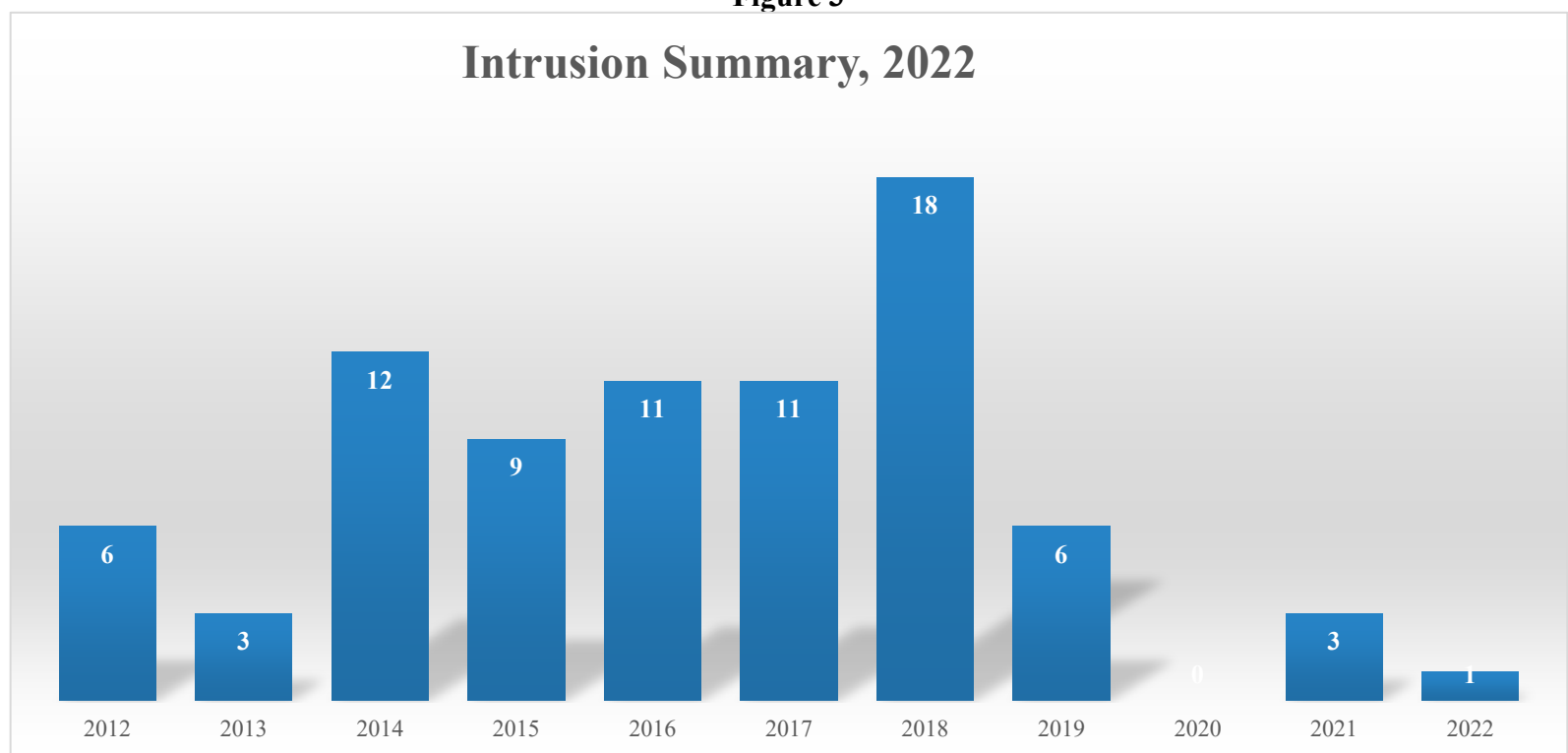


No trend data available due to zero intrusions in 2020.



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Figure 3



*No trend data available due to zero intrusions in 2020.

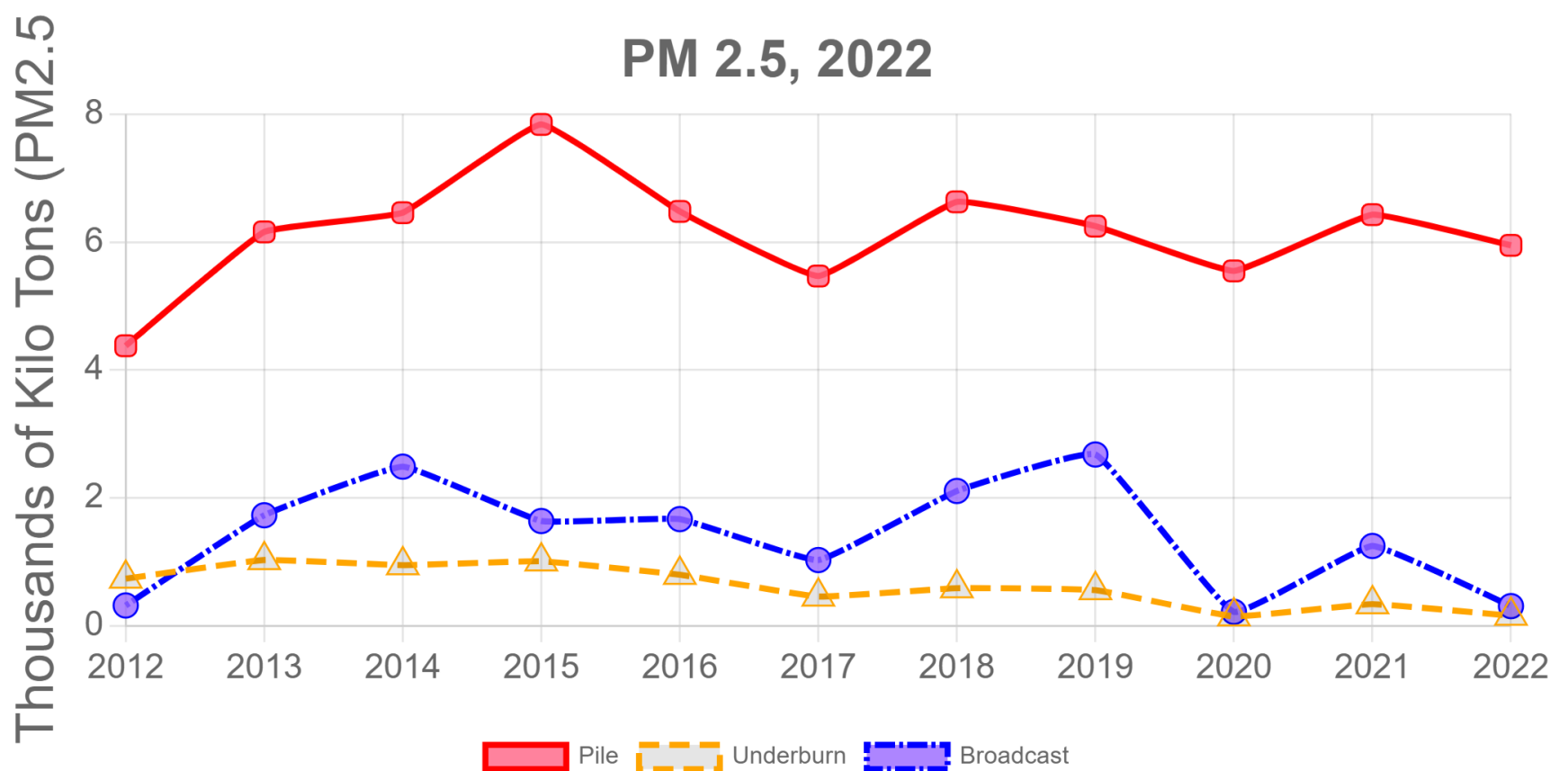
TABLE 2
SMOKE INTRUSION SUMMARY – 2022

| Date | District/ Forest | Primary Area Affected | Unit No. | Owner Class | Max hrly | |
|----------|---------------------|--------------------------|----------|--------------|--------------------------------------|----------|
| | | | | | Max 24 hr | Length |
| 12/13/22 | Medford, ODF | Talent | 22-01 | Private, ODF | 92.6 (max hr) / 24.1 (24hr. ave.) | 2+ hrs.* |
| | | | | | | |

*24 hour intrusions

Figure 4A

Prescribed Burning Emissions Estimate



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Figure 4B

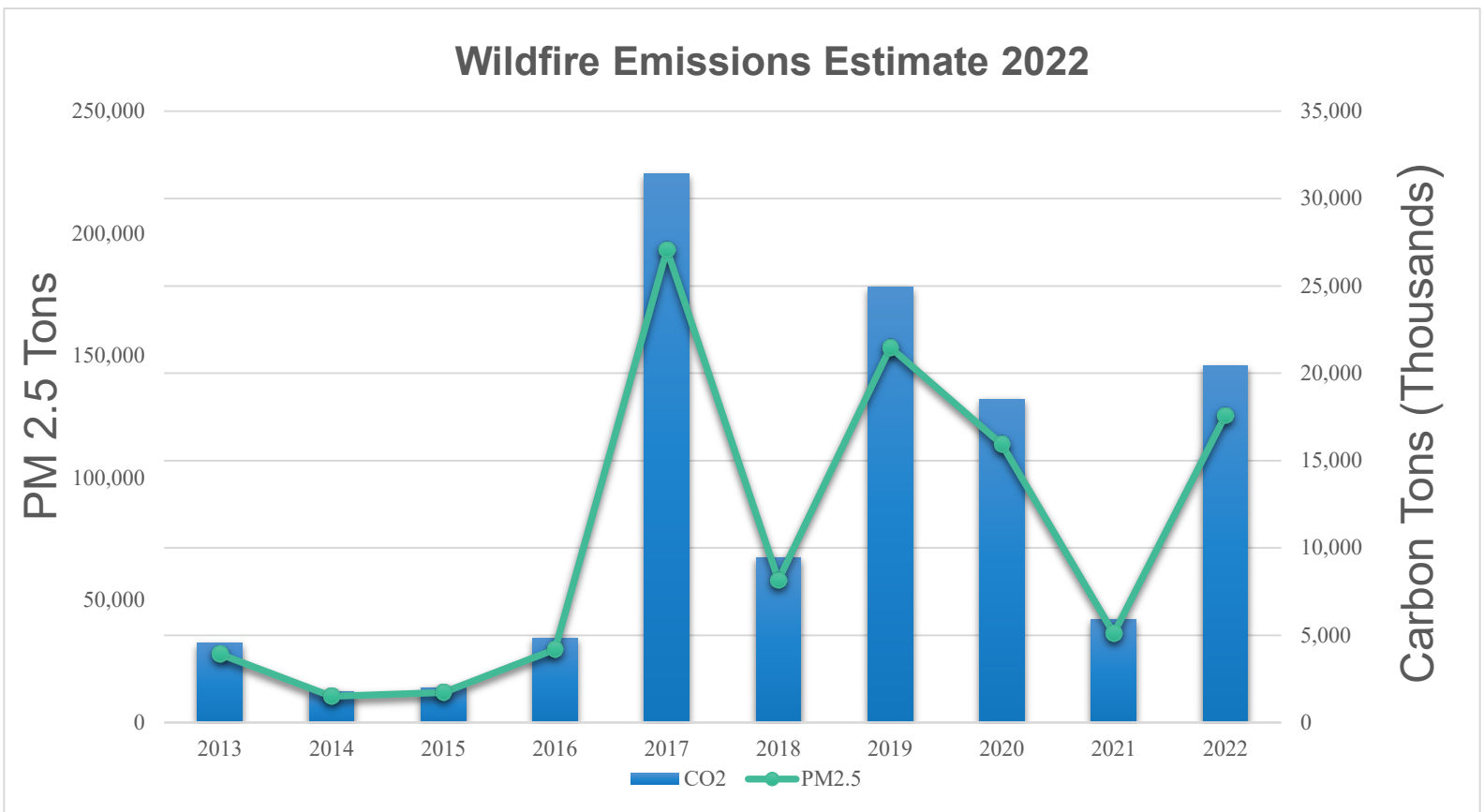
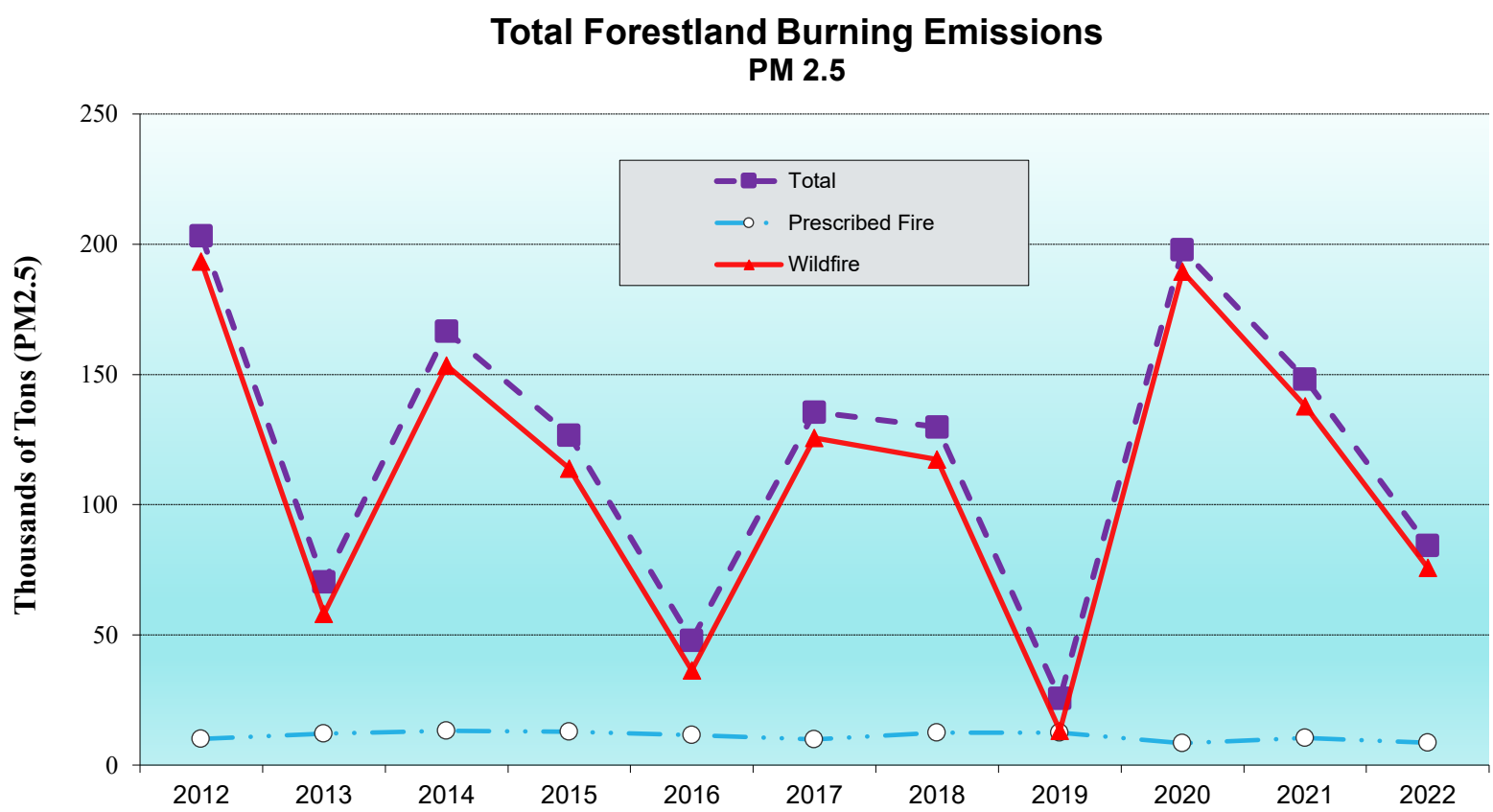


Figure 5



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BURNING FOR WILDLIFE

Fire will help to control pests such as fleas and stimulate new growth for others such as praying mantis, while improving new vegetation stimulation for browsing animals such as deer and elk.

Left photo

WINTER PILES

Crews are able to burn covered piles during winter weather increasing their burn window opportunities.

Right photo



Table 3A

PM 2.5 Emissions (Tons) Broadcast

| District Name | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|-------------|
| Astoria | 478 | 456 | 326 | 380 | 446 | 559 | 654 | 524 | 623 | 436 | 234 |
| Central Oregon | 169 | 141 | 329 | 264 | 285 | 48 | 72 | 97 | 196 | 27 | 12 |
| Columbia Gorge | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Coos | 0 | 2 | 1 | 3 | 4 | 1 | 5 | 0 | 0 | 7 | 11 |
| Coos FPA | 1095 | 1573 | 1641 | 1687 | 1214 | 1254 | 1480 | 1438 | 1231 | 1668 | 2009 |
| Crater Lake N.P. | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 4 | 1 |
| Deschutes NF | 168 | 268 | 500 | 522 | 301 | 486 | 690 | 903 | 78 | 659 | 318 |
| Douglas FPA | 498 | 903 | 1287 | 1417 | 1022 | 1094 | 1301 | 746 | 728 | 887 | 911 |
| Forest Grove | 309 | 533 | 351 | 313 | 205 | 311 | 318 | 473 | 573 | 433 | 468 |
| Fremont NF | 14 | 192 | 285 | 764 | 563 | 295 | 466 | 576 | 89 | 478 | 145 |
| Klamath NF | 2 | 6 | 10 | 10 | 13 | 5 | 1 | 0 | 0 | 0 | 0 |
| Klamath-Lake | 42 | 75 | 410 | 871 | 373 | 78 | 143 | 67 | 77 | 22 | 24 |
| Malheur NF | 486 | 845 | 1266 | 419 | 1085 | 594 | 638 | 334 | 470 | 37 | 117 |
| Mt. Hood NF | 35 | 80 | 81 | 52 | 44 | 49 | 18 | 48 | 22 | 28 | 24 |
| North Cascade | 278 | 421 | 314 | 408 | 331 | 196 | 687 | 486 | 170 | 952 | 569 |
| Northeast | 373 | 1230 | 829 | 438 | 1021 | 847 | 815 | 477 | 402 | 532 | 300 |
| Ochoco NF | 108 | 173 | 86 | 124 | 88 | 102 | 123 | 162 | 94 | 313 | 117 |
| Oregon Caves NM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Rogue-Siskiyou NF | 258 | 293 | 423 | 604 | 329 | 146 | 248 | 381 | 98 | 183 | 18 |
| Siuslaw NF | 23 | 20 | 33 | 22 | 23 | 4 | 2 | 26 | 0 | 0 | 0 |
| South Cascade | 720 | 802 | 778 | 881 | 678 | 594 | 780 | 648 | 662 | 654 | 528 |
| Southwest | 527 | 420 | 690 | 606 | 546 | 494 | 519 | 777 | 643 | 569 | 490 |
| Tillamook | 129 | 292 | 240 | 239 | 152 | 211 | 190 | 184 | 168 | 176 | 194 |
| Umatilla NF | 30 | 366 | 490 | 501 | 162 | 58 | 273 | 287 | 97 | 278 | 27 |
| Umpqua NF | 188 | 197 | 224 | 159 | 149 | 68 | 79 | 52 | 77 | 19 | 0 |
| Walker Range | 0 | 0 | 1 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wallowa-Whitman NF | 565 | 808 | 827 | 410 | 1172 | 373 | 625 | 618 | 458 | 749 | 542 |
| West Oregon | 923 | 1026 | 1273 | 1327 | 934 | 1063 | 1234 | 916 | 1051 | 808 | 1060 |
| Western Lane | 164 | 453 | 230 | 306 | 166 | 605 | 717 | 600 | 369 | 319 | 518 |
| Willamette NF | 156 | 180 | 281 | 461 | 345 | 225 | 230 | 327 | 6 | 82 | 0 |
| Winema NF | 53 | 106 | 269 | 177 | 105 | 137 | 255 | 1262 | 6 | 68 | 0 |
| Total | 7791 | 11862 | 13475 | 13368 | 11785 | 9897 | 12564 | 12410 | 8388 | 10388 | 8637 |

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**Table 3B
PM 2.5 Emissions (Tons) PILE**

| District Name | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------|-------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------------|--------------|-------------|
| Astoria | 478 | 456 | 326 | 380 | 446 | 559 | 654 | 524 | 623 | 436 | 234 |
| Central Oregon | 169 | 141 | 329 | 264 | 285 | 48 | 72 | 97 | 196 | 27 | 12 |
| Columbia Gorge | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Coos | 0 | 2 | 1 | 3 | 4 | 1 | 5 | 0 | 0 | 7 | 11 |
| Coos FPA | 1095 | 1573 | 1641 | 1687 | 1214 | 1254 | 1480 | 1438 | 1231 | 1668 | 2009 |
| Crater Lake N.P. | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 4 | 1 |
| Deschutes NF | 168 | 268 | 500 | 522 | 301 | 486 | 690 | 903 | 78 | 659 | 318 |
| Douglas FPA | 498 | 903 | 1287 | 1417 | 1022 | 1094 | 1301 | 746 | 728 | 887 | 911 |
| Forest Grove | 309 | 533 | 351 | 313 | 205 | 311 | 318 | 473 | 573 | 433 | 468 |
| Fremont NF | 14 | 192 | 285 | 764 | 563 | 295 | 466 | 576 | 89 | 478 | 145 |
| Klamath NF | 2 | 6 | 10 | 10 | 13 | 5 | 1 | 0 | 0 | 0 | 0 |
| Klamath-Lake | 42 | 75 | 410 | 871 | 373 | 78 | 143 | 67 | 77 | 22 | 24 |
| Malheur NF | 486 | 845 | 1266 | 419 | 1085 | 594 | 638 | 334 | 470 | 37 | 117 |
| Mt. Hood NF | 35 | 80 | 81 | 52 | 44 | 49 | 18 | 48 | 22 | 28 | 24 |
| North Cascade | 278 | 421 | 314 | 408 | 331 | 196 | 687 | 486 | 170 | 952 | 569 |
| Northeast | 373 | 1230 | 829 | 438 | 1021 | 847 | 815 | 477 | 402 | 532 | 300 |
| Ochoco NF | 108 | 173 | 86 | 124 | 88 | 102 | 123 | 162 | 94 | 313 | 117 |
| Oregon Caves NM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Rogue-Siskiyou NF | 258 | 293 | 423 | 604 | 329 | 146 | 248 | 381 | 98 | 183 | 18 |
| Siuslaw NF | 23 | 20 | 33 | 22 | 23 | 4 | 2 | 26 | 0 | 0 | 0 |
| South Cascade | 720 | 802 | 778 | 881 | 678 | 594 | 780 | 648 | 662 | 654 | 528 |
| Southwest | 527 | 420 | 690 | 606 | 546 | 494 | 519 | 777 | 643 | 569 | 490 |
| Tillamook | 129 | 292 | 240 | 239 | 152 | 211 | 190 | 184 | 168 | 176 | 194 |
| Umatilla NF | 30 | 366 | 490 | 501 | 162 | 58 | 273 | 287 | 97 | 278 | 27 |
| Umpqua NF | 188 | 197 | 224 | 159 | 149 | 68 | 79 | 52 | 77 | 19 | 0 |
| Walker Range | 0 | 0 | 1 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wallowa-Whitman NF | 565 | 808 | 827 | 410 | 1172 | 373 | 625 | 618 | 458 | 749 | 542 |
| West Oregon | 923 | 1026 | 1273 | 1327 | 934 | 1063 | 1234 | 916 | 1051 | 808 | 1060 |
| Western Lane | 164 | 453 | 230 | 306 | 166 | 605 | 717 | 600 | 369 | 319 | 518 |
| Willamette NF | 156 | 180 | 281 | 461 | 345 | 225 | 230 | 327 | 6 | 82 | 0 |
| Winema NF | 53 | 106 | 269 | 177 | 105 | 137 | 255 | 1262 | 6 | 68 | 0 |
| Total | 7791 | 11862 | 13475 | 13368 | 11785 | 9897 | 12564 | 12410 | 8388 | 10388 | 8637 |



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Table 3C, PM 2.5 Emissions (Tons) UNDERBURN

| District Name | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|------------|
| Central Oregon | 2 | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Coos FPA | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Deschutes NF | 24 | 105 | 292 | 204 | 129 | 225 | 307 | 496 | 23 | 477 | 248 |
| Fremont NF | 3 | 147 | 209 | 680 | 312 | 233 | 389 | 193 | 7 | 374 | 70 |
| Klamath-Lake | 0 | 0 | 0 | 0 | 35 | 19 | 50 | 15 | 0 | 6 | 0 |
| Malheur NF | 32 | 607 | 533 | 11 | 481 | 270 | 549 | 182 | 92 | 24 | 0 |
| Mt. Hood NF | 14 | 43 | 8 | 1 | 20 | 0 | 0 | 0 | 0 | 7 | 0 |
| Ochoco NF | 0 | 78 | 79 | 103 | 67 | 99 | 123 | 160 | 82 | 81 | 0 |
| Rogue-Siskiyou NF | 5 | 12 | 50 | 61 | 88 | 48 | 23 | 83 | 5 | 58 | 0 |
| Siuslaw NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Southwest | 21 | 29 | 6 | 22 | 21 | 2 | 11 | 23 | 0 | 17 | 3 |
| Umatilla NF | 11 | 351 | 411 | 297 | 1 | 0 | 108 | 179 | 0 | 0 | 0 |
| Umpqua NF | 8 | 58 | 140 | 10 | 72 | 28 | 57 | 2 | 0 | 10 | 0 |
| Wallowa-Whitman NF | 207 | 267 | 495 | 162 | 475 | 67 | 306 | 193 | 36 | 166 | 0 |
| Willamette NF | 32 | 28 | 164 | 81 | 92 | 97 | 108 | 20 | 0 | 81 | 0 |
| Winema NF | 1 | 31 | 178 | 62 | 34 | 78 | 179 | 1259 | 0 | 14 | 0 |
| Total | 360 | 1757 | 2575 | 1694 | 1827 | 1167 | 2210 | 2805 | 245 | 1315 | 321 |

Figure 6

Historical Accomplishment Statewide

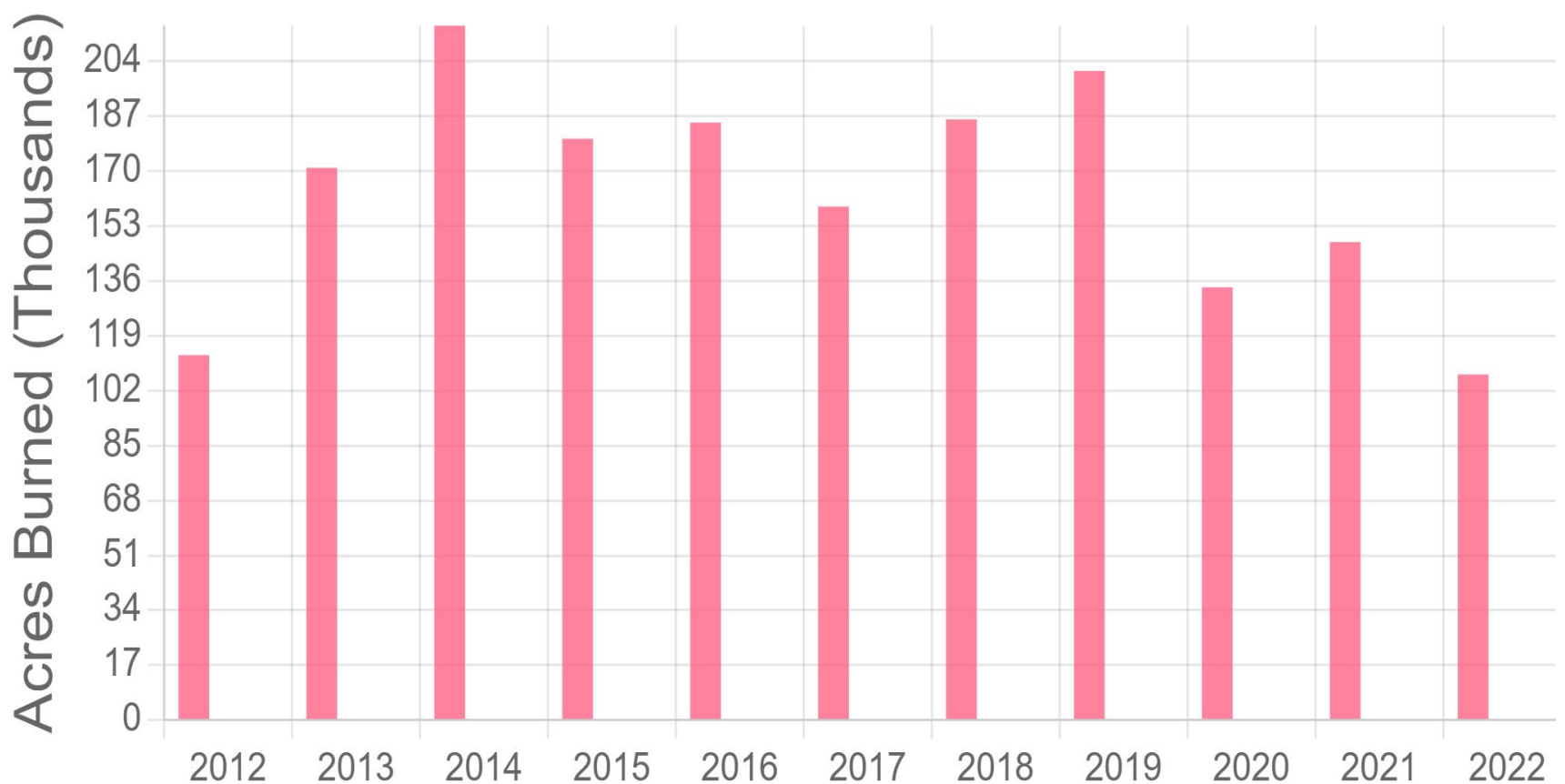


Figure 7

Historical Accomplishment Statewide

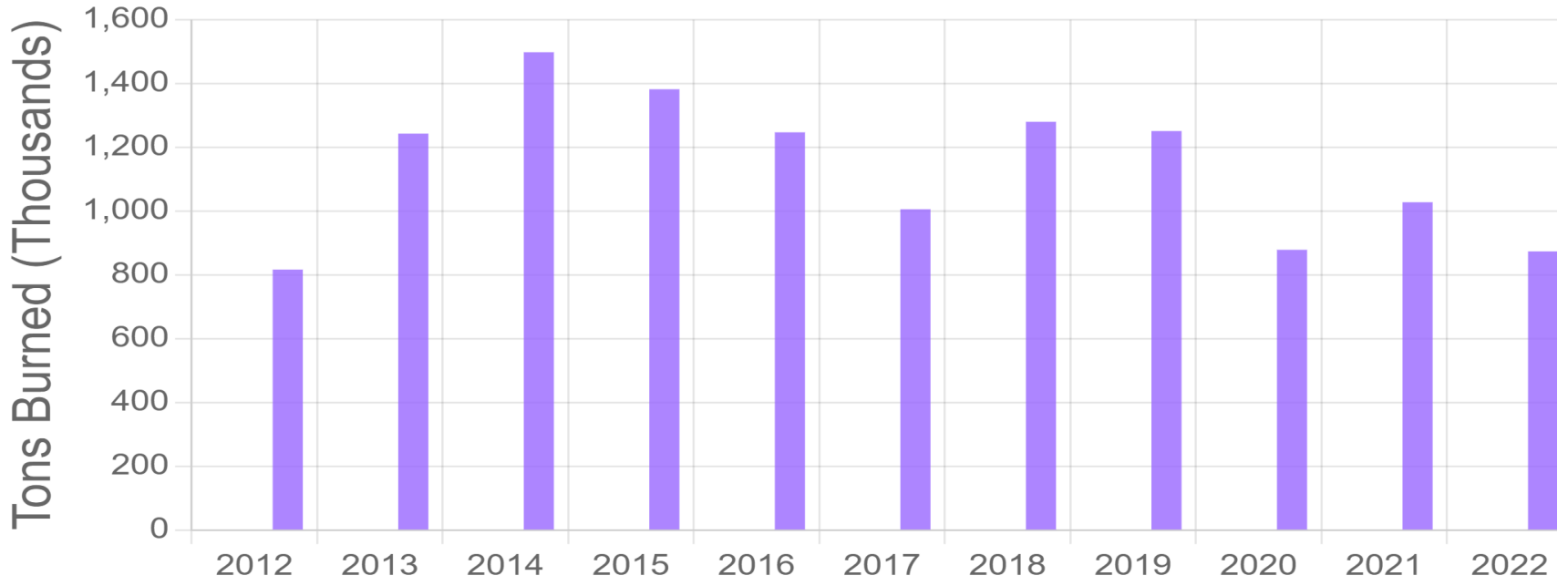


Figure 8

Monthly Prescribed Burn Acres Burned

PM 2.5, 2022

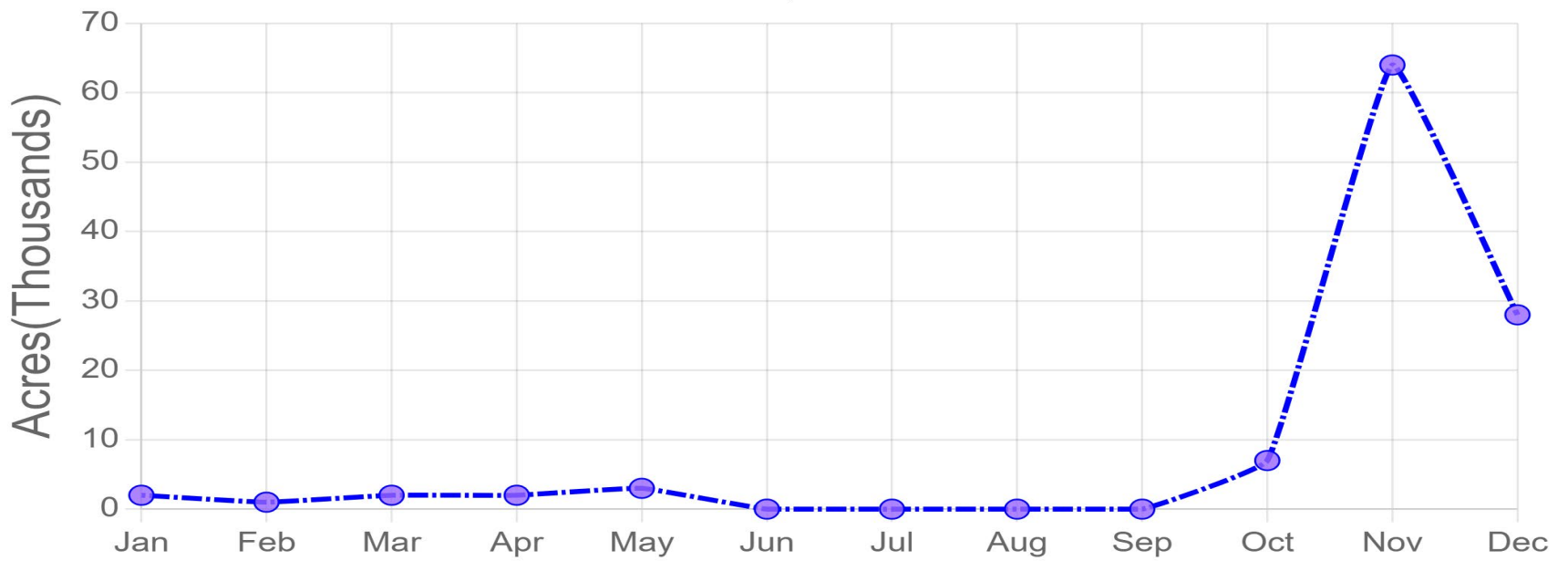
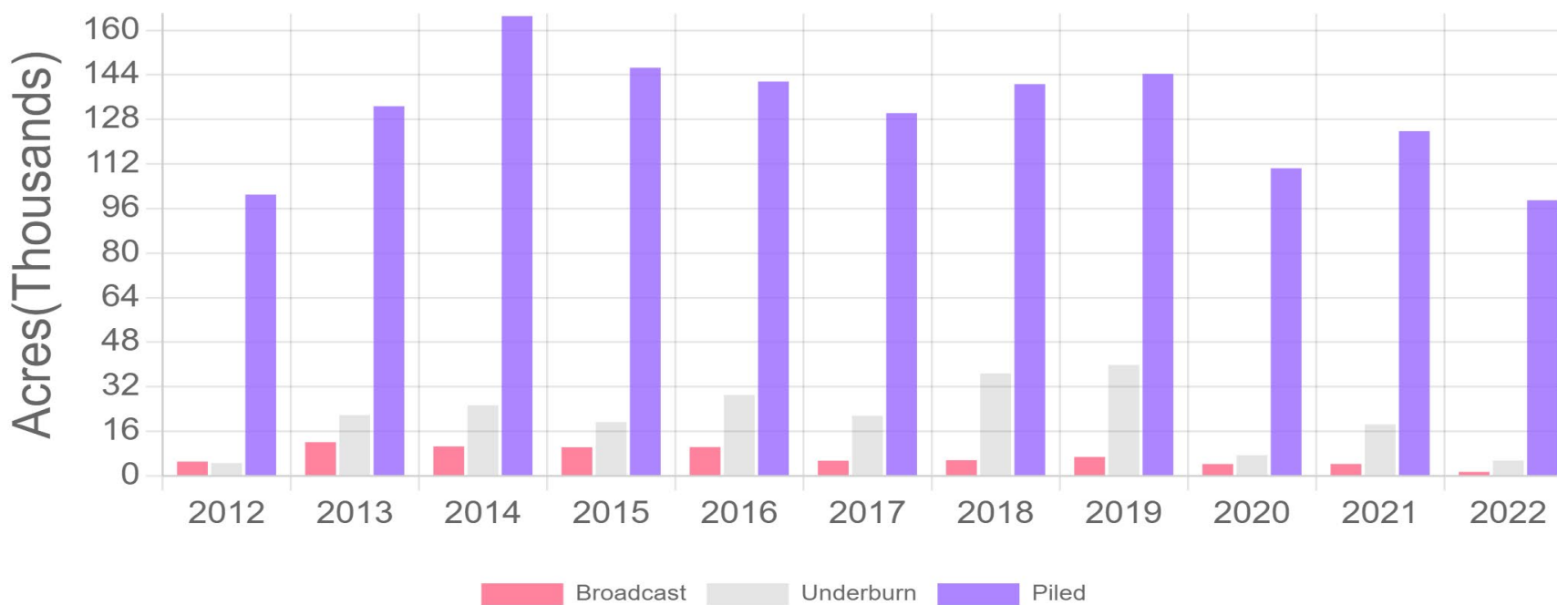


Figure 9

Piled vs Broadcast vs Underburn Acres Burned



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**Table 4
Accomplished by District Summary 2022**

| District Name | Total Burned | Acres Burned | Units Burned |
|----------------------------|---------------|---------------|--------------|
| Astoria | 21639 | 2637 | 60 |
| Central Oregon | 1365 | 691 | 4 |
| Coos | 1225 | 168 | 5 |
| Coos FPA | 210447 | 13105 | 254 |
| Crater Lake N.P. | 171 | 21 | 3 |
| Deschutes NF | 23619 | 10440 | 70 |
| Douglas FPA | 93571 | 15402 | 302 |
| Forest Grove | 43980 | 4991 | 121 |
| Fremont NF | 15073 | 1006 | 8 |
| Klamath-Lake | 2582 | 463 | 5 |
| Malheur NF | 13656 | 2520 | 5 |
| Mt. Hood NF | 2439 | 744 | 41 |
| North Cascade | 51521 | 5665 | 110 |
| Northeast | 46627 | 5262 | 59 |
| Ochoco NF | 13664 | 3442 | 3 |
| Rogue-Siskiyou NF | 2126 | 487 | 12 |
| South Cascade | 47577 | 8690 | 244 |
| Southwest | 55433 | 7678 | 164 |
| Tillamook | 19032 | 3020 | 61 |
| Umatilla NF | 4569 | 227 | 21 |
| Wallowa-Whitman NF | 53550 | 3643 | 92 |
| West Oregon | 98839 | 10307 | 308 |
| Western Lane | 51411 | 6852 | 195 |
| Winema NF | 1 | 2 | 1 |
| ----- | | | |
| All Districts Total | 874117 | 107463 | 2148 |



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**Table 5
Tons Burned by Month by District
2022**

| District Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|------|------|------|------|------|-----|-----|-----|-----|------|--------|-------|
| Astoria | 0 | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 2790 | 11649 | 7080 |
| Central Oregon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 577 | 788 |
| Coos | 518 | 0 | 307 | 0 | 0 | 0 | 400 | 0 | 0 | 0 | 0 | 0 |
| Coos FPA | 1791 | 4803 | 622 | 0 | 368 | 0 | 0 | 0 | 0 | 4704 | 115664 | 82495 |
| Crater Lake N.P. | 0 | 0 | 0 | 119 | 37 | 8 | 0 | 0 | 0 | 0 | 7 | 0 |
| Deschutes NF | 158 | 327 | 3331 | 3590 | 9976 | 0 | 0 | 0 | 0 | 0 | 4875 | 1362 |
| Douglas FPA | 203 | 630 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56061 | 36451 |
| Forest Grove | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3621 | 18519 | 21840 |
| Fremont NF | 7414 | 0 | 5000 | 1400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1259 |
| Klamath-Lake | 150 | 427 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 905 | 1100 |
| Malheur NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13656 | 0 |
| Mt. Hood NF | 155 | 153 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 1395 | 702 |
| North Cascade | 282 | 37 | 1551 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 45455 | 4114 |
| Northeast | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7788 | 34836 | 4003 |
| Ochoco NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5136 | 7964 | 564 |
| Rogue-Siskiyou NF | 708 | 1040 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 378 | 0 |
| South Cascade | 29 | 749 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 2433 | 28667 | 15678 |
| Southwest | 0 | 0 | 3 | 0 | 412 | 0 | 0 | 0 | 0 | 0 | 26009 | 29009 |
| Tillamook | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4061 | 14971 | 0 |
| Umatilla NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 2731 | 1568 |
| Wallowa-Whitman NF | 0 | 0 | 15 | 120 | 20 | 0 | 0 | 0 | 0 | 285 | 53110 | 0 |
| West Oregon | 137 | 499 | 260 | 0 | 0 | 0 | 800 | 0 | 0 | 8141 | 73620 | 15382 |
| Western Lane | 3647 | 1501 | 429 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 35161 | 10373 |
| Winema NF | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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Table 6
Acres Burned by Month by District
2022

| District Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------------------|-----|-----|------|------|------|-----|-----|-----|-----|------|------|------|
| Astoria | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 622 | 1496 | 505 |
| Central Oregon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 417 | 274 |
| Coos | 37 | 0 | 31 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 |
| Coos FPA | 118 | 268 | 40 | 0 | 23 | 0 | 0 | 0 | 0 | 198 | 7275 | 5183 |
| Crater Lake N.P. | 0 | 0 | 0 | 14 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| Deschutes NF | 361 | 189 | 1144 | 1738 | 2501 | 0 | 0 | 0 | 0 | 0 | 3339 | 1168 |
| Douglas FPA | 45 | 30 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9504 | 5792 |
| Forest Grove | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 688 | 2111 | 2192 |
| Fremont NF | 556 | 0 | 25 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 |
| Klamath-Lake | 25 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 165 | 196 |
| Malheur NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2520 | 0 |
| Mt. Hood NF | 34 | 58 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 504 | 133 |
| North Cascade | 121 | 13 | 209 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 4510 | 775 |
| Northeast | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1271 | 3826 | 165 |
| Ochoco NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1284 | 2017 | 141 |
| Rogue-Siskiyou NF | 244 | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 0 |
| South Cascade | 20 | 46 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 415 | 5464 | 2739 |
| Southwest | 0 | 0 | 1 | 0 | 74 | 0 | 0 | 0 | 0 | 0 | 3552 | 4051 |
| Tillamook | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1269 | 1751 | 0 |
| Umatilla NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 166 | 16 |
| Wallowa-Whitman NF | 0 | 0 | 1 | 8 | 2 | 0 | 0 | 0 | 0 | 19 | 3613 | 0 |
| West Oregon | 11 | 103 | 63 | 0 | 0 | 0 | 32 | 0 | 0 | 847 | 7153 | 2098 |
| Western Lane | 449 | 262 | 80 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 4146 | 1879 |
| Winema NF | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



*Coastal
Burning*



SMOKE MANAGEMENT ANNUAL REPORT

**Table 7
Burn Data by Owner Type
2022**

| District Name | Private | | | State, County, Municipal | | | Federal(Except USFS) | | | USFS | | |
|--------------------|-------------------|--------------|--------------|--------------------------|--------------|--------------|----------------------|--------------|--------------|-------------------|--------------|--------------|
| | Total Tons Burned | Acres Burned | Units Burned | Total Tons Burned | Acres Burned | Units Burned | Total Tons Burned | Acres Burned | Units Burned | Total Tons Burned | Acres Burned | Units Burned |
| Astoria | 19814 | 1553 | 44 | 1825 | 1084 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| Central Oregon | 0 | 0 | 0 | 10 | 40 | 1 | 1355 | 651 | 3 | 0 | 0 | 0 |
| Coos | 0 | 0 | 0 | 0 | 0 | 0 | 918 | 137 | 3 | 0 | 0 | 0 |
| Coos FPA | 207664 | 12970 | 252 | 232 | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Deschutes NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23619 | 10440 | 70 |
| Douglas FPA | 85322 | 13731 | 262 | 742 | 88 | 1 | 7507 | 1583 | 39 | 0 | 0 | 0 |
| Forest Grove | 41871 | 4577 | 103 | 1789 | 374 | 17 | 320 | 40 | 1 | 0 | 0 | 0 |
| Fremont NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15073 | 1006 | 8 |
| Klamath-Lake | 0 | 0 | 0 | 0 | 0 | 0 | 2582 | 463 | 5 | 0 | 0 | 0 |
| Malheur NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13656 | 2520 | 5 |
| Mt. Hood NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2439 | 744 | 41 |
| North Cascade | 32217 | 4883 | 101 | 18806 | 745 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Northeast | 0 | 0 | 0 | 42624 | 5097 | 58 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ochoco NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13664 | 3442 | 3 |
| Rogue-Siskiyou NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2126 | 487 | 12 |
| South Cascade | 47254 | 8615 | 243 | 323 | 75 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Southwest | 54314 | 6844 | 149 | 1088 | 237 | 8 | 31 | 597 | 7 | 0 | 0 | 0 |
| Tillamook | 15644 | 1768 | 45 | 3388 | 1252 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |
| Umatilla NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4569 | 227 | 21 |
| Wallowa-Whitman NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53550 | 3643 | 92 |
| West Oregon | 96441 | 9842 | 295 | 820 | 330 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Western Lane | 49876 | 6611 | 188 | 861 | 34 | 2 | 512 | 181 | 3 | 0 | 0 | 0 |
| Winema NF | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |

THANK YOU!