CITY OF ASHLAND
COMMUNITY RESPONSE
PLAN FOR SMOKE

Better Together

CITY OF ASHLAND

COMMUNITY RESPONSE PLAN FOR SMOKE

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I. EXECUTIVE SUMMARY

This Community Response Plan (CRP) has six foci: 1) a description of Ashland's smoke-vulnerable populations, 2) a discussion of the various ways that Ashland will communicate with and notify the public about fire, smoke impacts, and air quality, 3) aconsideration of additional options to address the needs of the smoke-vulnerable populations, 4) a plan and program for communication between entities that conduct prescribed fires, the local public health authority, and citizens affected by smoke, 5) analyses of fire, smoke, and air quality for Ashland's Sensitive Smoke Receptor Area (SSRA), and 6) a number of additional action steps generated during the preparation and planning for this document.

Planning was aided by the Ashland Chamber of Commerce, which convened the Fire Prevention Task Force that developed the SmokeWise Ashland program, described in detail in the document. Task Force members include representatives of the Ashland Chamber of Commerce, various organizational entities, and Ashland Fire & Rescue.

Throughout the planning process, a number of meetings were held to generate ideas for outreach, education, and communication, all a major part of this planning effort. Public

input was solicited as well. In addition, this CRP was aided by a grant opportunity provided by the Oregon Department of Environmental Quality (DEQ), who sought toassist the City and its residents and visitors with their fire and smoke considerations.

The CRP does not concentrate on emergency communication and information (e.g., what to do in case of local fire, evacuation planning, emergency preparedness), thoughthere is indeed information here regarding the City's response to wildfire smoke. This document does reveal Ashland's need for a well-researched, thorough plan and provides a history of the substantial work already completed (some with Jackson County in the larger SSRA) as well as a series of action steps either currently used or tobe implemented. Extensive data on smoke and air quality in the SSRA; information about past and future burning; a description of alerts and education tools and data about citizens' usage of them; the results of two surveys; and more are provided. The sought-after balance between increasing community wildfire protection, through accelerated burning, while still protecting citizen health is described.

II. INTRODUCTION AND RATIONALE

Research shows that for millennia, many southern Oregon dry forests experienced frequent, low-intensity fires, both from indigenous tribal burning and lightning strikes.This created and maintained fire-adapted forests in healthy watersheds with diverse wildlife habitat. Large, high-intensity fires were rare compared to present day events.With the forced removal of tribes and their ecologically skilled burning practices, the growing Euro-American immigrant communities of the twentieth century attempted tominimize fire. This alteration of forests was exacerbated by extensive logging and grazing. The temporary success of fire suppression led to an unintended and complicated set of circumstances developed over 150 years: unhealthy forest conditions of relatively uniform and dense young trees and an unprecedented accumulation of ground fuels. These dangerous and crowded forest conditions, coupled with rising temperatures and drought brought on by climate change, have helped increase the extent and intensity of wildfires. A corresponding reduction in air quality and increase inhuman health impacts resulted.

To address the impacts that climate change will have on the City of Ashland, the City adopted a Climate and Energy Action Plan (CEAP) in 2017. The CEAP in part provides a strategic framework and long-term vision for preparing the city for climate change withthe aim of addressing the tangible effects on public health and quality of life for both residents and visitors. In addition to climate change's exacerbation of wildfires, flooding,and extreme weather events, we can expect secondary effects to include more extreme temperatures, snowpack declines, and wildfire smoke. Studies quoted in the CEAP project that, by 2080, Ashland will experience a 30% increase in the probability of large wildfires. The projections also include a forty year decrease in average time *between* fires. Climate change's consequences include health, and livelihood impacts to sensitiveand exposed populations as well as negative outcomes for local natural resources and economies such as agriculture, outdoor recreation, and tourism.

The increased exposure to uncharacteristically large and intense fire and smoke will affect Ashland in unique and especially problematic ways. Ashland's topography, vegetation, and housing density create an especially high-risk situation for people, homes, infrastructure, and the city's upslope municipal water source, the Ashland CreekWatershed. Ashland was rated #9 out of 377 Oregon communities analyzed for wildfire risk by the U.S. Forest Service in 2018. Ashland itself has been directly threatened by four large wildfires since 2009 causing evacuations, the loss of a dozen homes, and local smoke impacts. The 2010 Oak Knoll Fire, which started as a small grass fire alongInterstate 5, burned 11 homes and damaged three more in less than an hour. The 2020Almeda Fire began at the northern edge of the City and owing to strong east winds, moved quickly down the valley and decimated the towns of Talent and Phoenix. Thoughcontained to the Bear Creek corridor and adjacent cities, the Almeda Fire is a stark reminder of what wildfire could do on Ashland's steep, developed hillsides surroundedby and mixed with heavy vegetation. Neighborhoods along Ashland Creek and Bear Creek corridors are also high-risk, underscoring the need for increased fuels mitigationwork.

Ashland and the greater Rogue Valley has suffered some of the worst air quality in the country over the past four years due to regional summer wildfires and the trend shows asignificant increase going back to the turn of the century. Without significant expanded intervention, including controlled burning during the cooler shoulder seasons, these trends will continue. See ***Figure 1*** below, which shows data from 1999 through 2020 inMedford. 2020, the year this plan was written, was a particularly bad year for dense smoke in the Rogue Valley. It included days that the AQI was the worst in the country, with a number of hazardous days in the months of September and October.

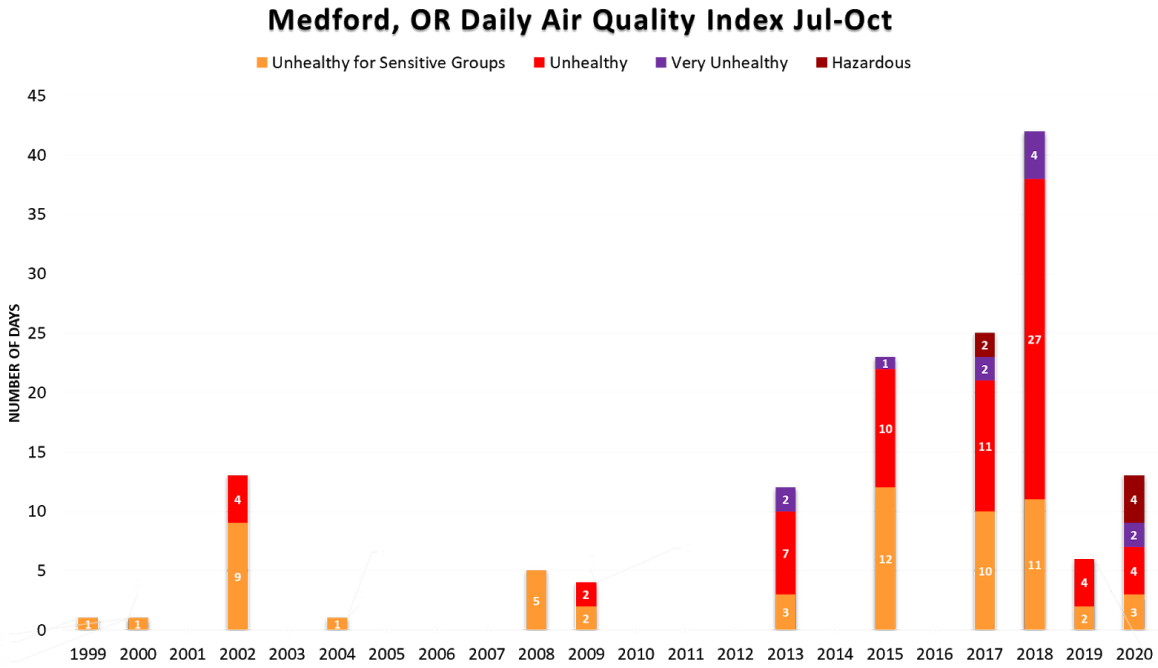


Figure 1. *Daily Air Quality Index at the Medford nephelometer (located at the corner of Welch and Jackson roads). The Medford nephelometer recorded 18 "unhealthy" days between 1985 and 2014 andthen had 46 between 2015 and 2020. Medford had nine "very unhealthy" days between 1985 and 2014,mostly in 1987. From 2015 to 2020 the Medford nephelometer recorded nine. Additionally, this nephelometer has recorded six "hazardous" air days, in 2017 and 2020.*

Beyond these more recent challenges with wildfire smoke, the larger Rogue Valley Smoke Sensitive Receptor Area (SSRA), or Air Quality Management Area (AQMA), ofwhich Ashland is a part, has suffered poor air quality for decades. After violating particulate standards for years, the EPA officially declared the Rogue Valley in "non-attainment status" for PM10 in 1990. According to the Jackson County website:

> *Under the 1990 Clean Air Act Amendments, the Rogue Valley (Jackson County, Ashland, Phoenix, Talent, Medford, Jacksonville, Central Point, White City, and Eagle Point) became a non attainment area for particulate matter (PM10). These communities shared a common airshed, known as the Medford-Ashland Air Quality Maintenance Area (AQMA). During the 1980s, particulate pollution in the AQMA reached some of the highest levels in*

the nation and violated the federal air quality health standards also known as National Ambient Air Quality Standard(NAAQS).

Jackson County and the Oregon DEQ worked to mitigate nonattainment and have cooperatively updated plans and implementation; these included the EPA's new standards for PM 2.5. Mitigation included wood stove replacements, throughout the 1990s, and strengthened local air pollution ordinances and ban of non-certified stoves.As a result of these actions, 1991 marked the last year the Rogue Valley violated particulate matter standards as measured by the Medford air quality monitor, the only monitor used to track attainment under the Clean Air Act. The Rogue Valley has reached "attainment" status for PM10 through the EPA and meets the National AmbientAir Quality Standards (NAAQS) for PM 2.5, which is now the standard used to measureair quality particulate.

Jackson County continues to improve its air quality through regulation. During winter months in the AQMA, no residential open burning is allowed and during the months ofNovember through February, uncertified wood stoves and fireplace inserts are not permitted if there is an air stagnation advisory. Outside of the months of November to

March (and not during fire season), residential burning is only allowed on days when the forecasted ventilation index is above 400.

All of that notwithstanding, and even though regional wildfire smoke is treated as an exceptional event (does not count toward attainment status) when considering ongoing Clean Air Act attainment status, the regional economic impacts of *summer* wildfire smoke have been damaging to Ashland, especially to the tourist-driven economy and outdoor recreation industry. More importantly, the human health impacts can be serious, particularly for smoke-vulnerable populations. Research shows that fuels reduction with prescribed burning is the most effective tool for reducing wildfire intensity and dense summer smoke. This is the course charted by Ashland for well over a decade and now,it must increase to a scale that will effectively impact a summer fire's growth and intensity.

Current Level

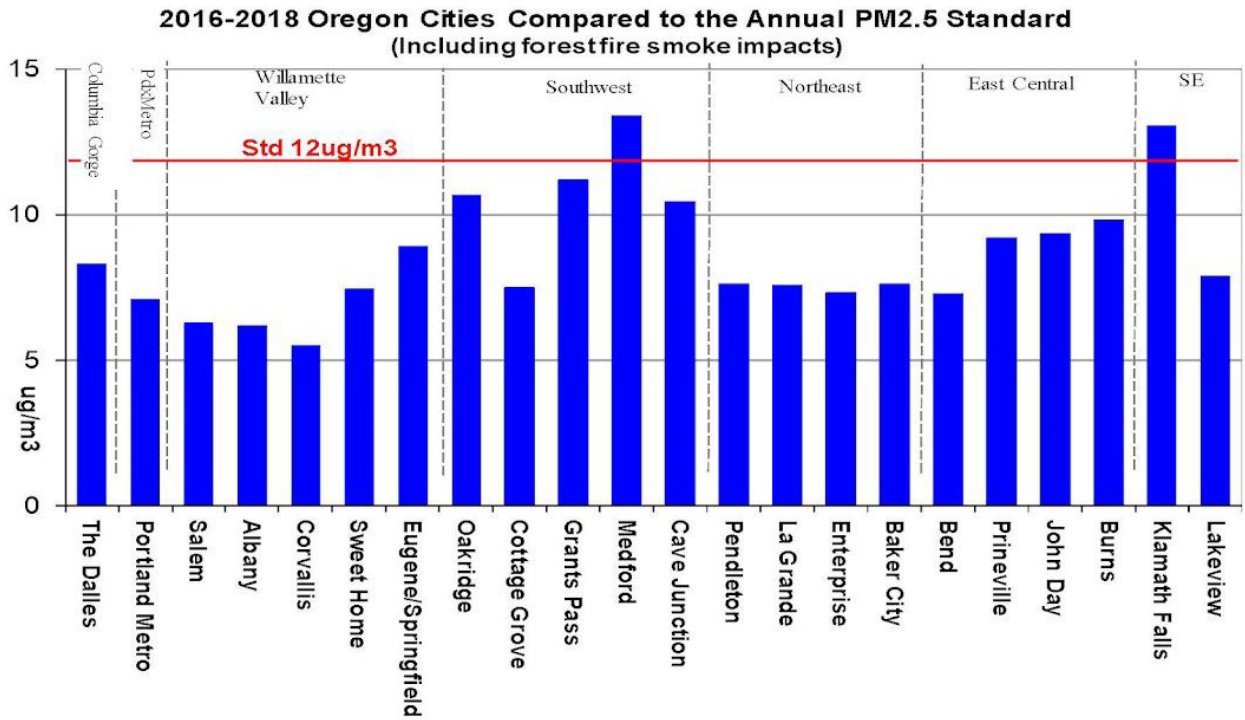


Figure 2. *Yearly Oregon PM2.5 level through 2018 with wildfire smoke included. The Rogue Valley AQMA, as measured in Medford at the federal reference monitoring station, would be out of attainmentstatus if summer smoke data were included.*

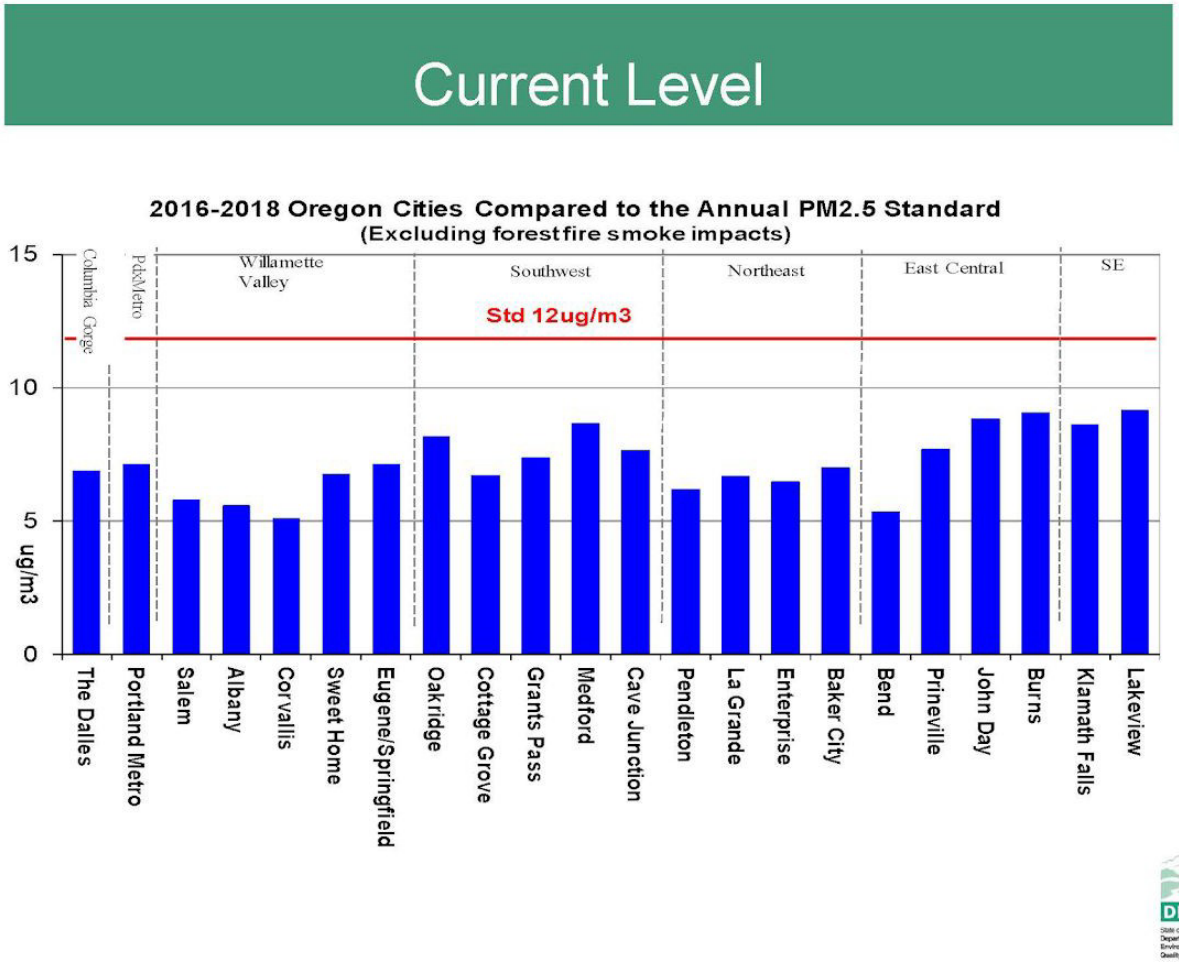
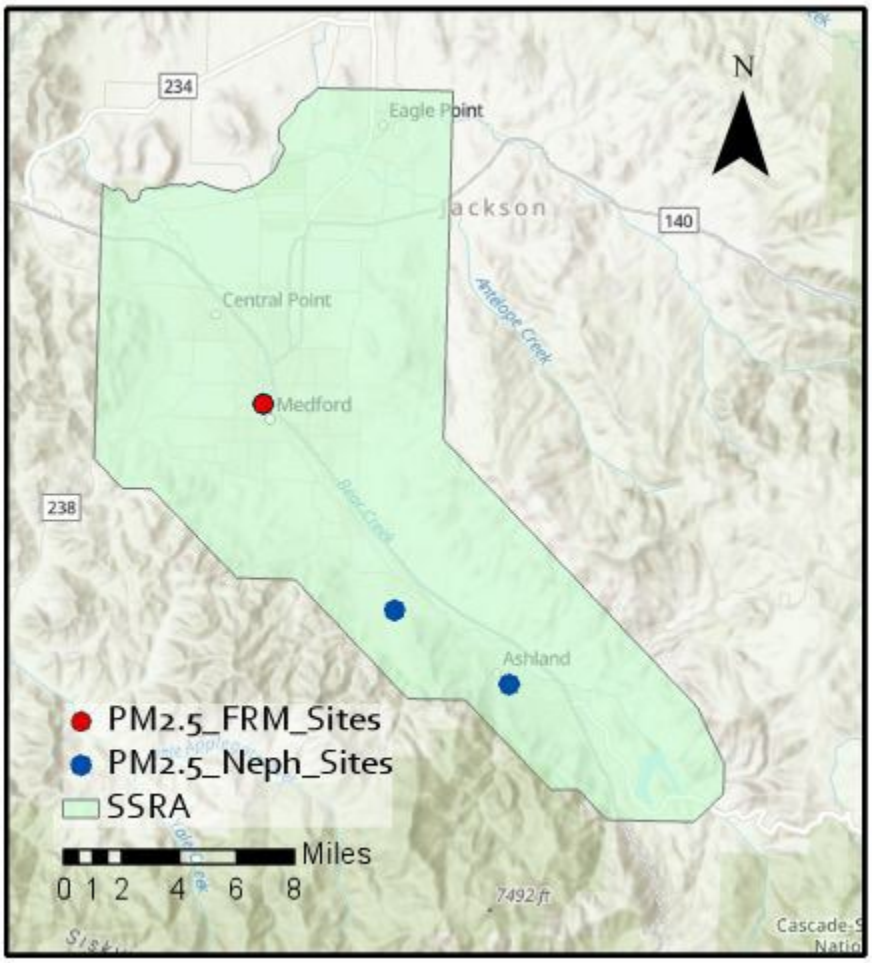


Figure 3. *- Yearly Oregon PM2.5 level through 2018, with wildfire smoke excluded. Wildfire smoke isconsidered an "exceptional event" and the data is not used to calculate attainment status.*

A voiced concern is whether the Medford AQMA's attainment status would be affectedby an increase in Ashland's ability to conduct increased controlled burning. Unlike wildfire smoke, prescribed burn smoke does not qualify for exceptional event status, so any added pollution is tracked against attainment measured at the Medford monitoring station. Though Ashland does have a DEQ monitor, it is not "federally referenced" for use in tracking attainment status as is the monitor in Medford (see ***Map 1*** for sites of PM 2.5 measurement sites within the SSRA). Smoke from Ashland burning must make its way to the Medford monitoring station with enough regularity and magnitude to changethe average annual readings for three years consecutively. If Ashland's burn program accelerated by having an exemption to the one-hour rule, the data in Figures 4, 5, and 6 below suggest that even intense smoke in Ashland does not affect Medford's air quality monitoring station (the Federal Reference Monitor) when smoke moves toward Medfordfrom Ashland in the evening and early morning hours. A change in the methodology of measuring attainment status, such as using equivalent monitors, would be cause for close monitoring of

attainment status, especially if regional wildfire prevention efforts continue to ramp up, requiring added burning in the same SSRA boundary.

***Map 1**. All air quality monitors that measure PM 2.5 within the SSRA. Only the monitor in Medford hasbeen approved for federal reference.*



There have been two smoke intrusions within the AQMA in the past five years. On May 14th, 2018, a controlled burn (that resulted in an intrusion filing) just above Ashland caused the Ashland DEQ monitoring station to spike into the Unhealthy Air Quality Index category for short periods of time. The ignition time was 10:10AM. Throughout theday, smoke was blown away from the AQMA but then was able to move into Ashland in the evening; the graphs below reflect how the dominant wind pattern carries most of the smoke south, east, or west away from the AQMA during the day, while nighttime residual smoke from smoldering piles and smoke that did not mix was brought downslope through drainages into Ashland in the evening and moved down the valleytoward Medford.

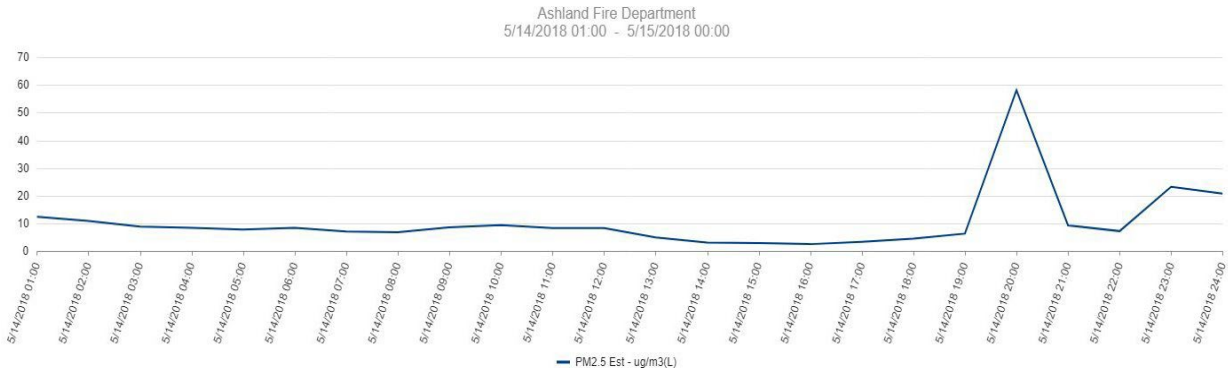


Figure 4*. May 14th Ashland air quality (measured front the Ashland air quality station) spiked to 60ug/m3(L), equivalent to 153 on the AQI scale, or the Unhealthy category, for two hours. A similar spikehappened on May 15th between 4AM and 7AM.*

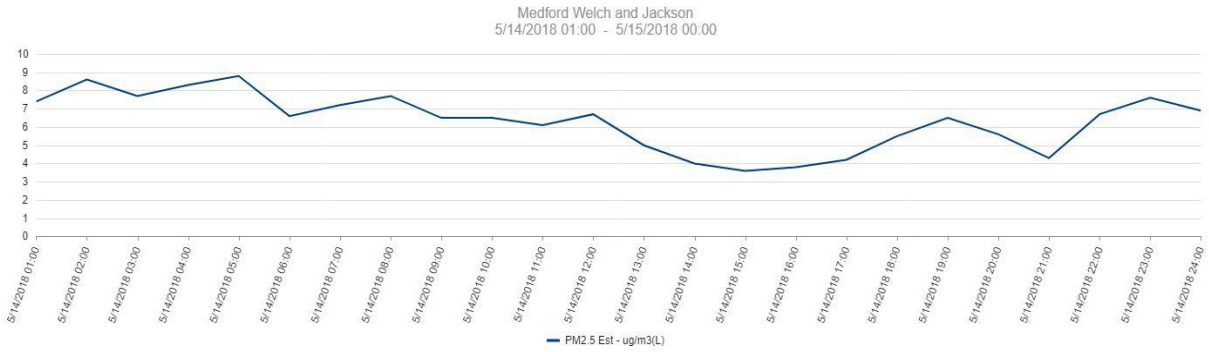


Figure 5.*- May 14th The Medford air quality station data shows no change after the Ashland burn spikedair quality at the Ashland monitoring station. Note scale. Medford AQI during this time hovered between17 and 38, both in the Good category.*

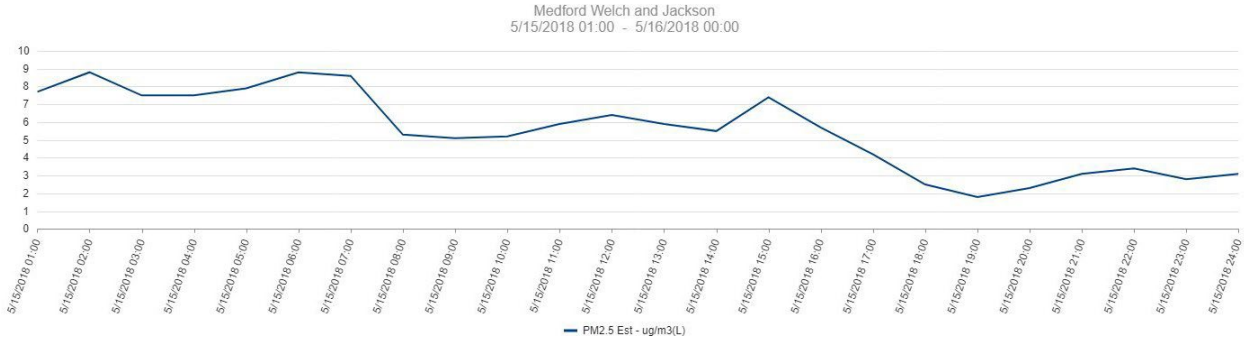


Figure 6. *May 15th Medford air quality station continued to record no effect from burning in Ashland. TheAQI is still in the Good category the entire day.*

The May 14th event shows that although Ashland burning exceeded the one-hour threshold under the Oregon Smoke Management Plan, as recorded in Ashland, the same spike in smoke did not reach Medford's smoke monitoring station where monitoring of the Clean Air Act's attainment status is measured, even when winds were moving smoke down valley overnight toward Medford.

When compared to summer wildfire smoke, controlled burning smoke is significantly different, both in length and duration as well as concentration of PM 2.5. When weatherforecasters analyzed data from summer wildfire smoke in Ashland from 2017 to 2020, there were 143 days of poor air quality during the summer months whereas during controlled burn season from November to June, there were only 31 days of poor air quality. The data indicate controlled burn smoke in the Ashland portion of the greater SSRA is not having a detrimental impact on air quality, whereas uncontrolled smoke during the summer wildfire season contributes significantly to reduced air quality.

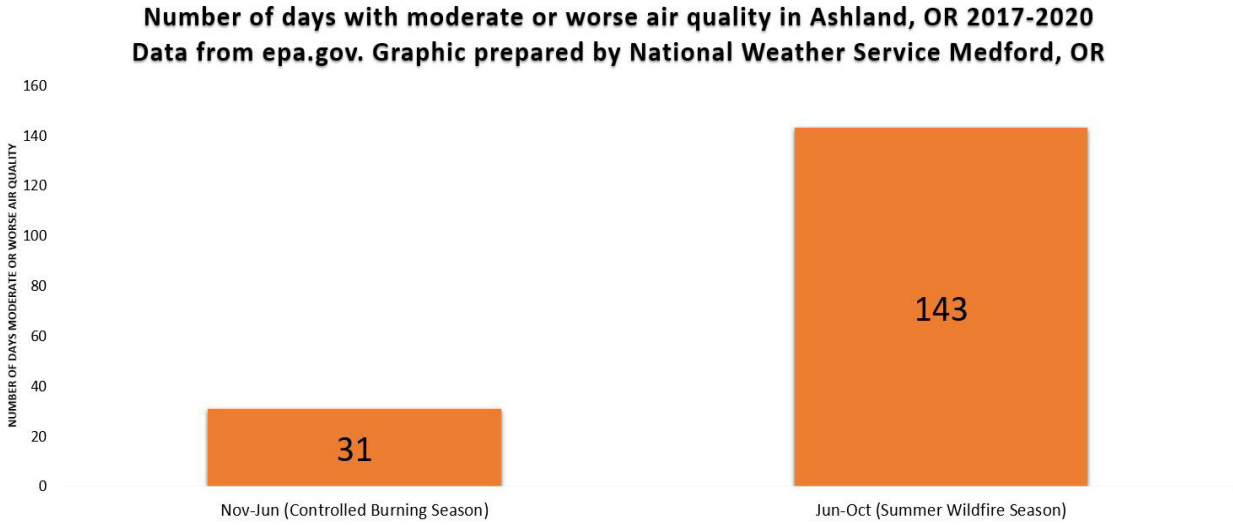


Figure 7. *Since 2017, during the Nov-June burn season, thirty-one days of moderate or worse air qualitywere recorded at the Ashland nephelometer. Conversely, 143 moderate or worse air quality days were recorded during wildfire season.*

A great deal of effort and expense is directed toward reducing wildfire risk to the Ashland community. The City of Ashland and the Rogue River-Siskiyou National Forest (U.S. Forest Service) have been thinning flammable brush and trees as well as using prescribed fire to address hazardous fuels. Work began in the 1980s in various capacities with the majority of work taking place over the last 10 years. Planning for theAshland Forest Resiliency Project (AFR) began with the Ashland Community Wildfire Protection Plan in 2004. Implementation of work began in 2010. By contrast, work on

City of Ashland forestlands (separate from AFR) began in 1995 and has been continuous ever since and beginning in 2012, has been in a regular program of yearly maintenance underburning. The Ashland Forest Plan, which governs City forestland management, was created in 1994 and rewritten in 2016 by the Ashland Forest Lands Commission.

The AFR Project work has so far resulted in 12,000 acres of fuels treatment over 10years. AFR is nearing the end of its first phase of fuels reduction work and is now beginning an especially aggressive program of prescribed burning to finish burning slash piles over several thousand acres. Consistent underburns will be employed to reduce surface fuels and check regrowth across the project area. This work is supported in part by the City of Ashland's ongoing investment of $175,000 a year (fundsgenerated from a utility bill assessment).

Nonetheless, the City is well behind the pace of burning needed to reduce the likelihood of catastrophic fire in the community and/or watershed. Mounting research indicates that the single most important treatment to reduce wildfire intensity is the proactive use of prescribed fire. Doing this in and directly next to the community and SSRA has the biggest impact on community safety (more on this is below.) This is why it is critical thatAshland receive an exemption from the one-hour intrusion standard to consume backlogged burn piles and stay current with maintenance underburning. This Community Response Plan, in part, responds to the accumulating evidence showing theneed for proactive use of fire for community and watershed protection even as we work hard to minimize citizen exposure to smoke.

Below we will describe SmokeWise Ashland and Jackson Alerts, two of many elements in placethat constitute a strong start to a full smoke response plan. However, there is clearly more to do. Through the capacity offered by the DEQ grant as well as other efforts, theCity and partners will organize and build upon previous efforts to address current gaps.

The Ashland Community Response Plan identifies new and needed priorities. Its focuswill be on how to best serve both our smoke-vulnerable populations and the public at large. The CRP does not concentrate on emergency communication and information(e.g., what to do in case of local fire, evacuation planning, emergency preparedness, etc.), though there is indeed information regarding the City's response to wildfire smoke included. This document instead emphasizes non-emergency and normalized communication, education, and outreach regarding smoke entering Ashland and its surrounding smoke sensitive receptor area (SSRA).

This document includes:

1. A description of smoke-vulnerable populations in the SSRA
2. The different means of communication & notification to the public about fire, smoke impacts and air quality. This description includes the various communication practices, and when possible, identifies implementation and action steps with examples. Its scope includes the general population as well asthose in smoke-vulnerable groups
3. Additional options to protect the health of vulnerable populations and their short-term exposure to smoke
4. A plan and program for communication between entities that conduct prescribedfires, the local public health authority, and the community's public and vulnerablepopulation who may be impacted by smoke.
5. Fire, smoke, and air-quality analyses for the Ashland SSRA
6. A series of "action items" that the City will consider for implementation.

III. DESCRIPTION OF SMOKE-VULNERABLE POPULATIONS IN THE SSRA

Certain groups of people are especially vulnerable to smoke. Below are the populationsidentified by the Center for Disease Control (CDC) as most susceptible to PM 2.5 particulates; the list is followed by some information about these groups. (See the Conclusion, ***Section VIII***, for a summary of future actions steps--related to vulnerable populations--that are planned.)

- Low income, homeless and/or transportation disadvantaged (i.e., dependent on public transit)
- Unhoused persons
- Adults over the age of 65
- Persons with respiratory (e.g., asthma) or cardiovascular conditions (e.g., COPD) including physical, developmental or intellectual disabilities and chronic conditions or injuries and functional needs
- Children under the age of 18
- Pregnant women
- People with limited English proficiency

The CDC provides guidance about smoke and vulnerable populations before, during,and after wildfire events. The CDC identifies people with asthma, Chronic Obstructive Pulmonary Disease (COPD) or heart disease , as well as children, pregnant women, and responders as especially at risk, further noting that breathing in smoke can affect even healthy adults, possibly causing:

- Coughing
- Trouble breathing
- Wheezing
- Asthma attacks
- Stinging eyes
- Scratchy throat
- Runny nose
- Irritated sinuses
- Headaches
- Tiredness
- Chest pain
- Fast heartbeat

According to the Oregon Health Authority, children (under 18) are particularly sensitive to smoke because their respiratory systems are still developing, their airways are smaller, and they breathe in more air per pound of body weight. The 2018 U.S. CensusBureau estimated that over 3,400 children under the age of 18 live in Ashland. Childrencan be exposed to smoke either by spending time outdoors, living in homes with inadequate air filtration, or when attending school or daycare. Though the Ashland School District has improved facilities for coping with smoke, some schools are stillvulnerable to short-term smoke from burning and wildfires. Short term impacts from prescribed fire have not yet been adequately

communicated to school officials and translated into protective actions among schools, teachers, and students.

Adults Over 65

Persons over the age of 65 are vulnerable to smoke. According to 2018 U.S. Censusdata, there are an estimated 4,678 Ashland residents over the age of 65.

Residents with Pre-Existing Conditions

9.6% percent of residents within Jackson County are reported to have cardiovasculardisease while 8.5% are reported to have COPD. (Oregon Behavior Risk Factor Surveillance System; data from the city of Ashland (only) not available).

Low Income Families and the Unhoused

The 2019 revised EPA Wildfire Smoke guide states that families of lower socioeconomicstatus are especially susceptible to high particulate matter in the air during wildfire smoke inundation. The World Populations Review's report found that one out of every five citizens (20.1%) within Jackson County lives in poverty. This is nearly twice the national average (11.8%).

An assessment in July of 2019 found there were 712 homeless people in Jackson County, with 12 percent of that figure from Ashland. Many of these folks traveled and camped along the Bear Creek Greenway between the Medford area and Ashland. The2020 Almeda Fire that burned so much of the Greenway will make living even more challenging for this group. Several services in Ashland provide temporary shelter from cold weather conditions, butthese shelters do not presently accommodate the need to maintain clean air during prescribed fire season, though a Smokewise Ashland partnership is working on this as part of the DEQ implementation grant. Further, the "shelter season" currently ends every March 31st, leaving dozens of people susceptible during the height of prescribed burning and during summer wildfires. Indoor public spaces for the unhoused have been difficult to find, much less those retrofitted for smoke filtration. Initial discussions have started with Options for Helping Residents of Ashland (OHRA) on this topic. (See more on OHRA below.)

Pregnant women

The greatest threat to pregnant women owes to the fact that when cyanide and carbonmonoxide are combined--as they can be in situations involving smoke--the effects are more lethal together than singly and can result in higher concentrations of both in a fetus. (See above link for a literature review.)

It is our intent to network and strengthen relationships with organizations and institutions who serve the above-listed groups. Organizations that work directly with target populations will be engaged to learn about and discuss smoke preparedness and mitigation messaging, as well as where and in what format these messages can be most usefully delivered. ***Appendix I*** lists specific organizations and groups that represent the vulnerable populations we wish to reach. When paired with other means, these organizations arethe best vehicles for reaching these groups.

IV. MEANS OF COMMUNICATION & NOTIFICATION TO THE PUBLIC ABOUT FIRE, SMOKE IMPACTS, AND AIR QUALITY

As prescribed burning can compromise air quality, Ashland Forest Resiliency Project (AFR) partners recognized the importance of timely communication and education about the value of controlled burning-- how it contributes to long-term forest health, community fire safety, and reduced risk of prolonged periods of smoke. In 2016, AFRbegan the effort by developing a smoke and health resource page as part of its controlled burn outreach. On the heels of that effort, the smoke-filled summer of 2017spurred the Ashland Chamber of Commerce and project partners—Asante Ashland Community Hospital, the Oregon Shakespeare Festival, Southern Oregon University, and Jackson County Health and Humans Services— to develop Smokewise Ashland asa community-wide resource for information about both prescribed burn and summer wildfire smoke.

Smokewise Ashland is a local collaborative working group dedicated to protecting publichealth and maintaining economic resiliency. Smokewise has been supported financiallyby the City of Ashland, Oregon Watershed Enhancement Board, USDA Forest Service, The Nature Conservancy, and the Fire Adapted Communities Learning Network.

Smokewise shares web, video, and written information on how to maintain indoor airquality, properly wear a respirator, and avoid smoke exposure. Smokewise provides educational presentations and workshops to citizens, businesses, and institutions regarding best practices for retrofitting buildings and planning for business continuityahead of extended smoke events.

The website, SmokeWise Ashland, became a trusted community resource for air quality information about burning and wildfire. A glance at just some of the categories on the Smokewiseashland.org webpage—not to mention its many links underneath each category —provides an idea of its thoroughness:

- Air Quality
- Smoke and Your Health
- Wildfire Information
- How to Wear a Respirator
- Creating Healthy Indoor Air
- Preventing Wildfire
- Business Preparedness
- Evacuation
- Community Alerts-Jackson Alerts

By consolidating air quality and public health resources in one place, Smokewise is a“one-stop web page” for information before, during, and after planned and unplannedsmoke events.

During the wildfire smoke-filled summers of 2017 and 2018, Smokewise Ashland and City staff were an invaluable resource for citizens, schools, the YMCA, businesses, and Southern Oregon University. The Smokewise website had over 33,000 page views in the month of August in 2020, up from 25,000 views during the summer months of 2018.

Viewership regularly spikes on days when air quality decreases (elevated AQI) due to wildfire and prescribed fire activity. See Figure 8 and Figure 9 below.

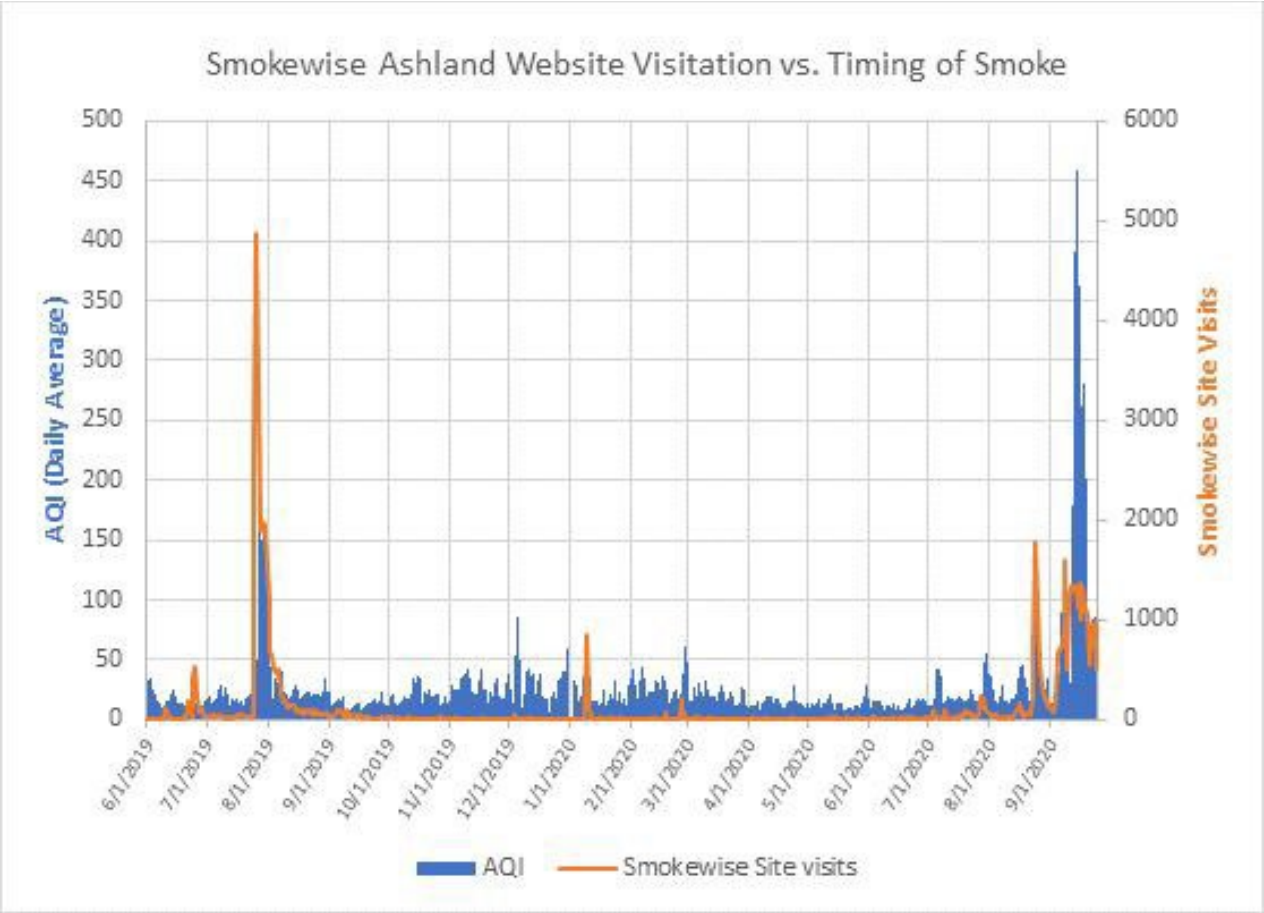


Figure 8. Smokewise Ashland website views from June, 2019 through October, 2020 showing spikes in visits during wildfire smoke events as the Air Quality Index (AQI) rises.

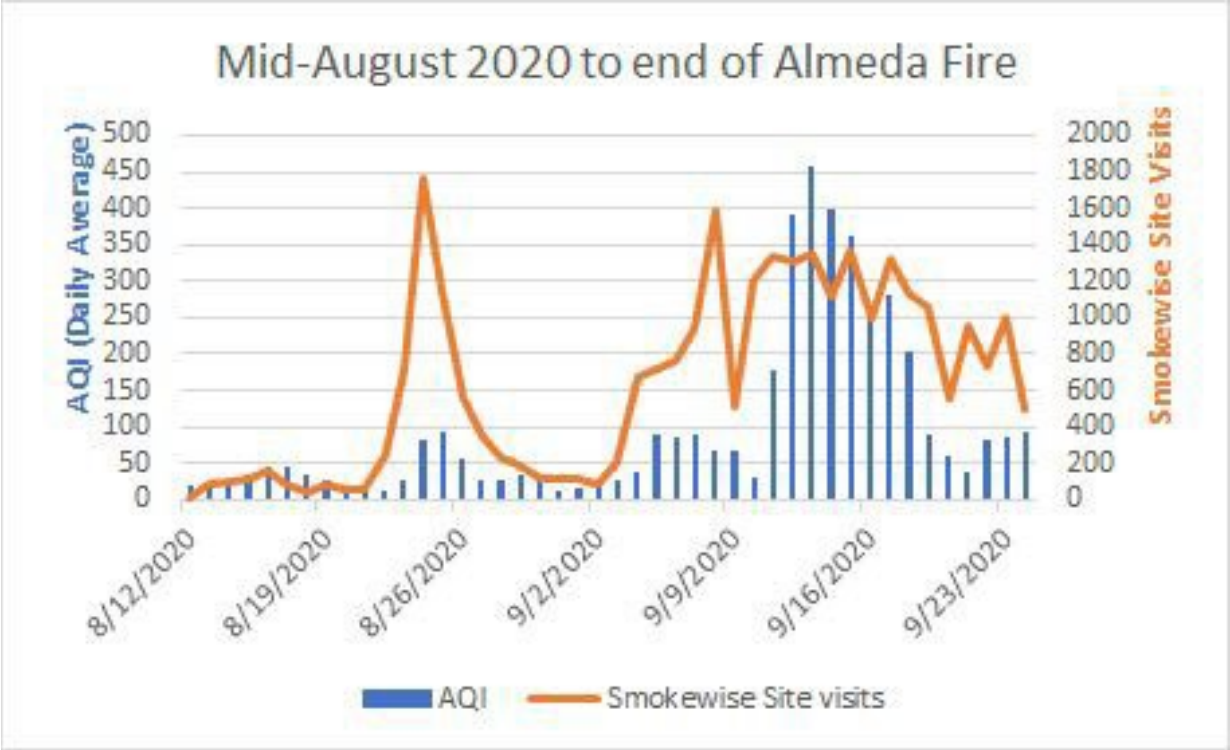


Figure 9. *AQI levels and corresponding Smokewise site visits from mid-August through the end of thesmoke episode that began September 10th (from regional fires started or fanned on September 8th).*

Demographic data about Smokewise usage

Through Google Analytics, we have some useful demographic information. The figurebelow shows usage of SmokeWise Ashland website for the past year, including a breakdown of the most popular pages viewed within the website.

Page Title	Pageviews	Unique Pageviews	Avg. Time on Page
	54,704 % of Total: 4.19% (1,305,395)	**43,326** % of Total: 4.09% (1,060,446)	**00:03:14** Avg for View: 00:01:41 (92.26%)
1. Smokewise - Smokewise Homepage	**32,450** (59.32%)	25,039 (57.79%)	00:03:34
2. Smokewise - Understanding the Air Quality Index	**8,845** (16.17%)	6,975 (16.10%)	00:05:26
3. DEQ Has Issued an Air Quality Alert for Jackson County - Smokewise - City of Ashland, Oregon	**2,456** (4.49%)	2,196 (5.07%)	00:01:38
4. Smokewise - Free Air Purifier Program	**2,214** (4.05%)	1,844 (4.26%)	00:04:12
5. Smokewise - Wildfire Information	**2,172** (3.97%)	1,700 (3.92%)	00:02:42
6. Smokewise - Smoke and Your Health	**1,150** (2.10%)	1,074 (2.48%)	00:01:19
7. Smokewise - Smoke	**1,100** (2.01%)	819 (1.89%)	00:00:23
8. Smokewise - Wildfire	**812** (1.48%)	660 (1.52%)	00:00:30
9. Smokewise - Create Healthy Indoor Air	**750** (1.37%)	661 (1.53%)	00:03:13
10. Updates to smokewiseashland.org, visit website to prepare for smoke - Fire - City of Ashland, Oregon	**600** (1.10%)	558 (1.29%)	00:01:02

Figure 10*. Google Analytics report on Smokewise Ashland usage over a period of one year ending October 1, 2020.*

Figure 10 reveals four items of note:

- The visits to the site were very short, averaging just over three seconds.
- Visits spiked dramatically during wildfire smoke events (as earlier noted).
- Visits went mainly to the Home page, which reveals the Air Quality Index (AQI).
- The second most number of visits went to a page that helps site visitors understand the meaning of the AQI (e.g., what is good, moderate, unhealthy forsensitive groups, unhealthy, or hazardous).

Though not shown in ***Figure 10*** above, we are also aware (from a different Google Analytic depiction) that 53.4 percent of Smokewise users are women and 46.6 percentmen. Were this difference greater, we might try to focus outreach efforts on men, but the difference does not seem to warrant that.

With regard to age of users, the highest group consists of 25-34 year olds at 24%; the second highest group is the one 65 years or older at 19%. The lowest is 18-24 at 11%, perhaps suggesting that it is especially important to reach younger adults.

Overview of the City's Public Notification System

Jackson Alerts (On the Everbridge platform, sometimes called Nixle) is the City's platform for mass notification to Ashland residents for emergency notifications and non-emergency, controlled burn notifications. Whether an emergency evacuation or simple road closure, Jackson Alerts has the capability to deliver messages via text,email, or landline.

After the 2020 Almeda Fire, citizen enrollment in Jackson Alerts went from just over 8,000 to wellover 15,000. An additional 8,693 landlines are updated annually and do not require sign-up. Adding Jackson Alerts to social media and websites, our reach is extensive for when we need to send out messages about burning and/or lingering smoke.

Jackson Alerts is used to provide seasonal burn notifications and alerts enrolled residents when smoke is anticipated to impact the community to any appreciable degree. A separate Jackson Alerts list for people interested in prescribed burning reaches over 2,500 people each day that burning takes place. See *Appendix II* for more information on Jackson Alerts.

AFR partners plan for controlled burn communications and operations annually, seasonally, weekly, and daily. All burning under the banner of AFR (including the U.S. Forest Service, Lomakatsi, or City of Ashland) is communicated through the AFR burnnotification system. Only residential backyard burning or unassociated private land burns registered independently through ODF would be excluded from AFR communitymessaging. Historically, there were only two burns of which we were unaware. Therefore, we can say that all burn bosses, agencies, non-profits, and governmentagencies are captured in a robust AFR public messaging system.

Planning among all partners will continue to utilize risk assessments, planning tools, and experience to guide each year's approach to burn communications. In addition, through our already-existing network of partners and established contacts—as well as with new partners and contacts that we currently seek—we will convene community dialogue, seek input, and review of the Community Response Plan. This will help informour efforts to make this a "living document," i.e., periodically updated. We hope the resulting outreach and communications will help create a sense of ownership and urgency around the issues of wildfire safety, smoke, and health. We are committed tomonitoring and reporting, as requested by the ODF and DEQ, about our efforts, outcomes, and the implementation of this CRP.

For a listing and summary of *previous* mitigation education activities developed through SmokeWise Ashland and AFR, see ***Appendix III.***

<u>Controlled Burning Communication</u>

Ashland Forest Resiliency partners--City of Ashland, Lomakatsi Restoration Project, Rogue-River Siskiyou National Forest and The Nature Conservancy--coordinate prescribed fire operations and communication. Under SmokeWise Ashland, additionalpartners for smoke communication and adaptation planning include Asante Ashland Community Hospital, Jackson County Health and Human Services, Ashland Chamberof Commerce, Oregon Shakespeare Festival, and Southern Oregon University.

Controlled burn communication is prepared and shared with the public before, during and after controlled burning season each year. As the need for burning has increasedover the past few years, so has outreach and communication.

Before Controlled Burns Begin

Advertisements are used to build knowledge and promote information on how and where to sign-up for notifications about controlled burning. During the 2019 controlledburn season, advertising appeared in social-media Facebook posts, the City's Parks and Recreation Guide, and a reader board at the City of Ashland ice rink.

The public is informed on how to receive notifications, and is educated about controlledburning through the following sources:

1. The City Source Newsletter (monthly to all residents in the utility bill)
2. Social Media
3. AFR webpage (ashlandwatershed.org)
4. Jackson Alerts – All User Advisory Announcement
5. Additional Jackson Alerts messages will be sent to City of Ashland subscribers who opt-in through the WATERSHED keyword
6. Ashland Chamber/Travel Ashland Newsletter and websites

As we continue with all the "before burn season" outreach activities listed above, we will also add new ones. They are designed to minimize risk and reduce smoke exposure for event attendees, recreationists, and those most vulnerable to smoke.

Now, each year, before the controlled burn season begins, we will create or maintain:

1. A calendar of major recreation and outdoor events (that will be cross-referenced)to minimize smoke exposure for outdoor events.
2. An updated map that will be shared with the public and recreationists. It will include locations and acreage for each controlled burn.
3. An email with health and information resources to be sent to organizationsserving vulnerable citizens.

During Controlled Burn Season

AFR partners initiate messages for all burns of any size *that would impact people* in the Ashland area.Burn bosses from the AFR partnership and contractors have a weekly coordination call and send daily text notifications if burns are approved. Lomakatsi Restoration Project, non-profit organization and AFR Partner, conducts nearly all private lands burning in theAFR project area along with occasional burning on City forestlands. The U.S. Forest Service is solely responsible for burn boss duties on federal land, and City staff serve asadministrators on contract burning.

There is always at least one person included in weekly and daily calls who heads up public communications. Communication "leads" convey burn information to the website,update the burn map, send notifications, and post to social media for every burn day. These frequent announcements through various communication platforms tell residents when, where, and what to expect from each controlled burn. For each controlled burn announcement, AFR also refers residents to the Smokewise Ashland website and resources for education on how to reduce smokeexposure.

After Controlled Burn Season

Summaries of work accomplishments are shared with the public. This communication isimportant for sharing the results from prescribed fire use and helps residents stay engaged with the ongoing AFR project. Summaries also announce the change of season from winter pile burn season, to underburning in the spring, and finally to the summer fire season.

Jackson Alerts Non-Emergency Use for Controlled Burn Notifications

A major vehicle for communicating information about prescribed fire and smoke is Jackson Alerts, the City's emergency communications platform. Jackson Alerts has subscribers who automatically receive text alerts when emergencies such as wildfire and smoke intrusions occur. It is also the primary means to reach smoke-vulnerable populations.

Residents have signed up specifically for non-emergency smoke and burning notifications. Each year, subscribers for the non-emergency notifications from AFR increases because of platform push notifications and regular free and paid promotions.

(See ***Appendix II*** for more information about Jackson Alerts.)

Improving Smoke Communications and Mitigation

In the early summer of 2020, with the assistance of the Wildfire Task Force Committee,we developed the following ideas to be implemented by AFR over the next few years.

- Development of a "brand," with a logo, perhaps to be put on decals and used invarious places such as grocery stores and different service clubs such as the Elks, Rotary, Lions Club, Soroptimists, and Masons.
- Create and provide information and post on related and oft-visited websites, suchas those operated by:
    - City of Ashland
    - Ashland School District
    - Jackson County Health and Human Services
    - SOU

We will consider other avenues, such as:

- Teaming with Recology for communication and information
    - Monthly invoices
    - Billing Insert
    - New customer information
- The downtown banner over East Main Street (perhaps showing the Smokewiselogo, website and how to sign up for alerts).
- Neighborhood efforts such as the Green Bag program.
- SOU News (that appears in all students', faculty, and staff's email boxes)

We will pay increased attention to both seasonal residents (for example, Oregon Shakespeare Festival actors here for summer only) and tourists, for whom the above may not apply. We want to reach them primarily by communicating to the people with whom they are likely to come in contact, both during and prior to events. The Chamberof Commerce will be central, helping us reach the majority of those listed below, and perhaps guide us on how to best approach them.

- Hoteliers
- VRBO and AirBnB proprietors
- Property management companies (many short-term rentals use these companies)
- Oregon Shakespeare Festival
- Outdoor recreation company managers and workers (arranged through Travel Ashland)
- Wineries
- Facebook advertisements

Finally, AFR will seek to improve upon current partnerships and build new ones even aswe look for new ways and strategies to reach businesses that employ people who live justoutside of Ashland as well as those that interact with short-term visitors.

The above is a thorough list. We realize that communicating with all the groups and using all the media will result in a desired redundancy. The communication efforts will sometimes reach the same people more than once but because it often takes more thana single message to have an impact, and because there will be different kinds of information that will be relevant at different times (e.g., prescribed burns versus smokeentering the valley from nearby wildfire), redundancy is useful.

Public Survey

To learn more about the past and potential future efficacy of Smokewise and other communication efforts, AFR surveyed the public, using "Engage Ashland," the online forum and survey tool run by the city. The survey, titled *Public Input Needed for Smoke Communication and Response Planning,* was open from September 23rd - October 5th.People respond to the survey and can also see how others collectively responded.

Names and addresses are kept confidential; they are only used to identify statements from residents in and near Ashland so that users know which statements are from residents. Engage Ashland is run by OpenGov, a non-partisan company whose mission is to broaden civic engagement and build public trust in government.

Respondents are informed about the privacy agreement and told that while their suggested *outcomes* cannot be guaranteed, "Thoughtful, substantive comments will be read and considered with the same respect and consideration afforded comments provided orally at public meetings."

APPENDIX IV contains questions and a summary of results. Below are some of themore salient outcomes.

- Ninety people took the survey which was titled "Public Input Needed for Smoke Communication and Response Planning."
- Of the 90 people who took the survey, 58 reported having people in their household over 65 years old; 31 had people in their household between ages 55and 64. No other age category stood out.
- Thirty-two percent of respondents had not heard of Smokewise Ashland; the restwere familiar with it from a variety of sources.
- Over 75% receive information about controlled burns through Jackson Alerts (and perhaps other sources).
- People engaged in a wide variety of ways to protect themselves from heavy smoke events, most often by staying indoors and closing windows. Eighty-fivepercent pay attention to local air quality reports.

While 90 people is a small sample from which to generalize, a major finding is that wemust improve our work on publicizing Smokewise Ashland.

Ashland Fire & Rescue/Ashland Chamber of Commerce

FINAL Review – Update the Smokewise Ashland Actions for the Ashland Community Response Plan for Smoke (CRP)

Date: 3/27/2024

Actions Updated for Implementation of CRP in 2024, 2025 and 2026

GOAL 1: Engage organizations and institutions who serve vulnerable populations, to discuss smoke preparedness and mitigation messaging, as well as where and in what format messages can be most usefully delivered. Provide outreach for smoke sensitive groups, ongoing education, and expanded projects.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update on Progress
Advance Smokewise partnerships with preschools, schools and indoor spaces serving children	10/22-12/26	Partners who serve children will have communication tools and training to address indoor air quality and planning for smoke events.	Increase the number of organizations monitoring outdoor and indoor air quality, install interventions and develop smoke preparedness plans.	Ashland Fire & Rescue, Oregon State University, Oregon Health Authority	New partnership and resources secured with OSU and EPA Grant Funding
Contact schools, pre-schools, SOU for campaigns to sign-up for notifications	Ongoing	Community members and key organizations will be increasingly aware of controlled burns and resulting smoke hazard	Participation for controlled burn notifications will increase	Ashland Fire & Rescue	Superintendents for Ashland School District and Phoenix-Talent Schools engaged, Southern Oregon University student population and leadership
Continue distribution of the smoke brochure at community events and	02/24 - 12/26	Community is well-informed with locally developed resources that feature updated	Distribution made to representatives of smoke-vulnerable populations, communication and participation with smoke-	Ashland Fire & Rescue, health partners (Asante, Jackson County	Revision completed in Spring 2022. Brochures are distributed through in-person events

through local partners.		health research translation and best practices	vulnerable populations increases before smoke season begins	Health and Human Services, La Clinica and OHA)	and organizations. Since COVID, grocery stores, hardware stores have been added.
Yearly education and outreach for older adults	06/22 05/23 05/24 05/25 05/26	In-person learning helps reinforce the health actions recommended from EPA, CDC and OHA for older adults	Number of participants and resources shared	Ashland Fire & Rescue, Ashland Senior Center	Three classes have been held for a total estimated 60 participants
Feature core messages from the smoke brochure for a series of posters that can be distributed based on the audience.	Spring 2025	Broaden reach of Smokewise to people in doctor's offices, gyms and public spaces to reach different audiences	Number of posters shared and posted in public spaces	Ashland Fire & Rescue, Asante Community Hospital, Jackson County Health & Human Services	Develop the posters from the language and graphics produced by Asante Community Hospital smoke brochure
Provide classroom learning in partnership with Ashland School District	01/25-12/26	Students learn about hazards of smoke and use science, data and hands-on learning	Number of students participating	Ashland Fire & Rescue, partners with Southern Oregon Fire Ecology Education	Curriculum developed for sharing with students k-5th grade
Develop Spanish language resources.	6/24-12/26	Spanish speaking families have access to educational materials & resources	Increased participation of in-person learning for Spanish speaking households, materials shared with partner organizations	Ashland Fire & Rescue, Unite Oregon, La Clinica	First class planned for 6/24

GOAL 2: Provide outreach and education for local businesses that builds awareness and use of smoke communication tools and resources (e.g., Smokewise, Nixle, etc.)

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Administer a business survey to gauge smoke readiness	Fall 2024 or Spring 2025	Smokewise partners will learn knowledge gaps and needs of businesses.	Returned surveys sent to Ashland businesses Information obtained from survey results is used to improve smoke readiness	Ashland Chamber of Commerce	*FACNet grant $7,000 – Business survey(s) and work to reach outdoor workers, 508 compliance and website design.*

GOAL 3: Institute a smoke risk rating system for controlled burn season so the public, businesses, and organizations understand when control burn smoke is most likely to impact the community and require actions to protect vulnerable citizens (e.g. high elevation burn vs. close to town).

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
COMPLETE: Develop a strategy for sharing the prescribed fire smoke risk level	03/22	Community will know when controlled burning will likely put smoke into town and may take readiness action.	Rating system is included with controlled burn messaging and shared broadly in the community.	Ashland Forest Resiliency Partners (COA, LRP, TNC, RRSNF)	AFR uses a rating system to trigger communication based on expected/anticipated AQI

GOAL 4: Each year, before the controlled burn season begins, we will create or maintain:

- A calendar of major recreation and outdoor events that will be cross-referenced to minimize smoke exposure for outdoor events.
- An updated controlled burn map that will be shared with the public and recreationists.
- An email with health and information resources is sent to organizations serving vulnerable citizens.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Develop the calendar of outdoor events	03/21 03/22 03/23 03/24 03/25 03/26	Smoke is limited during major recreation events	Work with event organizers to either move, cease, or otherwise modify events or burning to avoid exposure.	Ashland Fire & Rescue	Calendar of events is developed based on recreation events and discussed during AFR communications meetings
Update the controlled burn map	10/21 10/22 10/23 10/24 10/25 10/26	Community understands locations of controlled burns	Map is included with all announcements of controlled burn operations and pushed out through the Nixle notification system	Ashland Fire & Rescue	Updated and maintained by RRSNF.
Email developed with health resources for vulnerable citizens	03/21 03/22 03/23 03/24 03/25 03/26	The public receives health information and understands options to act.	Number of resources and education resources pushed through Smokewise program will be tracked for smoke vulnerable	Ashland Fire & Rescue	Have an email developed for outreach. This could get updated by audience and shared more broadly in spring.

GOAL 5: Smokewise and partners can provide business displays and continuing education for new community members and travelers experiencing smoke for the first time. Smokewise is shared and emphasis placed on outlining the specific actions individuals and businesses can take to reduce smoke exposure.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Contact and educate new Smokewise partners and look for new strategies to reach short-term visitors and those that employ people who live outside Ashland.	6/22 6/23 6/24 6/25	Businesses have a strong knowledge base and coordinate strategies to reduce smoke exposure for their patrons and employees	Number of businesses participating in Smokewise are tracked and successes shared	Ashland Chamber of Commerce, City of Ashland	Spring outreach from previous FAC Grant (update from Chamber)
Develop a business display strategy to share Smokewise branding.	06/25	Visitors and new community members actively view Smokewise website and health education resources	Track Google analytics and participation for campaigns	Ashland Fire & Rescue, Chamber of Commerce	Smokewise logo made, strategy needs developed
Provide a forum for business community learning	Complete on 5/2/24	More businesses understand safety measures they can take	Number of attendees for forum (40)	Chamber of Commerce, Wildfire Prevention Task Force, Ashland Fire & Rescue	Forum for emergency preparedness and smoke planned for May 2024

GOAL 6: Through our already-existing network of partners and established contacts, as well as new partners and contacts, we will seek new input and review the Community Response Plan once each year.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Convene organizers of Smokewise Ashland quarterly	01/22 04/23 12/23	New tasks and action items identified, and measures of success reviewed	Review completed with any pertinent updates made to the CRP.	Wildfire Prevention Task Force	Meetings scheduled each year
Update for the Ashland CRP and input on the Ashland Community Wildfire Protection Plan	03/25	Update and identify the vulnerable populations then, plan the related actions for improves resilience	A new Community Wildfire Protection Plan is adopted in March 2025 that will include an appendix for the Ashland CRP	Ashland Fire & Rescue, Ashland Chamber of Commerce, Stakeholders	Will be adopted in 2025

GOAL 7: Review website materials posted on Smokewise Ashland and connect information across platforms on City of Ashland, Smokewise Ashland, Ashland Chamber of Commerce and partner organizations. Maintain Google Analytics to ensure we effectively reach a wide range of ages and balanced gender distribution.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Use Google Analytics and summarize results	10/24-12/26	Participants understand gaps in participation with Smokewise for improved campaign outcomes	Page visits, comparative page popularity	Ashland Fire & Rescue Wildfire Division	Google Analytics used for reporting in the CRP 2021, 2022, 2023, 2024, 2025, 2026

Update materials on Smokewise Ashland website and connect across online platforms and websites and review yearly.	6/22 6/23 6/24 6/25 6/26	Smokewise Ashland shares newly developed materials, updated health research translation and best practices.	All links and materials reference updated health research translation	Ashland Fire & Rescue, Ashland Chamber of Commerce	Funding identified and secured through the new 2024 FACNet Grant

GOAL 8: Deepen and extend the relationships with regional regulators and collaborative partners.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Coordinate monitoring outcomes with DEQ and ODF	12/21 12/22 12/23 12/24 12/25	Measurements of success are developed, monitored, and implemented	Annual report to DEQ completed in conjunction with Jackson County	Ashland Fire & Rescue Wildfire Division	Annual reports filed to keep our status updated for the CRP (2021, 2022 and 2023 in development)
JC Health and Human Services, JC Emergency Management and City of Ashland and Medford Emergency Management meet monthly for coordination of CRP and CWPP	12/23-06/25	Increased coordination among organizing partners for coordination and planning before smoke and wildfire impact communities across a broader geographic area.	Vulnerable populations and actions for addressing community needs are met with monthly meetings and increased funding and capacity is identified and coordinated	Ashland Fire & Rescue, JC Health & Human Services, JC Emergency Management, City of Ashland Emergency Management, City of Medford Emergency Management	Meetings convened December 2023, January 2024 with agenda identified and goal of coordination on increased funding and capacity

GOAL 9: Provide replacement filters, air purifiers and DIY filters for vulnerable populations in the Smokewise Ashland residential room air purifier program.

Task(s)	Timeline	Expected Outcome	Success Measures	Organization Responsible	Update
Develop equitable way to enroll participants	02/20-03/22	Lower income participants and those with pre-existing conditions are prioritized	Track demographics of participants in replacement filter program	Ashland Fire & Rescue	More participants enrolled through in-person classes at the Ashland Senior Center.
Distribute filters & maintenance education	04/22-12/26	Filters reach those most vulnerable for air purifier maintenance	Filters are distributed and tracked yearly	Ashland Fire & Rescue	235 filters distributed in spring 2022 and another 50 filters in spring 2023.
Distribute additional air purifiers through in-person indoor air quality classes and host classes for making DIY filters	07/20 03/21 06/23 06/24 03/25	Older adults have resources to act and understand how to properly wear respirators and make a clean room	Additional air purifiers in the community and development of class materials	Ashland Fire & Rescue	30 new air purifiers were added for the community (20 for older adults and 10 for children with pre-existing conditions)

V. OPTIONS TO PROTECT THE HEALTH OF VULNERABLE POPULATIONS SHORT-TERM EXPOSURE TO SMOKE

Smokewise Ashland and AFR partners worked to directly educate those most vulnerable to smoke. Tools developed to assist with direct education for these groupsinclude: a smoke slideshow presentation, educational video, and a smoke brochure inboth English and Spanish (as the population of Spanish speakers in Ashland is approximately 1000 (Suburban Stats, 2019). Health information for all the outreachproducts was reviewed by physicians at Asante Community Hospital and Jackson County Public Health. Partners have presented smoke education through in-person presentations for our mostsmoke vulnerable populations at local retirement facilities, schools, and with civic organizations. During these presentations, topics discussed included indoor air quality, how to read the air quality index, and actions to take to reduce smoke exposure.

Between February 2018 and October 2019, we gave ten presentations to 245 attendees. During smoke education presentations, several local citizens expressed an inabilityto afford air purifiers, a recommended device for improving indoor air quality. Through funding from the Oregon DEQ, the City of Ashland and Smokewise Ashland, partners were able to expand our network of organizations serving vulnerable populations andprovide--at no cost--air purifiers to 500 residents.

Residents applying to receive an air purifier were directed to an online application, andwere qualified based on the following criteria:

- Households with age-vulnerable residents, including children under 15 and residents over 65;
- Residents with heart and lung problems such as asthma and COPD;
- Applicants with the greatest financial need.

During the three-week application period, Smokewise Ashland partners encouraged members in their network to apply for a purifier. Through a social media campaign aswell as coverage in the local newspaper, on public radio, and the City's website, Smokewise partners informed the public about purifiers, suggesting people sign up online. Additionally, postcards were sent to 240 senior or disabled residents who are onreduced payment plans for City utilities. Applicants were directed to the Smokewise Ashland website to apply in either English or Spanish. The Ashland Senior Center, OHRA, and City staff helped applicants with limited ability or computer access to apply over the phone.

There were 725 applications for the 500 available air purifiers. Applicants who ranked below the top 500 were given a manufacturer's coupon from Winix to purchase a discounted purifier. This discount was offered specifically for Ashland's purifier program. Residents who qualified were directed to one of three curbside pick-ups for distributionof purifiers. CERT volunteers aided in loading them into vehicles. Home deliveries were made to those who were unable to pick up their purifiers.The greatest number of residents who received a purifier came from the school district (32%). Public notifications like the newspaper and posts to the City website drew 24%, and the postcard 11%. Most recipient households earn <80% of the area's mean annual income; 47% of recipients have at least one child in the household; and 43% of recipients have at least

one resident over 65 in the household. Additionally, 65%of recipients had at least one person in the household who has a pre-existing condition.

Several participants wrote cards or emails stating their support for the pilot project for air purifiers:

- Participant 1: “We are so grateful right now to have the air purifier in our home!Thank you for providing them to Ashland citizens.”
- Participant 2: “I want to thank you for the gift of the air purifier. What a wonderful contribution you have given me and other members of the community who are challenged with lung and heart issues. I can breathe easier!”
- Participant 3 – Local Organization: “I just wanted to pass along that my staff haveheard from a number of seniors who received the air purifiers that they really appreciate having received it, and that it really helps. Thanks again for all your work to make the purifiers available for vulnerable members of our community.”

Outreach

In October 2020, the City of Ashland conducted a different survey than the one previously described. The City surveyed (leaders of) organizations that represent smoke-vulnerable populations, seeking input on how to enhance outreach to this group. The results provide direction on how to further mitigate smoke-vulnerable residents’ exposure to smoke. The survey asked the following questions of organizations:

- Which smoke-vulnerable population(s) does your organization serve?
- On a scale from 0-10, how well has Smokewise Ashland addressed the needs ofpeople who are vulnerable to smoke? (mark 0 if you have not heard of Smokewise Ashland).
- Please tell us your ideas on how Smokewise Ashland can improve smoke communications to the smoke-vulnerable residents you serve (open-ended question).
- What information do you need as an organization or business to protect thehealth of vulnerable residents during times of smoke?
- How do your members, or the people you serve, receive information from your organization?
- To distribute information about smoke to those you serve, would your existing form(s) of communication listed above be useful for sharing information about smoke? If not, please describe what form(s) of communication would work bestfor the people you serve.

The City of Ashland received 13 responses from organizations that, combined, serve allof the smoke-vulnerable populations listed in ***Section III***. The complete set of questions and responses to the open-ended questions are provided in ***Appendix V***. One obviousaction item that emerged from the survey is to deliver to survey respondents both English and Spanish language brochures make available at their locations. At some point in the future, to be determined by events, we will also re-survey the same folks to learn more.

Facilities and clean air spaces

To assist those in need, we will coordinate with community partners with facilities and locations that might be used as clean air spaces, using the DEQ-funded acquisition of eight high-capacity HEPA air filters to be loaned out to help create these spaces. The high-capacity air filter program will be made available to government and non-profit organizations that offer their locations as clean air space for public access. It is not theintent of the City to offer these to private businesses or for private events. Below are some organizations eligible to receive HEPA purifiers to help create space.

Options for Helping Residents of Ashland (OHRA) will participate as a representative of the unhoused community and will assist in developing outreach regarding wildfire smoke and health to the local unhoused population. OHRA provides acentralized location through which many of Ashland's unhoused currently receive information about food, housing, and employment. Using their existing network, OHRAwill provide a valuable venue to distribute smoke- and health-related information to thisvulnerable population.

Southern Oregon University (SOU) is dedicated to community involvement and alongwith facilitating student and faculty participation with AFR, have opened their doors to the public as a smoke refuge during summer wildfires. They would like to be further involved in smoke and health efforts.

Ashland Senior Center will participate as a representative of the elderly community. Ashland Senior Center has been proactive in preparing for smoke by installing two air purifiers in its main community room, allowing visitors to breathe clean air during timesof smoke.

Oregon Shakespeare Festival (OSF) has many indoor spaces and, with the assistance of the City's large space air purifiers, there may be opportunities to opensome of them during times of smoke.

Ashland School District (ASD) could participate as a representative of children 18 years and younger. ASD has retrofitted many buildings and recently included air qualityfiltration system upgrades as a priority in a 2019 facilities bond measure. ASD serves 3,000 students and has 300 staff members. The vast majority of Ashland's air quality vulnerable children attend ASD. ASD can provide advice and guidance to inform children and their families how to prepare for times of smoke.

VI. A PLAN AND PROGRAM FOR COMMUNICATION BETWEEN ENTITIES THAT CONDUCT PRESCRIBED FIRES, THE LOCAL PUBLIC HEALTH AUTHORITY, ANDTHE COMMUNITY'S PUBLIC AND VULNERABLE POPULATION WHO MAY BE IMPACTED BY SMOKE

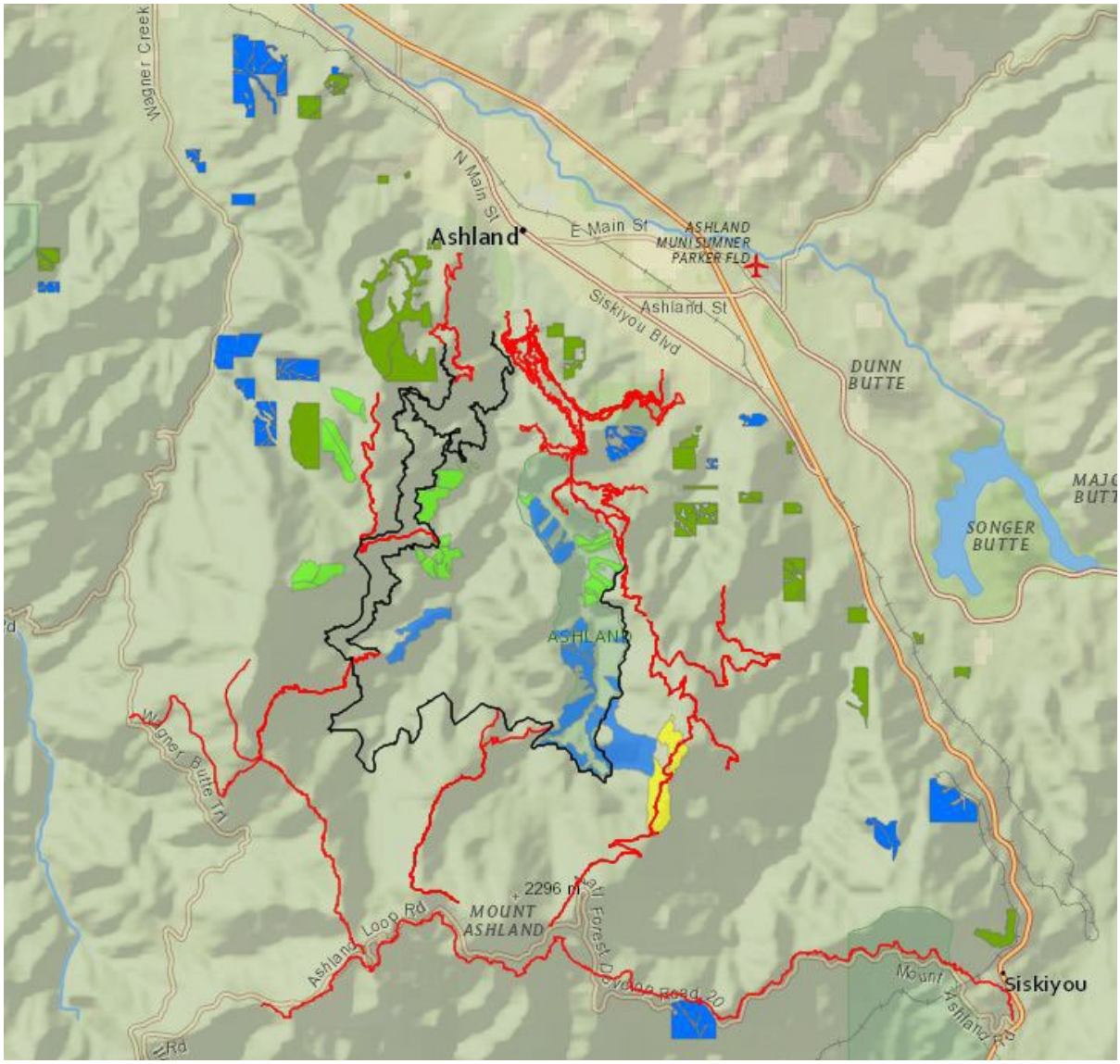
Historically, smoke management has been a double-edged sword in Ashland. On one side, there is an overwhelming and urgent need to lower fire danger for public safety and protect the city's water supply through proactive fuels reduction. On the other, there is a strong need to protect vulnerable populations from negative smoke impacts. Itis impossible to do both with perfection. Critical burning will put smoke into town given Ashland's topography and wind patterns. Yet we do not put it off because the risk to homes, lives, and our water supply is unacceptable. The AFR project, along with burning on City of Ashland and Ashland Parks lands, has made significant progress on this seemingly intractable issue with well over a decade of working with the public on smoke issues (described above in ***Section IV*** and ***Section V***).

We should note that part of this work has been with smoke regulators and burn bosses so as to develop protocols of public notifications and air purifier access. The intent is toenable more citizens, especially vulnerable populations, to be able to take protective measures. Burn bosses are among those with direct responsibility for burning and theywork for the Rogue River-Siskiyou National Forest, Lomakatsi Restoration Project, the City of Ashland, and Ashland Parks Commission.

The overwhelming need for pile burning in the immediate future lies primarily on federalland in the AFR project. This is followed by private land, being burned by Lomakatsi, and then finally, on City and Parks lands. Given the high profile of AFR and the many in roads in public communications already made, all entities are now funneling their public smoke notifications through AFR, often repeating those messages through theirown channels (e.g., Parks social media and email lists, City social media, and City website).These notifications take place the evening before burning and create a seamless communication stream for the public.

The burn approval system starts with requests through a central forecasting office in Salem for the entire state, regardless of jurisdiction. Burn requests often aren't approved until 5:00 pm the day before the burn, leaving little time to prepare and send public notifications. Currently, the following notifications can be sent from AFR project staff with the City of Ashland every burn day:

- Text and email alerts go to subscribers
- Seasonal burn message broadcast to citizens directly, and many more through advertising via local media outlets and the City's newsletter.
- Website posts go to both the AFR City websites (sometimes shared throughpartner sites)
- Social media posts to AFR project page, City and Parks
- Recording put onto Smoke Hotline (541) 552-2490
- Recording put onto 1700 AM local radio station



Map 2. The AFR project online, interactive burn map. The public can see progress as burn units change from unburned to active burns to complete. This particular example shows the status at the end of pile burning in spring 2020. Many units have been added that will show in the 2020-2021 version.

Still, more can be done. There has not yet been a direct link to public health entities(local hospital, care homes, or Jackson County Public Health) for burn day communications. There is an opportunity to increase the receipt of our burn notifications by adding key organizational contacts in healthcare to the AFR contact list, including:

- Asante Ashland Community Hospital
- Jackson County Public Health
- Local rehabilitation and senior living facilities
- Urgent care, local health clinics, and school-based health centers
- Doctor's offices

Throughout the AFR project, there has been a focus on contacting vulnerable populations. Due to the 2020 DEQ grant in 2020, this focus increased, as we found many organizations--that serve vulnerable populations--that were able to participate in the air purifier giveaway program. This is already an improvement in making contacts, but specific follow-up on messaging and appropriate actions as a result, are needed.

Due to the sheer number of burn days (often exceeding 30 in a season), it is difficult forthe public and those who serve vulnerable populations to know when a burn will impactthe community. Most burns *do not* impact people (except those who maybe recreating on trails above town) because the wind is blowing smoke away and/or theburn is far enough from town. Citizens, schools, and facilities have no way of knowing whether the smoke will impact them and therefore cannot always provide advanced warning to protect vulnerable people. Improved communication will convey the likelihood of smoke intrusion in the daily burn notifications. If a burn is likely to impactthe community, protective measures will be suggested. This will require making pre-season contacts with the healthcare organizations and businesses listed above, as well as local schools, to ensure they are all signed up for notifications and understand what actions to take when smoke is likely to impact Ashland.

<u>Actions For Improving Communication Between Burn Authorities and Public</u>

1. With the help of Jackson County Public Health, enroll healthcare organizations inAFR burn notification pathways and discuss proper responsive actions to protectvulnerable populations.
2. Contact local schools (Ashland School District, SOU, Siskiyou School, and

   pre-schools) to add them for burn notifications and discuss avoidance strategiesand mitigations for smoky days due to burning.

3. Institute a risk rating system so the public, businesses, and organizations understand when burn smoke is most likely to impact the community and requireactions to protect vulnerable citizens.

VII. ADDITIONAL ANALYSES

As we have said, research lends strong support to the necessity of prescribed burningfor reducing wildfire intensity and severity, which in turn will lead to increased ecosystem resilience and community safety. Research also indicates that pre-treating landscapes leads to less smoke during wildfires, both on a per acre basis and in limitingthe size of wildfires.

> *"Wildfires burn more fuel per acre and emit significantly more smoke than controlled burns. The recorded smoke concentration, duration and cumulative impacts on people from wildfire vastly exceeds smoke from planned, controlled burning."*
>
> -- Rick Graw, U.S. Forest Service Regional Air Quality Program Manager

To impact future wildfire size and intensity, to address air quality concerns on aregional basis, will require both pile burning and underburning on a significant scale.

Trends in Burning

Over the ten plus years of work across the entire 58,000 acre area of concern (from theI-5 Siskiyou Summit west to Wagner Creek above the city of Talent), the burden has been shifting from pile burning to underburning. Over $25 million has been invested by federal, state, local, and private entities in the initial restoration and fuels mitigation work. Without follow-up, the results of the investment will slowly degrade over time as trees and brush fill in. Tribes were particularly adept at regular burning to clear out unwanted growth and this aided them in forestry outcomes like those we wish to achieve.

To achieve underburning, crews cut the many decades of accumulated fuels and dense undergrowth and then burn that material in piles from late fall to early spring. This sets up the areas for underburning (broadcast burning) that consumes additional surface fuels. This returns the role of low-intensity fire as a key driver of ecosystem function and at a significantly lower fuel level.

Going into the 2020-2021 burn season, there are 1,698 acres of piles to burn on USFS land, 948 acres on private land, and 15 acres on City/Parks. (See ***Figure 12*** below.) Pile burn acres will decrease to a minimal amount through 2023 while underburning willincrease to just over 1,000 acres a year during the same timeframe. This will be challenging because the available time windows for underburning are narrower than for pile burning. There will be increased pressure to underburn larger areas and more frequently than what we have done to date. The most successful year so far was just under 300 acres of underburning; that was not due to a lack of areas ready to burn. Wewill have to greatly increase our underburning.

Since 2012, 2055 acres of **maintenance** underburns have taken place across city, federal and private land, well behind the needed pace of roughly 1200 acres per year(based on the historic frequency of fire researched in the Ashland area by The NatureConservancy).

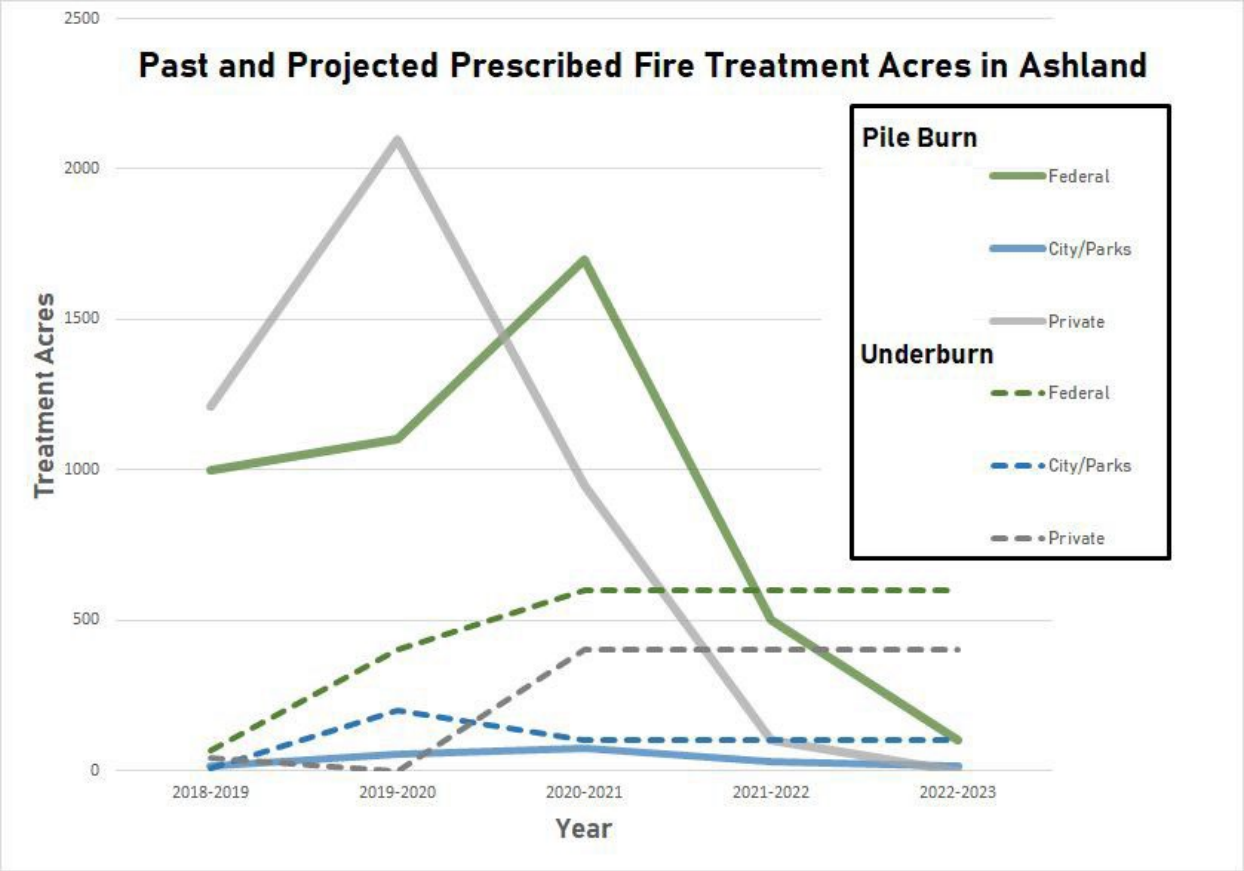


Figure 12*. Pile burning is projected to decrease through 2023 as piles are burned and few new piles are built. Underburning, as a follow-up to pile burning, plateaus at a level to maintain a 10-year maintenanceschedule across the entire 12,500 acres of completed work in AFR public and private land.*

There are active burn plans for areas close to town, such as a 300-acre block on federalland directly adjacent to the city limits, less than a half mile from Lithia Park, and 1.4 miles from the Oregon Shakespeare Festival and downtown. Another 400 acres is under contract on private land located just 1.4 miles west of downtown in a strategic location to protect both the city and watershed. Critical lands are ready for underburning and need the weather and smoke management conditions to align, and even then we expect smoke to enter the SSRA and community of Ashland.

VIII.

CONCLUSION This Community Response Plan shows substantial progress through years of work by many dedicated professionals and adds plans for additional efforts. Work will continueto seek a balance between protecting City residents from smoke--especially its most vulnerable citizens--while increasing the pace of prescribed burning required to reducethe threat of severe wildfires.

APPENDIX I

Organizations Representing Vulnerable Populations

Organization	Group Represented
Options for Helping Residents of Ashland(OHRA)	**Low-income/Unhoused**
Ashland Food Bank	
Maslow Project	
Access, Inc.	
Asante	**Pre-existing conditions**
Urgent Care [MM1] Centers	
Rogue Community Health Clinic	

La Clinica	
Rogue Community Health Center	
Oxygen delivery companies	
Ashland Head Start	**Children under 15**
Oregon Child Development Coalition	

The Community Pre-School at Southern Oregon University [MM2]	
Sarah's Family Daycare	
Reflective Hearts Childcare	
Pea Pod Village	
Children's World Montessori Pre-School & Kindergarten	
Memory Lane Preschool	
Little Gnomes Preschool	
Stone Soup Playschool	
Pomegranate Preschool for the Arts	
Teri's House Daycare	
The Siskiyou School	
Ashland School District	

SOU Student Family Housing	
Ashland Senior Center	**Adults over 65**
Oxford Gardens Senior Care Home	

Faith Senior Adult Foster Home Inc.	
Ashland at Home	
Assisted living spaces (Linda Vista, ParkerHouse)	
Planned Parenthood and OBGYN offices	**Pregnant women**
Ashland Mamas (Facebook page)	
Rebuilding Together Rogue Valley/Smokebusters	**Low-income/Adults over 65**
YMCA	**All categories**

APPENDIX II

Jackson Alerts Notifications

The City of Ashland has adopted the communications platform Jackson Alerts. Jackson Alerts provides community notifications, advisories, and alert and emergency communication for those who sign up. AFR uses Jackson Alerts to inform the public about controlled burns, thinning operations, and community events. To provide the public with consistent and appropriate communication, the following policy has been adopted by AFR for Jackson Alerts use.

COMMUNITY NOTIFICATIONS

1. Community messages are the primary source for controlled burn notifications. A message feed is displayed on the AFR website, so the public can see recent notifications.
2. Community members and smoke sensitive populations learn how to opt-in for community notifications from AFR Community Engagement Coordinator before and during burn season.
3. A message template for community events and controlled burning is used for AFR communication.
4. AFR provides notifications for every burn location during the burn season to keep the public informed through the community notification system with Jackson Alerts.

ADVISORIES

Advisories are only used for notifications, including during the opening and close of burn season to communicate, when burns are in sensitive locations close to town at low elevation which may impact more than local neighborhoods as determined by oversight from AFR Operation and Communications subcommittee, or, when thinning operations close roads or trails and finally, when smoke from a controlled burn unexpectedly changes air quality orimpacts an area more than predicted, as determined by Forest Division Chief with the City of Ashland.

ALERTS

Alerts will never be used by AFR and issued only by communications management withthe City of Ashland.

APPENDIX III

Summary of Mitigation Education Activities Developed through *SmokeWise Ashland*

- Community Meetings and Planning for local business preparedness
- Engaged local physicians and health professionals to strategizehow to reach vulnerable groups
- Smoke Brochure in English developed with Asante Community Hospital in Spring, 2018. A second version was printed during Spring, 2019. Over 10,000 were distributed to local schools, retirement facilities, community gathering points and businesses.
- Smoke Brochure Printed in Spanish with U.S. Forest Service. One thousand were distributed.
- SmokeWise Ashland website first developed and rolled out in July2017 with revamp, social media campaign, and relaunch in July 2019.
- Presentation developed and delivered with health information to YMCA, Ashland Senior Center, Ashland High School and various retirement communities.
- Specific recommendations for ways to improve indoor air quality during smoke events were researched, shared, and implemented broadly.
- The Ashland School board voted to include air filtration retrofits withfunds from the recent school facilities bond
- All municipal City buildings were retrofitted with improved air filters
- Southern Oregon University upgraded filtration in many buildings and opened select spaces to the public during summer wildfire smoke of2018 and 2019
- Ashland Family YMCA purchased HEPA air purifiers and reviewedbuilding entrances for best solutions to reduce smoke infiltration.
- Asante Ashland Community Hospital made retrofits for the surgeryroom and general building air quality.

- Smokewise Ashland health videos on AQI and respirators were produced with support from Asante's pulmonary care physician, Dr. Kana.
- Smokewise Ashland provides link to live video feed of the valley,Spring 2019

Summary of Mitigation Education and Outreach Activities for AFR

- Launch of text message service February 2017
- Direct mailing sent to 13,000 individuals and businesses February 2018
- Controlled burn awareness and education campaign implemented with in-depth articles and advertisements published in local media outlets, video inlocal theatres, and a social media campaign begun Spring 2017.
- Jackson Alerts community notification system introduced July 2018.

In-person education and tools include:

1. Brochures (schools, community outlets, health care facilities, grocerystores)
2. AFR Blog posted on the website ashlandwatershed.org
3. Speaking engagements: Mountain Meadows, Ashland Senior Center,Civic Organizations
4. Field Tours

Additional Smokewise Ashland Outreach

Through a multi-faceted approach, Smokewise has engaged thousands of people in Ashland and in the greater Rogue Valley. The effort has encompassed various forms of public engagement from social media to one-on-one consultations. Though the outreachis broad, smoke-sensitive populations are also targeted.

Three examples of Smokewise materials and the campaign to prepare the communityfor smoke follow:

1. Eight thousand hard copies of smoke and health brochures were distributed (in both Spanish and English) during the spring of 2017. A second printing led to the distribution of another 4,000 copies between the spring of 2018and the summer of 2020. Brochures were delivered to retirement communities; those providing care for young children; Osher Lifelong Learning Institute (OLLI); Ashland Senior Center; Planned Parenthood; Rogue Valley Urgent Care; healthcare providers in and outside the Asante network; and through the Ashland School District Friday folders. During spring and summer of 2020, due to COVID-19 restrictions, Smokewise Ashland focused the distributions to localgrocery stores and retailers.

2. The live camera of the Ashland Watershed is a second example, installed on City of Ashland property across the Interstate 5 freeway. The camera can help detect smoke as an early warning, show locations of controlled burns, as well asshow smoke conditions for visitors and residents. The camera is posted on the AQI Smokewise webpage and the AFR homepage.
3. Smokewise partners have hosted two workshops for local and regional businesses and community service organizations to prepare them for smoke; thisresulted in the production of a Business Resiliency Workbook For Smoke Preparedness, specifically created to instruct businesses on how to prepare.

The following advertising venues have been used:

- Paid and unpaid media coverage (print, TV, radio, online campaigns)
- Movie theater video advertising
- Magazine article(s) (Rosebud Media for the Rogue Valley yearly magazine and"Oregon Healthy Living Guide"
- Chamber of Commerce publications: "The Living and Doing Business Guide,"and "The Visitor's Guide."

Below are measures based on a review of state regulations and protocols forCOVID-19.

"Protocols that determine the daily availability and limitations of forestry burning arebeing adjusted to incorporate COVID-19 measures, including:

1. For those considering a planned burn in any county meeting COVID-19 Baseline or Phase 1 reopening criteria, or on OHA's "Watch List" in any phase, we recommend using legacy instruction rules (rules implemented prior to March 1, 2019) intended to prevent any prescribed burning smoke (no smoke incidents)from entering a Smoke Sensitive Receptor Area (SSRA) until the downwind county meets Phase 2 or 3 reopening criteria and is taken off the "Watch List."*
2. For counties meeting Phase 2 and Phase 3 reopening criteria, with no "WatchList", we recommend resuming current prescribed burn practices.

*OHA will advise ODF regarding any special circumstances that may affect prescribedburning."

APPENDIX IV

Survey Results

Public Input Needed for Smoke Communication and Response Planning

Smokewise Ashland is a local collaborative effort to protect people and our economy from the effects of smoke. Have you heard about Smokewise Ashlandand if so, how? Select all that apply:

Response Option	Response Percent	Response Count
No, I have not heard of SmokewiseAshland	31.1%	28
Yes, via Jackson Alerts Email Notification	37.8%	34
Yes, via Jackson Alerts Text Message	43.3%	39
Yes, via Smokewise Ashland Website	22.2%	20
Yes, via the Ashland Chamber Website	1.1%	1
Yes, via Ashland Forest Resiliency Website	5.6%	5
Yes, via City of Ashland Website	12.2%	11
Yes, via Facebook	6.7%	6

Yes, via Twitter	**1.1%**	**1**

Yes, via Ashland Daily Tidings	8.9%	8
Other	4.4%	4

To reduce the risk of wildfire in and around Ashland, the Ashland Forest Resiliency Stewardship Project conducts controlled burns during safe conditions. Please select from the following list how and if anyone in your household receives information about controlled burns. Select all that apply:

	Response Percent	Response Count
I have never heard of the controlled burn program and have not received notifications	5.6%	5
I have heard of the controlled burn program but choose NOT to receive notifications	4.4%	4
Jackson Alerts Email Notification	47.8%	43
Jackson Alerts Text Message	75.6%	68
Smokewise Ashland Website	11.1%	10
Ashland Forest Resiliency Website	7.8%	7
City of Ashland Website	7.8%	7

Ashland Chamber News alerts	**4.4%**	**4**

Facebook	6.7%	6
Twitter	2.2%	2
Ashland Daily Tidings	12.2%	11
Other	10.0%	9

How does your household protect themselves from a heavy smoke event? Selectall that apply:

	Response Percent	Response Count
Stay indoors	90.0%	81
Leave the area for somewhere with cleaner air quality	15.6%	14
Reduce the amount of time spent outdoors	77.8%	70
Close windows	96.7%	87
Run an air purifier or fan with filter	71.1%	64
Run the air conditioner/HVAC, but keep thefresh air intake closed	46.7%	42

Reduce other sources of indoor air pollution such as smoke from tobacco, wood burning stoves and burning candles	**26.7%**	**24**

Pay attention to local air quality reports	**85.6%**	**77**
Wear a properly fitted respirator (such as an N95 mask)	**72.2%**	**65**
Other	**10.0%**	**9**

Smokewise Ashland frequently makes public presentations and wants to knowwhat topics you are most interested in learning about. Select all that apply:

	Response Percent	Response Count
Advice on purchase of an air purifier andindoor air quality	**32.2%**	**29**
Help in selecting and properly wearing a respirator	**18.9%**	**17**
Preparing your household for smoke	**53.3%**	**48**
Understanding the Air Quality Index and taking protective action	**33.3%**	**30**
Other	**31.1%**	**28**

Mark the number of people in each age category that live in your household

Ages 5 or younger	Response Percent	Response Count
0	100.0%	90

Ages 6-10	Response Percent	Response Count
0	96.7%	87
1	2.2%	2
2	1.1%	1

Ages 11-15	Response Percent	Response Count
0	95.6%	86
1	4.4%	4

Ages 16-24	Response Percent	Response Count
0	93.3%	84

1	**4.4%**	**4**

2	**2.2%**	**2**

Ages 25-34	Response Percent	Response Count
0	**95.6%**	**86**
1	**3.3%**	**3**
3	**1.1%**	**1**

Ages 35-44	Response Percent	Response Count
0	**93.3%**	**84**
1	**5.6%**	**5**
2	**1.1%**	**1**

Ages 45-54	Response Percent	Response Count

0	**91.1%**	**82**

1	7.8%	7
2	1.1%	1

Ages 55-65	Response Percent	Response Count
0	65.6%	59
1	20.0%	18
2	14.4%	13

Greater than 65 years in age	Response Percent	Response Count
0	34.4%	31
1	33.3%	30
2	31.1%	28
3	1.1%	1

APPENDIX V

Survey of Vulnerable Populations

Figure 13 below shows responses to survey question one.

Which smoke-vulnerable population(s) does your organization serve?

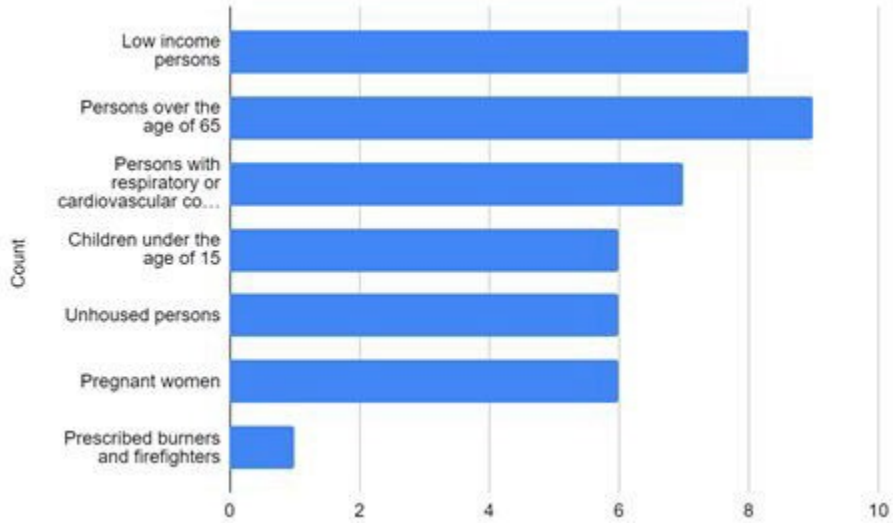
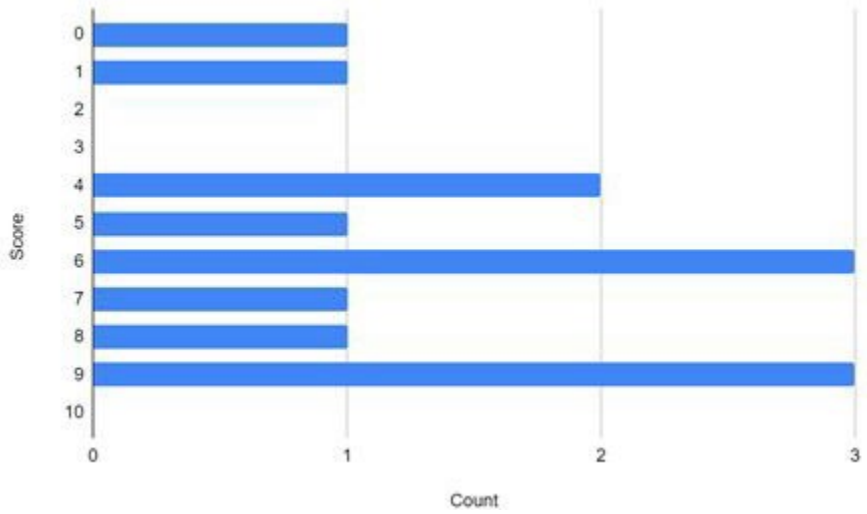


Figure 14. Description

On a scale from 0-10, how well has Smokewise Ashland addressed the needs of persons who are vulnerable to smoke? (mark 0 if you have not heard of SmokewiseAshland)



Please tell us your ideas on how Smokewise Ashland can improve smoke communications to the smoke-vulnerable residents you serve.

"Spanish flyers"

"Brochures in Spanish"

"You are doing great, but outreach needs to be ongoing as we never reach everyone.""Your efforts seem adequate if community groups help to disseminate it."

"We need a better alert system."

"I think keep using the community-wide channels, emergency channels, and if there wasan opt-in texting service that people could get texts/alerts/calls/emails when there is an emergency that impacts the greater community, that would be fantastic."

Figure 15. What information do you need as an organization or business to protect thehealth of vulnerable residents during times of smoke?

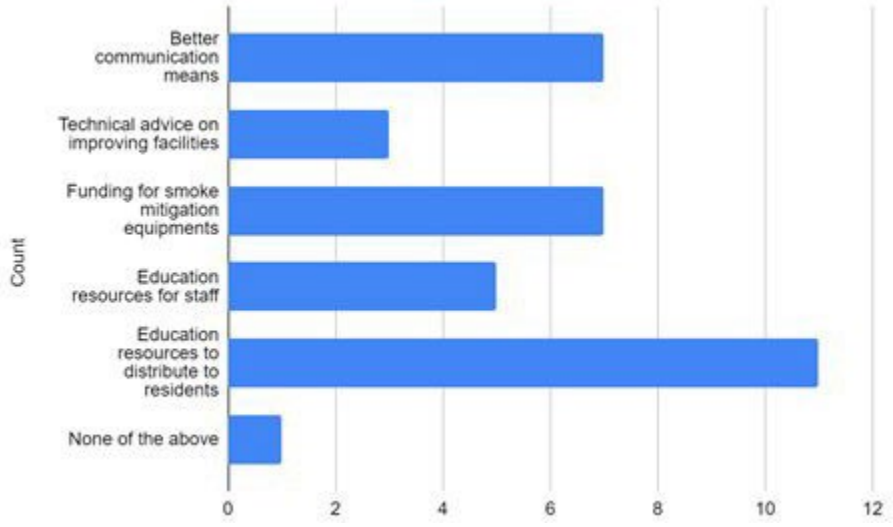
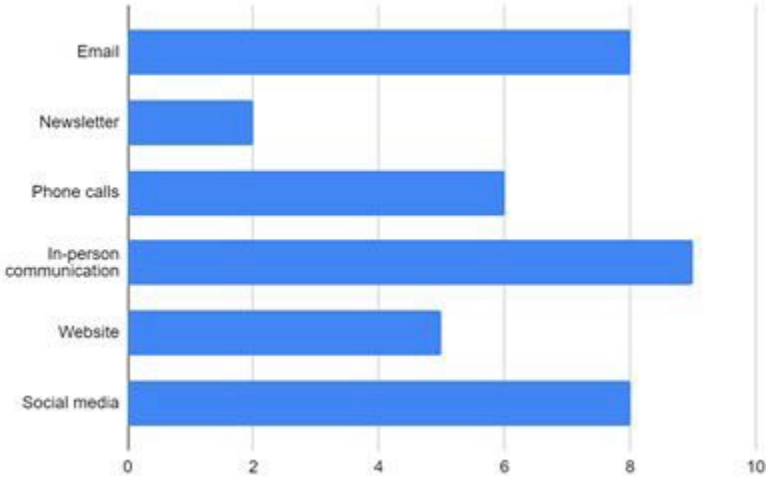


Figure 16. How do your members, or the people you serve, receive information fromyour organization?



To distribute information about smoke to those you serve, would your existing form(s) of communication listed above be useful for sharing information about smoke? If not, please describe what form(s) of communication would work best for the people you serve

“billboards”

Spanish Flyers/Brochures”

“Email to the organization is best. The organization can then distribute information tothose we serve through emails.”