



LIVING WITH WILDFIRE IN ASHLAND, OREGON: 2020 DATA REPORT

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EXECUTIVE SUMMARY

Wildfire affects many types of communities. Improved understandings of urban conflagrations are leading some fire-prone communities, such as Ashland, Oregon, to expand their attention from focusing solely on the intermix fringe to managing wildfire threats across more urbanized wildland-urban interface (WUI) communities. The core intent of this project was to build a partnership between the Wildfire Research (WiRē) Team and Ashland Fire and Rescue (AFR) by leveraging existing wildfire risk data collected in March 2018 and pairing it with newly collected social data to better understand Ashland, Oregon residents' knowledge, experiences, and perceptions about wildfire risk. This greater understanding will help AFR focus its programs and outreach and ultimately promote increased mitigation and reduced wildfire risk in Ashland.

The results of the wildfire risk assessment covering 6,625 private residential properties in Ashland suggests that 62% face high, very high, or extreme risk of wildfire. Within the subset of 2,099 residences included in this study, 75% were characterized as facing high, very high, or extreme risk of wildfire.

Results from the household survey of residents in the study subset indicate that survey respondents appeared to be aware of, and concerned about, the wildfire threat to their community. Despite low levels of direct experience, respondents reported taking action to reduce risk, talking with neighbors about wildfire, and having neighbors who are likewise taking action. Most respondents agreed or strongly agreed that their property is at risk of wildfire and most do *not* agree that firefighters should put their lives at risk to protect their home. Importantly, few agree/strongly agree that local firefighters have sufficient resources to protect homes or keep wildfires from spreading—indicating an understanding of local constraints.

In a relatively urban setting, it is not surprising that residents reported high levels of property maintenance activities that not only beautify their properties but also have the additional benefits of risk reduction. These activities included reducing ground fuels by mowing and clearing roofs and gutters of leaves and pine needles. Just over a third have taken action to make their residence more fire resistant. Respondents also reported engaging in efforts to reduce exposure to seasonal smoke, including wearing a mask. The majority of respondents indicated acceptance of wildfire risk reduction activities on public lands, including removing trees and other vegetation, burning piles of vegetation, conducting prescribed fires, and managing naturally ignited fires.

What Is WiRē?

The Wildfire Research Center (WiRē¹ Center) works with wildfire practitioners seeking to create communities that are adapted to wildfire using an evidenced-based approach. Historically, immediate threats and wildfire suppression have garnered much attention and resources. While these efforts remain critical, getting in front of the problem by promoting pathways to fire adaptation is of paramount importance. Fire adaptation is about living with wildfire. It's about creating safe and resilient communities that reduce wildfire risk on properties before a fire and supporting effective response when fires threaten a community. It is also about allowing fire on the landscape when it is safe to do so.

Over the last decade, a team of researchers and practitioners, the WiRē Team, has developed and successfully implemented a systematic data collection and integration approach (the WiRē approach) that informs local wildfire risk education efforts and allows for monitoring of community adaptation over time.

The mission of the WiRē Center is to work in partnership with wildfire risk mitigation programs to implement the WiRē approach and support community efforts to tailor their wildfire risk education programs to the local context and allocate scarce resources more effectively. Specifically, the WiRē Center provides hands-on, personalized expertise and support to wildfire practitioners, community organizations, and other local leaders living and working in the WUI to collect and analyze locally relevant wildfire risk and social science data to enhance the effectiveness of local wildfire risk mitigation efforts.

¹ Pronounced Wy-REE

Individual WiRē Team members maintain a connection with the WiRē Center by participating on the Center's Advisory Committee or as members of the Board of Directors. In this capacity, the WiRē Team provides technical and strategic guidance to the WiRē Center, ensuring the WiRē approach is implemented with exceptional quality and scientific integrity.

The WiRē Approach

Currently, the core of the WiRē approach includes two central data collection efforts:

1. A parcel-level WiRē Rapid Wildfire Risk Assessment (hereafter, WiRē RA) is conducted based on attributes related to building materials, vegetation near the home, background fuels, topography, and fire department access to the parcel. The WiRē RA is an indicator of the relative risk of wildfire on a private land parcel within a community rather than an absolute measure of risk.
2. Social surveys of the residents of the assessed parcels are conducted to investigate homeowners' notions of wildfire risk, risk mitigation behaviors, and barriers and incentives to mitigate wildfire risk on private land parcels.

The WiRē approach aims to empower the voice of wildfire practitioner partners with comprehensive data and analyses that reflect the entire community, not just the vocal few. Wildfire practitioner partners participate in the data collection process and share the results with their communities. Experience has demonstrated that sharing the results from the systematic data collection with the community provides a common platform for constructive discussion about adapting to wildfire. Therefore, the WiRē Center summarizes local data to facilitate collaborative processes and provides wildfire practitioner partners with the tools to act on research results and expand the WiRē approach into new communities.

At a broader scale, the WiRē Center manages, compiles, and analyzes data collected across communities to provide insights across space and time with respect to wildfire risk on private land and the characteristics, knowledge, and experience of the people who live on those parcels. These data are an important contribution to the state of knowledge regarding private land and wildfire risk. In collaboration with the WiRē Team, the WiRē Center will advance understanding of effective pathways to community wildfire adaptation.

PROJECT AREA

What Does the Community Look Like?

Ashland is characterized by steep slopes that extend the wildfire threat from the wildlands into the city center. Dense housing and limited egress complicate public safety management. As of 2018, the Wildfire Hazard Zone was expanded to include all the homes within the city.² The EPA data tracking air quality show increases in the number of unhealthy air days in the last decade for Jackson County, Oregon³, and wildfire smoke inundation has affected summer tourism events. The community and its leaders continue to strive to better understand and grapple with how understandings of and approaches to wildfire risk management apply to more urban and densely populated WUI communities.

WiRē Partner: Ashland Fire and Rescue

Ashland Fire and Rescue (AFR) serves a population of approximately 21,000 and is the hub for a number of wildfire-related activities, including the Firewise USA[®] communities program, Community Emergency Response Team (CERT) training for emergency preparedness, SmokeWise Ashland for air quality monitoring and reporting⁴, a Wildfire Safety Commission that advises and educates City Council and the community on wildfire safety issues, forest restoration grants for private landowners, and controlled burns to reduce vegetative fuels on public lands, and a city Forest Resiliency initiative that includes watershed considerations.

² <https://www.ashland.or.us/Page.asp?NavID=17583>

³ <https://www3.epa.gov/aircompare/>

⁴ <https://www.ashland.or.us/Page.asp?NavID=17502>

METHODS

What Did We Do?

In this project, the AFR and the WiRē Team identified a subset of neighborhood areas to include in the household survey data collection effort (the WiRē subset) to better understand wildfire risk and the residents whose decisions and actions shape the community landscape. See figure 1. A total of 2,099 households in the Beswick, North Mountain, Reservoir, Strawberry, and University Hillside neighborhood areas were included in the household survey data collection effort. See table 1.

To launch the project, AFR sent community outreach letters that informed residents that a data collection effort was launching. The 13 May 2019 letter informed residents that a city-wide risk assessment had been conducted in March 2018 and invited and encouraged them to respond to the upcoming household survey. Please see Appendix I for correspondence materials.

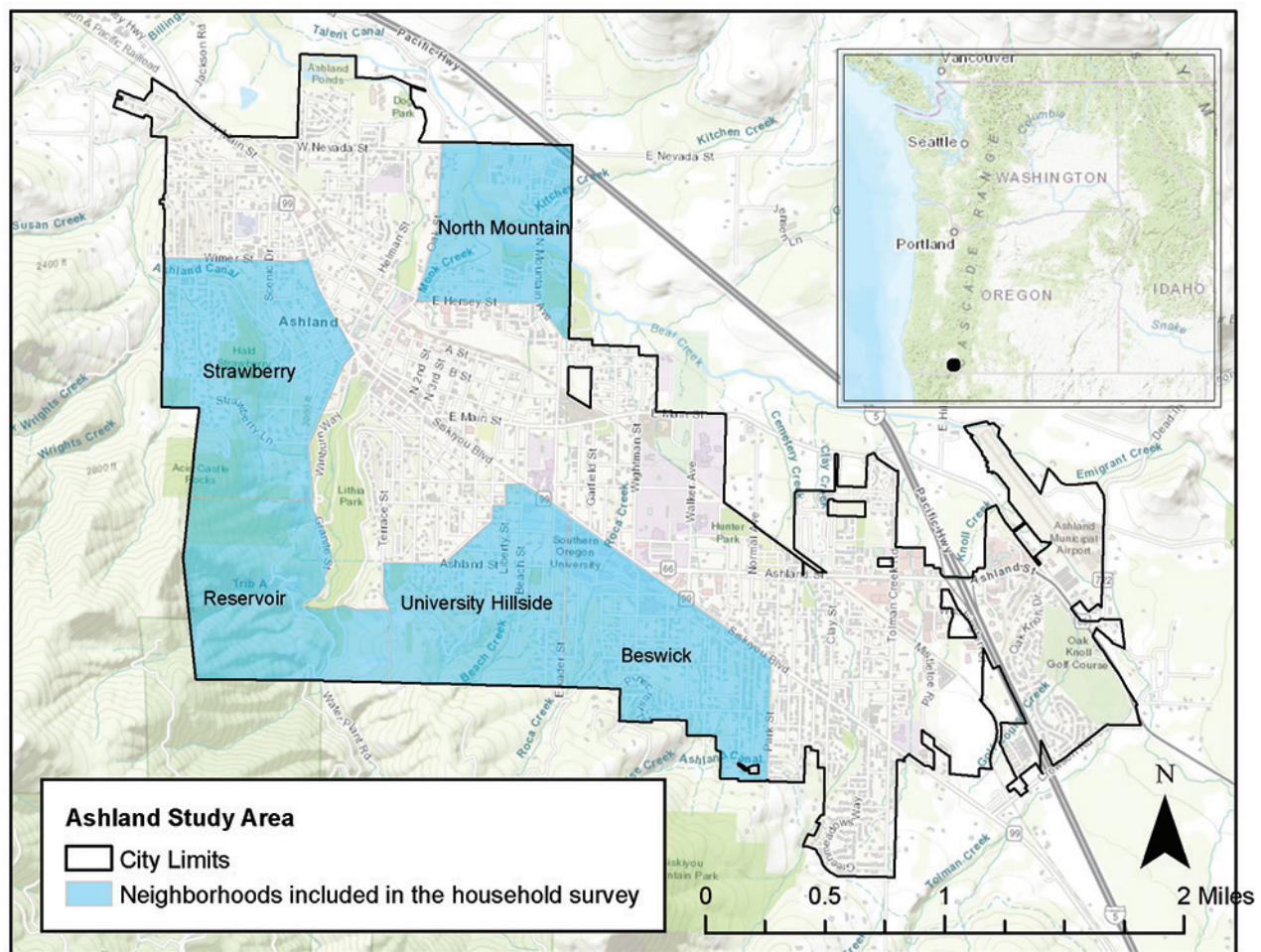


Figure 1—Map of Ashland, Oregon and communities in study area.

Rapid Wildfire Risk Assessments

In March 2018, AFR benefited from a statewide investment in parcel-level risk assessments, allowing them to use an in-depth risk assessment tool developed by Intterra⁵ to conduct rapid risk assessments at every residence in Ashland (approximately 6,625 parcels). As such, initial project efforts included the fundamental challenge of converting the Intterra risk assessment attributes into a concise risk assessment tool of

Table 1—Communities included in household survey in the Ashland, Oregon study area.

Neighborhood area	Number of households surveyed
Beswick	582
North Mountain	433
Reservoir	56
Strawberry	530
University Hillside	498
Total households	2,099

12 attributes (the WiRē RA). Together, the attributes create a relative risk rating for all the parcels in Ashland. The WiRē RA serves as an indicator of the relative risk of private land parcels within Ashland rather than an absolute measure of risk. The overall risk scores range from 30 to 1,000 points. The scores are parsed into five risk categories: low (30–320 points), moderate (321–425 points), high (426–520 points), very high (521–565 points), and extreme (565–1,000 points). For details on this conversion, please see Appendix II.

Household Survey

In order to understand the perceptions of the residents of Ashland in relation to the threat of wildfire, AFR partnered with WiRē to collect household survey data in order to pair the social dimensions of wildfire and related decision making with the observed conditions in the WiRē RA dataset for Ashland (Appendix III).

Household survey data were collected using a modified Dillman⁶ approach that includes an initial letter of invitation announcing the data collection effort; a survey packet containing a cover letter, a household survey, and a postage paid and addressed return envelope; a reminder/thank you postcard mailed to the entire mailing list; and a second survey packet with an updated cover letter mailed only to non-respondents. See table 2.

The initial invitation letter mailing was sent to 2,099 Ashland residences. This mailing allowed us to remove bad addresses from subsequent mailings. The first survey packet was mailed to 2,045 residences. A follow-up reminder postcard and a second survey packet were each mailed as survey responses waned. The overall effort resulted in a 55.5% response rate with 1,136 completed responses. The completed survey responses were paired with the WiRē RA data to create a paired dataset ($n = 1,128$) for Ashland, which provides the foundation for the results presented below.⁷

Table 2—Household survey data collection timing in the Ashland, Oregon study area.

Mailing	Date sent	Number sent
Initial letter	5/14/19	2,099
First survey packet	5/28/19	2,045
Postcard	7/12/19	2,042
Second survey packet	8/2/19	1,229

⁵ <https://www.intterragroup.com/>

⁶ Dillman, Don A. 2000. *Internet and mail surveys: the tailored design method*, 2000. New York: John Wiley. 464 p.

⁷ Any differences between the numbers reported here and the Household Survey Codebook (Appendix IV) should be minor and the result of rounding. Any other minor differences reflect the fact that the Codebook reports on all the households that responded to the survey and this report focuses on those paired with the WiRē RA data set.

RESULTS

Community Risk

The WiRē risk assessment ratings were compared among three groups: all parcels in Ashland, those parcels that were mailed a household survey (survey subset), and those parcels for which a household survey was completed (survey respondents). The distribution within each group was found to be similar (fig. 2). For all the parcel risk assessments in Ashland, 18% were characterized as having low risk, 20% as moderate risk, 35% as high risk, 15% as very high risk, and 12% as extreme risk.

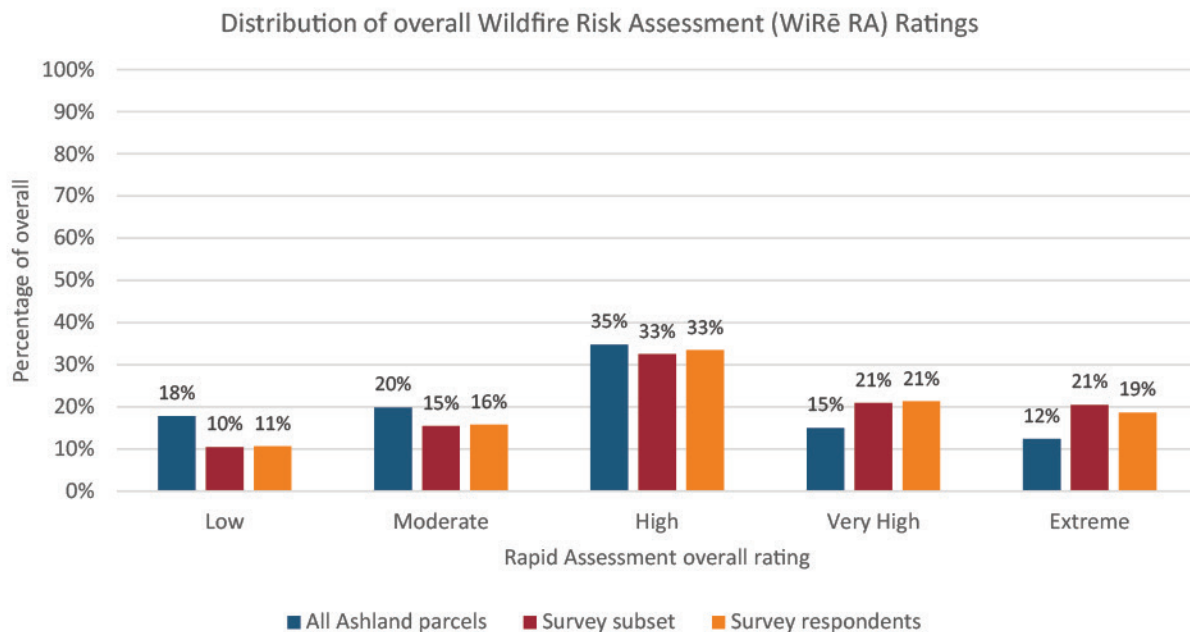


Figure 2—Distribution of overall Wildfire Risk Assessment (WiRē RA) ratings showing all Ashland parcels, subset of parcels receiving household survey, and subset of parcels of household survey respondents.

Among the households included in the WiRē survey subset, 10% were characterized as low risk, 15% as moderate risk, 33% as high risk, 21% as very high risk, and 21% as extreme risk. The distribution of risk ratings for the properties of those who responded to the household survey (survey respondents) had a similar distribution of ratings with 11% as low risk, 16% as moderate risk, 33% as high risk, 21% as very high risk, and 19% rated as extreme risk.

WiRē RA Attributes: Observed vs. Self-Assessment by Survey Participants

Below, the scores for each of the individual attributes that comprise the parcel-level assessment are presented. The scores from the WiRē RA for the study subset were paired and are presented alongside household survey responses from participants who were asked to assess their own properties based on attributes of the risk assessment.

Access

The ability to evacuate during a wildfire, as well as the ability for emergency responders to safely get to a property, is critical. During a wildfire, evacuation routes could be blocked by fire, limiting a resident’s ability to move to a safe area.

Ingress/Egress

Access to and from a property is determined by the available road system. Properties were evaluated based on having one or two (or more) roads in/out.

Seventy-eight percent of properties in the paired dataset have multiple ways out, and 22% have only one road in or out. Notably, 35% of survey respondents reported that they have only one road in or out of their community, indicating that some residents are not aware of all available options for access or egress (fig. 3).

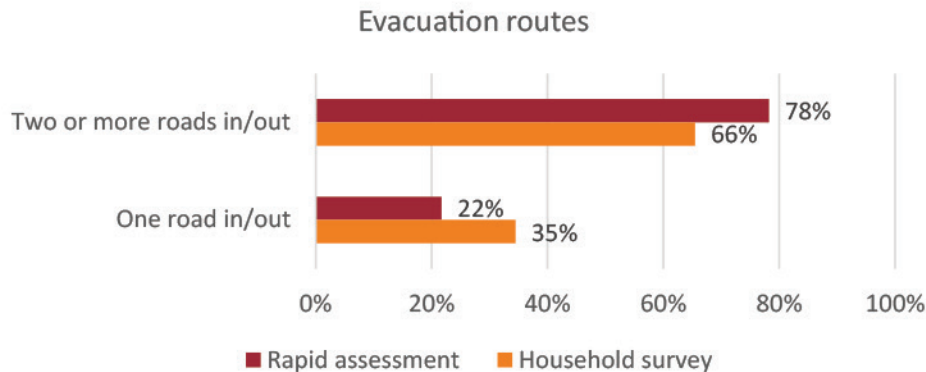


Figure 3—Evacuation routes in the Ashland, Oregon study area. Graph depicts the percentage of properties having one or more roads into and out of a given property.

Driveway Length

First responders need to be able to leave a property quickly should conditions deteriorate. Driveway length and the ability to turn around influence their willingness to bring fire trucks down a driveway. Driveways are evaluated to establish if they are 150 feet long or less, longer than 150 feet with a turnaround, or longer than 150 feet without a turnaround.

Most properties have driveways that are less than 150 feet with a turnaround. Only 5% of properties have a 150 foot or longer driveway that lacks a turnaround, making them inaccessible. Interestingly, most respondents estimated that their driveway did not have space suitable for a fire truck to turn around in (fig. 4)

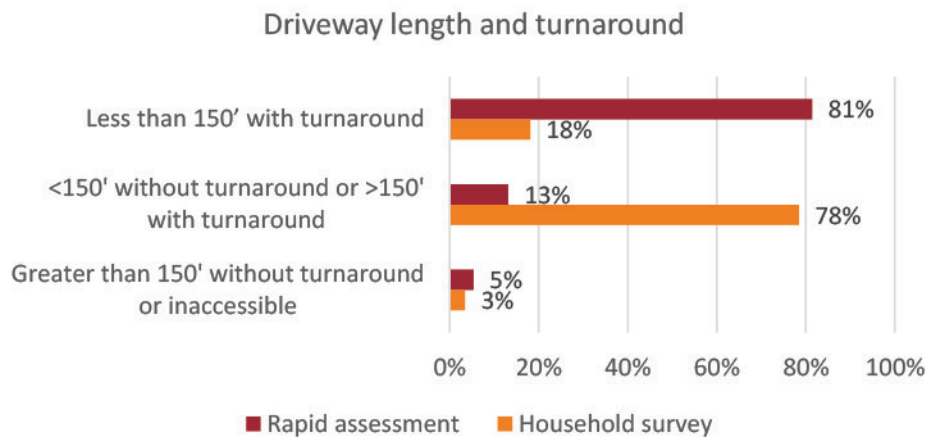


Figure 4—Driveway length and availability of turnaround in the Ashland, Oregon study area.

Driveway Width

Driveway width affects first responders’ ability to safely access homes in an emergency or to conduct structure protection activities during a wildfire. Properties are evaluated to establish if they are 16 feet or more, 15 feet or less, or inaccessible.

Within the paired dataset, most driveways were narrower than ideal conditions for first responder access. Nearly three quarters of properties having driveways were estimated to have widths of 15 feet or less. Over half of respondents (55%) characterized their driveway width as 10 to 15 feet wide, while over a third (38%) reported that their driveway was more than 15 feet wide (fig. 5).

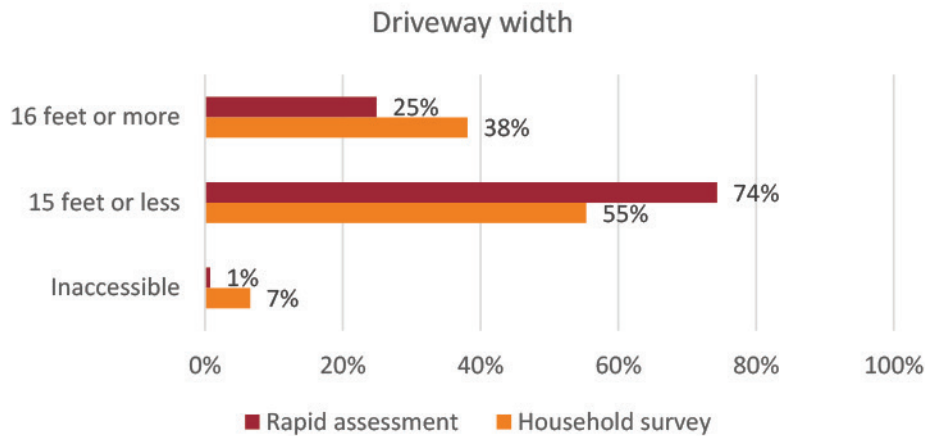


Figure 5—Driveway width in the Ashland, Oregon study area.

Structure

The building materials and design of a structure’s exterior walls also play a role in the ignitability of a home during a wildfire event. With prolonged exposure to convective and radiant heat, even the most fire-resistant materials can fail.

Roof

Roof material has been shown to have a dramatic influence on the ignitability of a home during a wildfire. Noncombustible materials such as metal, tile, or asphalt composition shingles resist ignition to wildfire. Roofs with depositions of dried or downed vegetation affect ignitability. As such, properties are evaluated based on whether the roofing materials are combustible or noncombustible and whether the roof is clean, has scattered combustible materials, or is covered/clogged with thick vegetation.

Nearly half (47%) of the roofs in the paired dataset were noncombustible and clean, 40% were built with noncombustible materials but had scattered combustible materials, and 12% were built with noncombustible materials but were clogged or were covered with thick combustible materials. Nearly all respondents reported having a noncombustible roof. Most (82%) reported that their roof was clear of leaf and needle litter, 15% reported scattered materials, and only 3% reporting heavy combustible materials on their roofs (fig. 6).

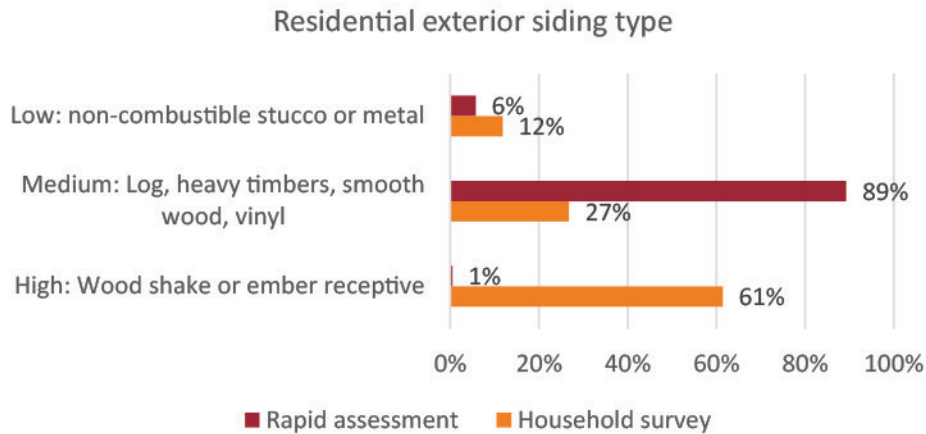


Figure 6—Residential roof type and cleanliness in the Ashland, Oregon study area. Roofing material is evaluated based on whether the roof is made of combustible or non-combustible materials and the extent of combustible materials such as leaf litter on the roof.

Siding

The design, materials, and construction of a structure’s exterior walls have an impact on the ignitability of a home during a wildfire event. Wood siding with noticeable gaps is more receptive to trapping blowing embers than noncombustible materials like metal or stucco. Similar to roofing material, siding is categorized as noncombustible stucco or metal, combustible (log, heavy timbers, smooth wood, or vinyl), or wood shake or other ember receptive siding.

Across the paired dataset, only 6% of the households were considered noncombustible and 12% of respondents indicated that their siding was noncombustible (fig. 7).

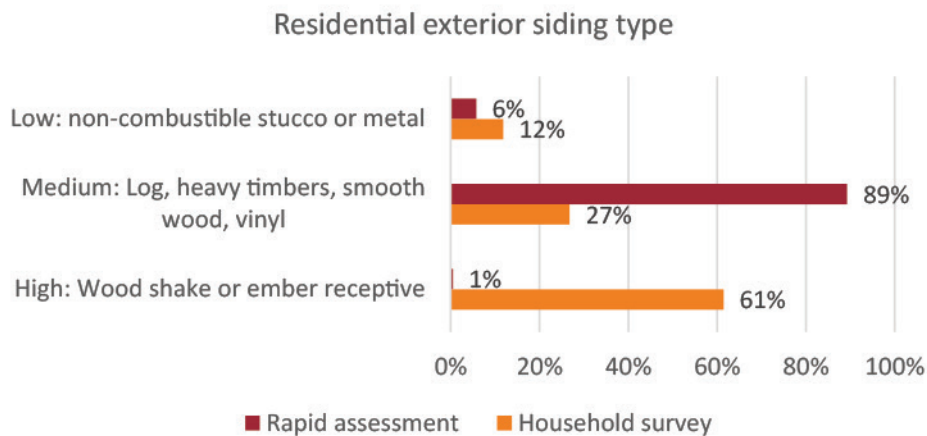


Figure 7—Residential exterior siding type in the Ashland, Oregon study area. Siding is categorized by risk level, low (non-combustible stucco or metal), medium (combustible log, heavy timbers, smooth wood, or vinyl), or high (wood shake or ember receptive).

Attachments

Building materials used for the construction of attachments to the structure (e.g., decks, fences) present a significant ignition vulnerability due to the expansive surfaces that are exposed to wind-driven embers, as well as convective and radiant heat. Properties were evaluated based on whether they have no attachments and/or have attachments made of fire-resistant materials that are sheathed in or have attachments made of combustible material (sheathed in and not).

Across the paired dataset, the majority (73%) of residences had attachments made of combustible materials that were not sheathed in. Respondents reported slightly lower levels of combustible attachments (fig. 8).

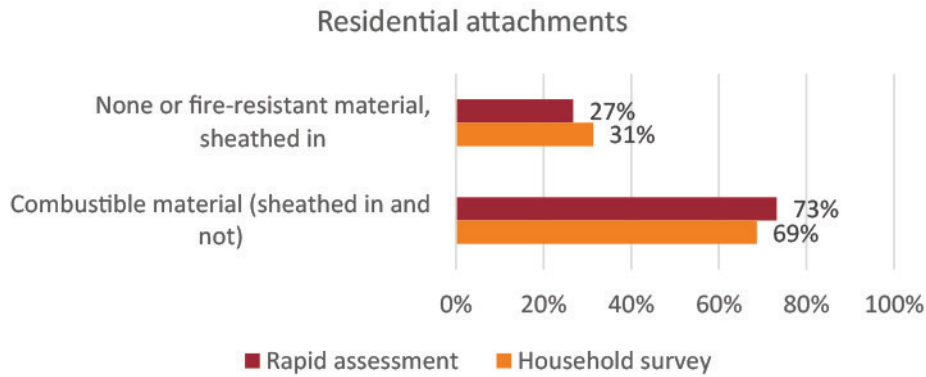


Figure 8—Residential attachments (e.g., decks, fences, balconies) in the Ashland, Oregon study area. Properties are evaluated on whether residential attachments are present, constructed of combustible materials, and sheathed in.

Defensible Space

The vegetation around a home affects a home’s survivability during a wildfire. More flammable and abundant vegetation near the home increases the likelihood that heat and flames will weaken the building materials and allow a fire to enter the home. In Ashland, defensible space is evaluated based on three factors: surface vegetation within 30 feet, ladder fuels within 30 feet, and tree canopy. Please see Appendix II Memo for full details on this calculation.

Seventy-seven percent of residences had defensible space within the 0- to 30-foot zone from their home. Likewise, 73% of survey respondents indicated that they had defensible space cleared within the same zone (fig. 9).

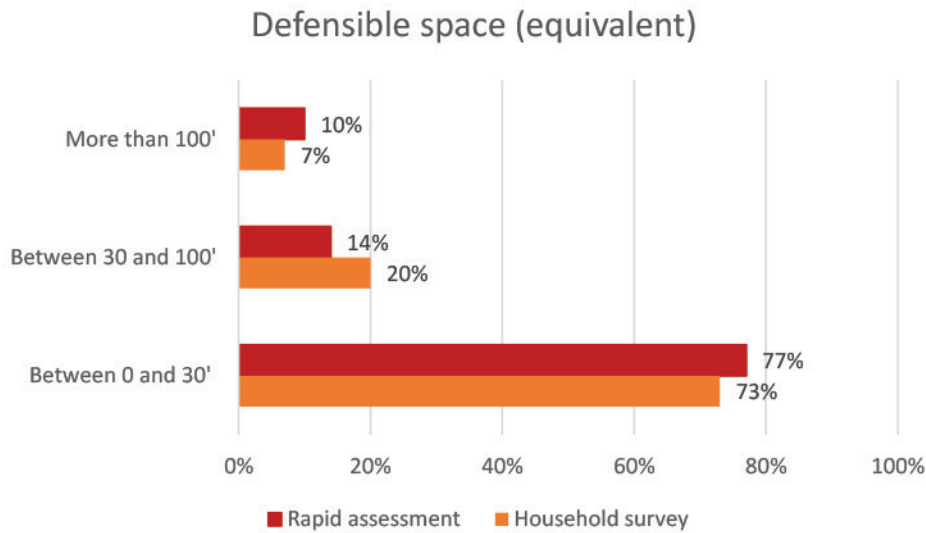


Figure 9—Defensible space (equivalent) in the Ashland, Oregon study area. Properties are evaluated on the presence of vegetation less than 30 feet from the home, between 30 and 100 feet, and more than 100 feet from the home.

Combustible Materials Other Than Vegetation Within 30 Feet

Other than vegetation, other combustible materials within 30 feet of the home affect the quality of defensible space.

The majority of properties in the paired data set had either no combustible materials or, if present, combustible materials other than vegetation were more than 30 feet from the home. Similarly, 66% of respondents reported that there were no combustibles other than vegetation or that the combustibles that were present were more than 30 feet from their home (fig. 10).

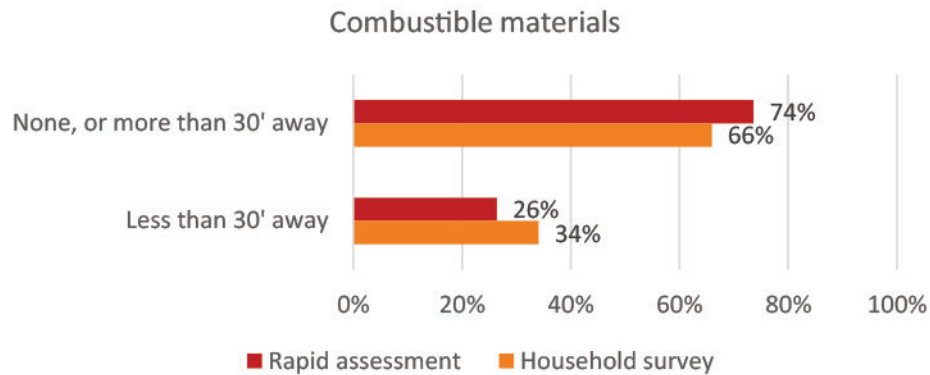


Figure 10—Combustible materials, other than vegetation, within 30 feet of the home, in the Ashland, Oregon study area.

In order to better understand the perspective of Ashland residents, household survey respondents were also asked to provide an overall assessment of their property’s risk after having self-assessed their property based on the attributes described above. The survey question provided a three-point scale: low, moderate, or high risk. Twenty-nine percent of respondents characterized their property as low risk, 56% as moderate risk, and only 15% as high risk. Although these category labels differ from the labels for the five-point WiRē-RA (low, moderate, high, very high, extreme), the overall distribution of survey responses across a three-point scale mirrors the distribution of WiRē RA scores across a five-point scale for the households in the study area, with the majority of properties in the middle category on both scales (i.e., “moderate” in the self-assessment; “high” in the RA).

Figure 11 depicts the distribution of RA ratings for properties corresponding to each survey response category. Survey respondents who rated their property “low” were more likely to have an RA rating of “low” or “moderate” than respondents who answered otherwise. In contrast, over 85% of those who self-assessed their risk as “high” received a WiRē RA rating of “high,” “very high,” or “extreme.” In other words, despite the shift in category labels, there is a rough correspondence between the distributions of self-assessed and WiRē-RA overall ratings.

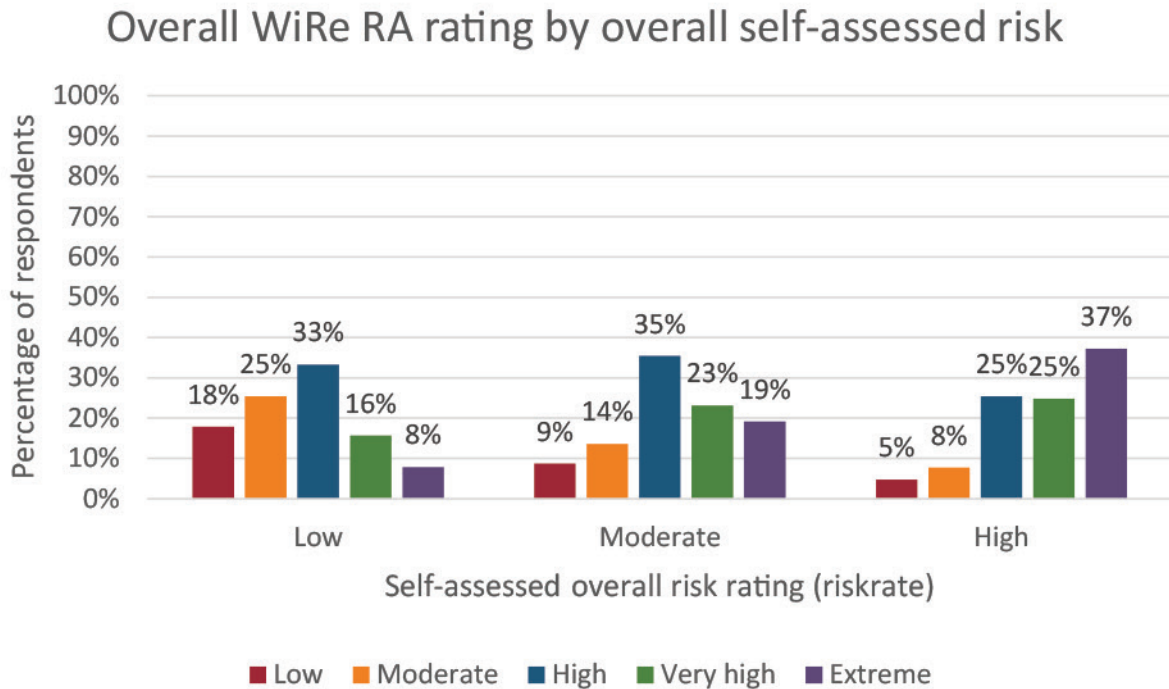


Figure 11—Overall Wildfire Risk Assessment (WiRe RA) rating by overall self-assessed risk rating in Ashland, Oregon study area. Graph depicts distribution of observed conditions from the WiRe RA by household survey respondents' self-reported risk rating.

Social Dimensions of Wildfire in Ashland—Household Survey Results

The respondent's homes were built as long ago as 1856 and as recently as 2018, with the average year built of 1971. Approximately half the respondents were female (51%) and the average respondent age was 67 years. The majority of respondents were retired (60%), while 23% were employed full-time and 15% were employed part-time. Most respondents were highly educated, with 87% having at least a college degree. Over half (59%) reported a household income over \$75,000.

Most respondents (84%) were full-time occupants of their properties and the majority (92%) were owner occupied. A small portion of respondents (5%) were owners who rented their properties out on a long-term basis. Approximately 3% of respondents were renters.

FROM WHERE MIGHT NOTIONS OF WILDFIRE COME?

Communication About Wildfire

Current and Preferred Modes of Communication

Community programs undertake various outreach efforts to communicate wildfire risk information. We asked survey respondents by what modes they currently receive wildfire risk communications. At the time of the survey, the top two modes of wildfire risk communication came from mass media with 49% of respondents receiving wildfire risk information from the newspaper and 47% from TV news. Forty-four percent received wildfire risk communications through in-person interactions, though the question did not ask participants to identify the nature of those interactions (fig. 12).

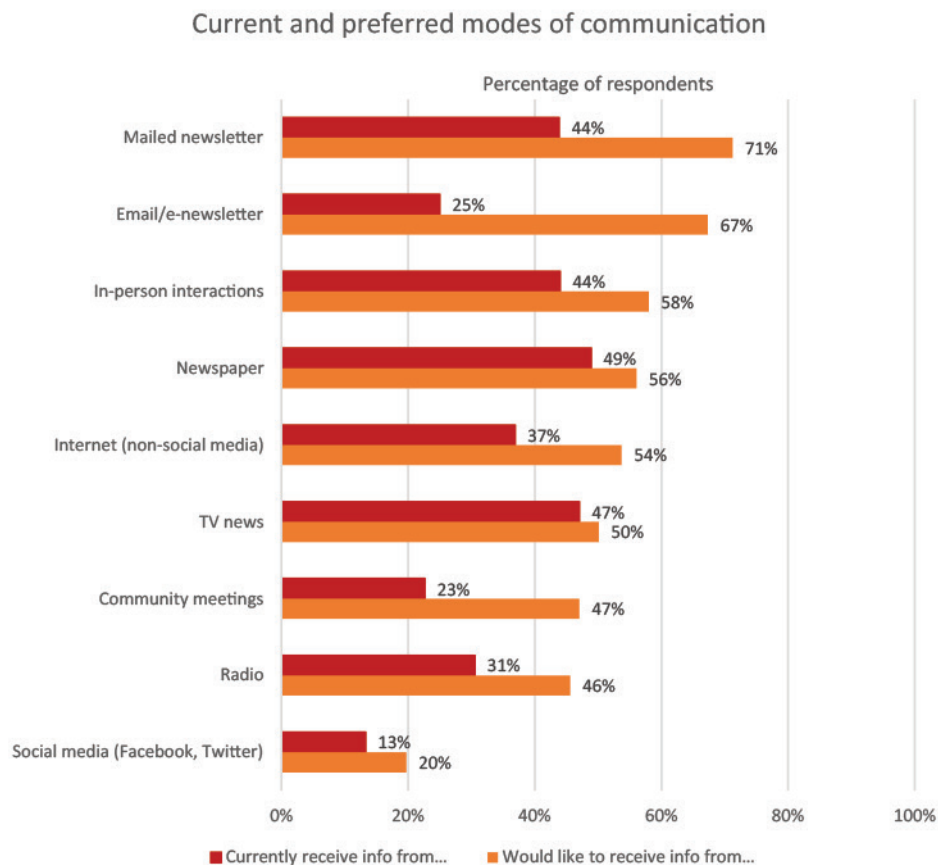


Figure 12—Current and preferred modes of communication about wildfire in the Ashland, Oregon study area.

Since preferred modes of communications may vary by community, participants were also asked by what modes would they prefer to receive those communications. Seventy-one percent of respondents preferred a mailed newsletter while 67% of respondents preferred to receive emails or e-newsletters with wildfire risk information. Other top modes of communication included in-person interactions (58%), newspaper (56%), and internet (nonsocial media; 54%). The least preferred mode of communication was social media (e.g., Facebook, Twitter; 20%).

Sources of Information and Reported Usefulness

Respondents were also asked to report what sources of information they have used for wildfire risk information and to evaluate the usefulness of those sources. The most used sources of information were the media (73%) and AFR (71%). While these two sources are similarly common, AFR is considered the most useful source of wildfire risk information (fig. 13).

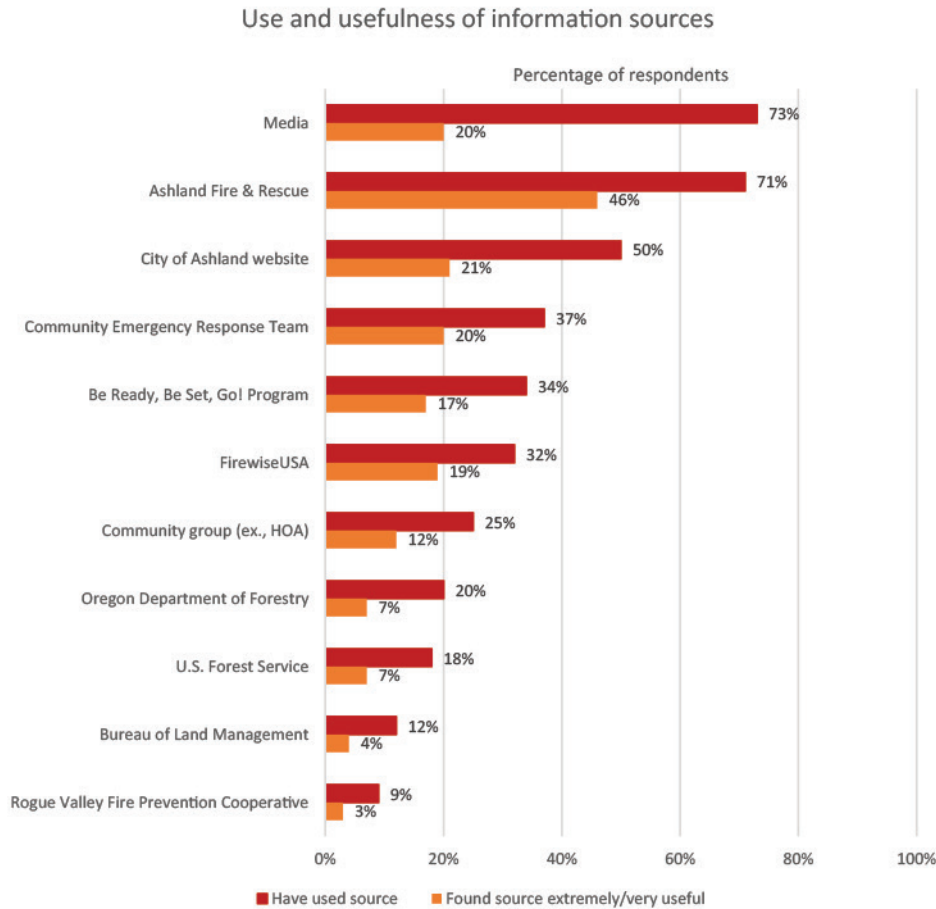


Figure 13—Use and usefulness of information sources about wildfire in the Ashland, Oregon study area.

There are many formal sources of information, but residents also receive and provide information through interactions with their neighbors. Sixty-three percent of survey respondents reported talking with a neighbor about wildfire. Through those interactions or observations, 73% of respondents reported having neighbors who are taking action to reduce wildfire risk and over half (55%) reported decreasing wildfire risk due to neighbors’ actions. Neighborhoods are often populated by different kinds of residents and 40% of survey respondents reported they have neighbors who are not taking action to reduce wildfire risk. Thirty-five percent of respondents reported their own wildfire risk increases due to neighbor’s inaction (fig. 14).

Neighbor interactions about wildfire

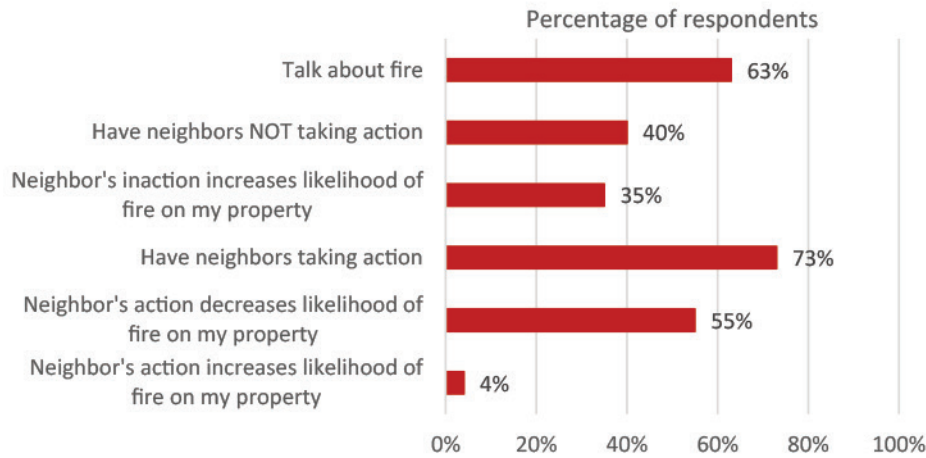


Figure 14—Neighbor interactions about wildfire in the Ashland, Oregon study area.

Wildfire Experience

Overall, we see that survey respondents have had very little direct experience with wildfire. This likely reflects the history of limited wildfire directly within the Ashland community. Fifty-three percent of respondents reported experiencing wildfire within 10 miles of their home and 11% within 2 miles of their home (fig. 15).

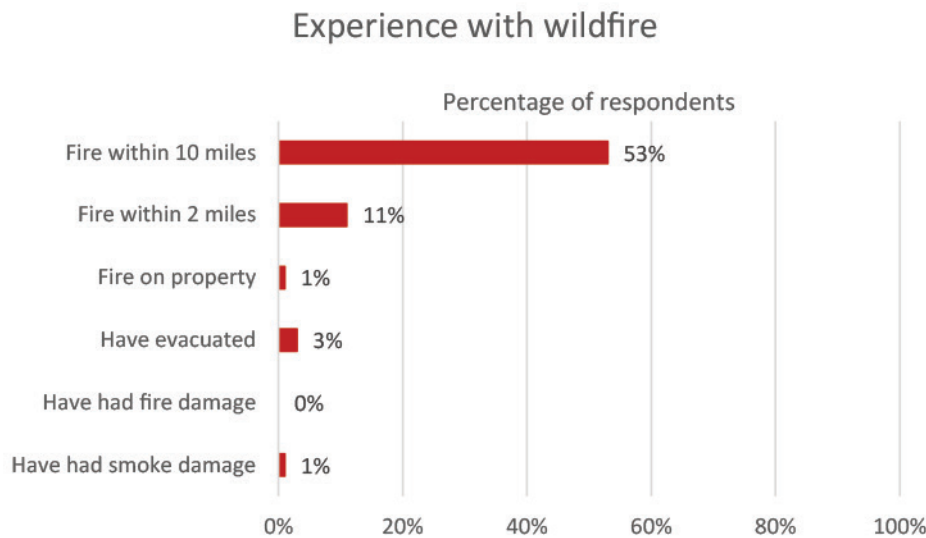


Figure 15—Experience of residents with wildfire in the Ashland, Oregon study area.

Notions of Hazard and Response

Respondents were asked to what extent they agree or disagree with a series of wildfire attitude statements. Here, we report on the percentage of respondents who indicated that they agreed or strongly agreed with the statements. Overall, there is strong consensus regarding several aspects of wildfire. First, we see that the majority of respondents agreed or strongly agreed that wildfires should be put out if they threaten human life (95%) and property (79%). Sixty-eight percent of respondents agreed that “during a wildfire, saving

homes should be a priority over saving forests.” Simultaneously, 86% agreed that “wildfires are a natural part of balance of a healthy forest/ecosystem.” Combined, the responses to these two statements highlight the complexity of tending to wildfire in the WUI (fig. 16).

Agreement with attitude statements

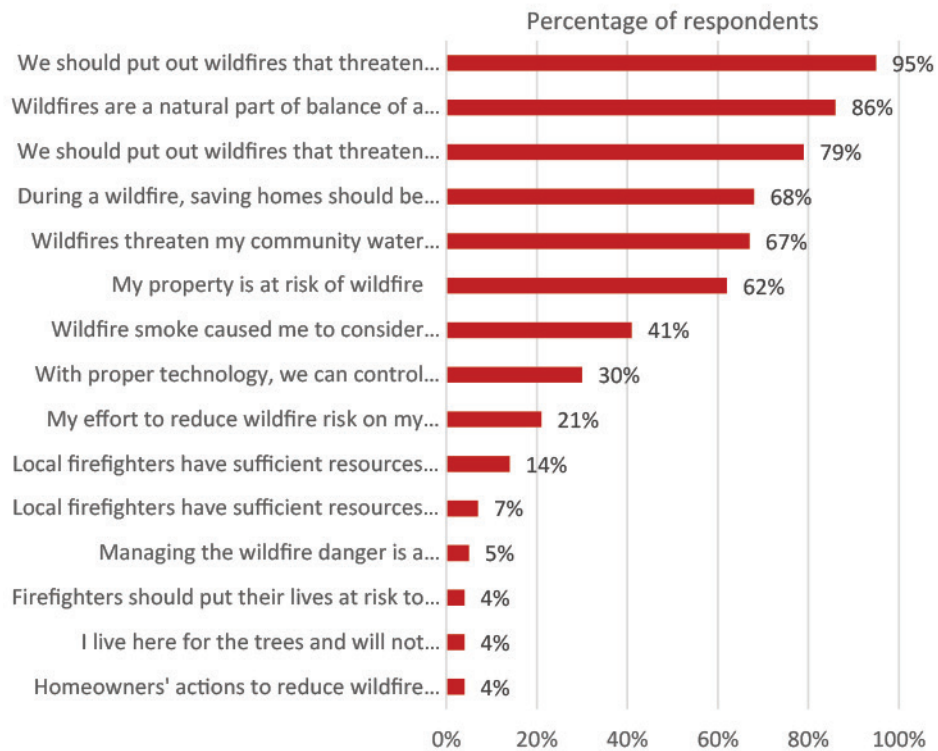


Figure 16—The extent to which residents agree with attitude statements in the Ashland, Oregon study area.

Despite limited direct wildfire experience among study respondents, 62% of respondents agreed or strongly agreed that “my property is at risk of wildfire.” Sixty-seven percent of respondents agreed that “wildfires threaten my community water supply.”

Importantly, only 5% or fewer agreed or strongly agreed with each of the following critical statements:

- “Homeowners’ actions to reduce wildfire are not effective”
- “I live here for the trees and will not remove any of them to reduce wildfire risk”
- “Managing the wildfire danger is a government responsibility, not mine”
- “Firefighters should put their lives at risk to protect my home”

Finally, respondents appear to recognize their role in managing wildfire risk and real-world constraints on the availability of suppression resources. Fourteen percent of respondents agreed that “local firefighters will have sufficient resources to protect threatened homes” and 7% agreed that “local firefighters will have sufficient resources to keep the wildfire from spreading.”

When asked to consider expectations about wildfire, only 2% of respondents thought there was a 50% or greater chance that wildfire would be on their property this year. In contrast, 45% thought there was a 50% or greater chance that if there was a wildfire on their property, their Ashland residence would be destroyed or severely damaged (fig. 17).

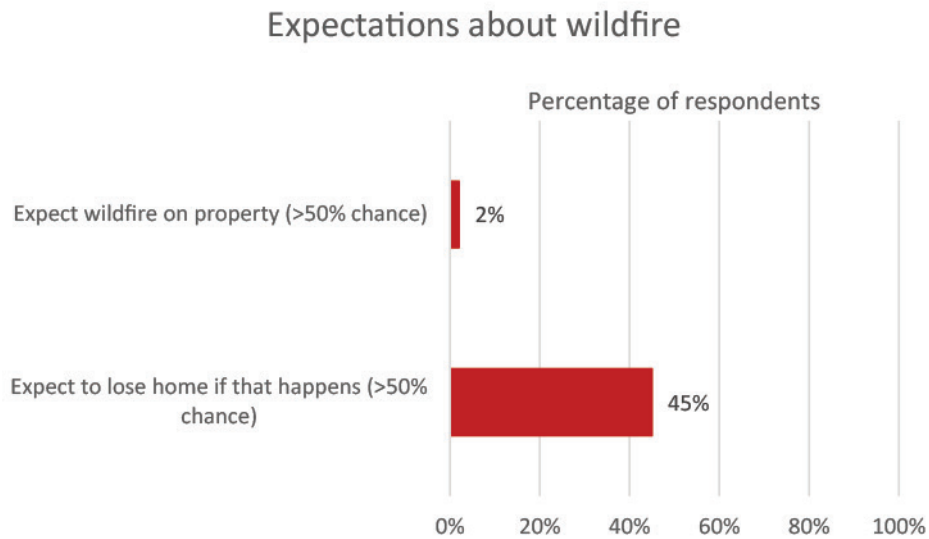


Figure 17—Expectations of residents about wildfire on their property in the Ashland, Oregon study area.

Respondents were asked, “If there is a wildfire on your Ashland property, how likely do you think it is that the following would occur?” We report the percentage of respondents that thought the following outcomes were very or extremely likely (fig. 18). The majority of respondents reported that, if there was a wildfire on their property, it was likely that their home would have smoke damage (63%), some physical damage (58%), and their trees and landscape would burn (54%). Only 39% of respondents thought the fire department would save their home, while just over a quarter (28%) thought it was likely that their home would be destroyed.

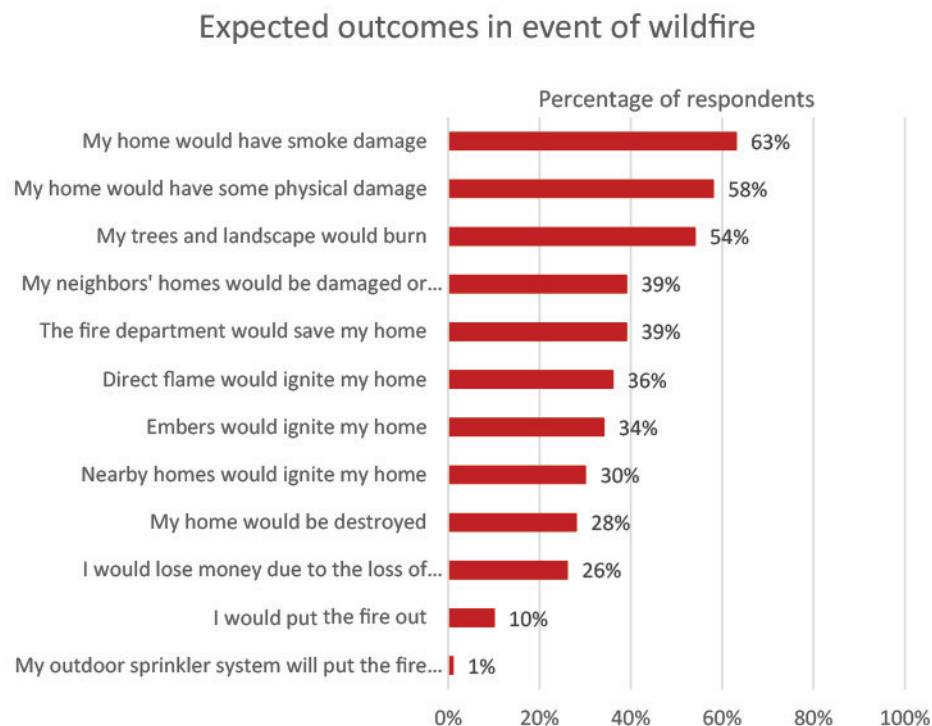


Figure 18—Expectations of residents about outcomes in event of a wildfire in the Ashland, Oregon study area.

Respondents were asked, “In the event of a wildfire, how likely would the wildfire spread as follows?” We report the percentage of respondents reporting very or extremely likely for several scenarios (fig. 19). Forty-three percent of respondents thought it was likely wildfire would spread from public land to their neighborhood, while less than a quarter (24%) thought it would spread from their own property to public land.

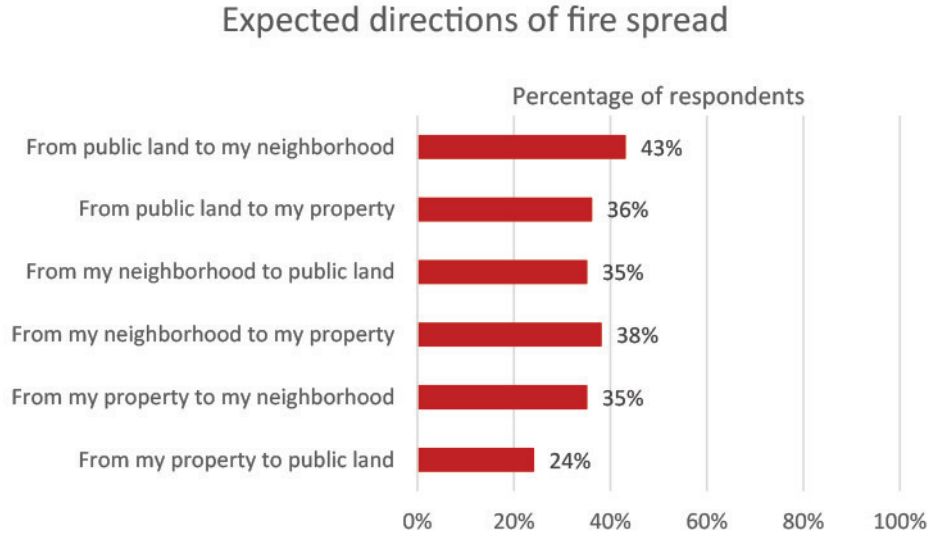


Figure 19—Expectations of residents about direction of fire spread in event of a wildfire in the Ashland, Oregon study area.

WHAT ARE THEY DOING ABOUT WILDFIRE?

Wildfire Preparedness

Being prepared for a wildfire event constitutes an important set of steps that will allow residents to safely evacuate their residence and ensure responders have access to their community and structure. A critical component of these efforts entails the development of an evacuation plan. For whom the question applies, 61% of respondents reported having an evacuation plan for the people in their household. And for whom the question applies, 56% had plans for the pets in their home or on their property and 10% had plans for livestock. In terms of signing up for emergency notifications, 34% of respondents reported signing up for Citizen Alert!, and 30% signing up for Nixle (fig. 20).

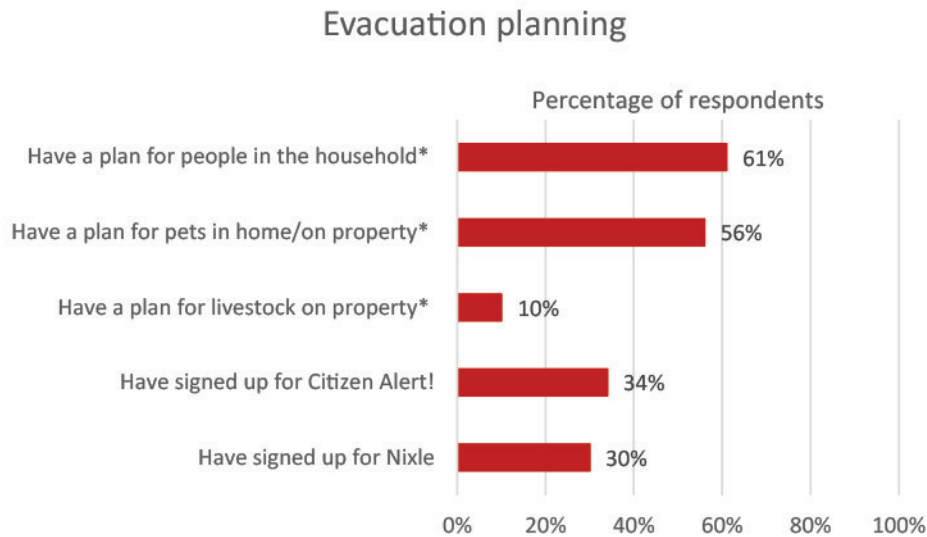


Figure 20—Evacuation planning as reported by residents in the Ashland, Oregon study area. (* for whom the question applies)

Mitigation

Given the regular inundation of wildfire smoke in the Ashland area, the survey included an opportunity to report smoke exposure mitigation actions. Specific to the 2018 fire season, 63% of respondents reported replacing their air conditioning filters, 28% reported using a portable air cleaning, 61% reported wearing a mask, nearly a quarter (24%) reported leaving Ashland until the smoke cleared, and only 9% reported not taking any precautions (fig. 21).

Respondents were also asked to report on wildfire-related activities that reduce risk. Most respondents reported they regularly mowed and raked around their residence (93%), reduced vegetation on their property (89%), and regularly cleared their roof and gutters of leaves and pine needles (88%). It is not surprising to see such a high level of reported wildfire risk mitigation activities, as only 4% of respondents agreed/strongly agreed with the statement that “homeowners’ actions to reduce wildfire risk are not effective” (fig. 22).

Just over one-third (35%) reported they had made their residence more fire resistant. Twenty-one percent of respondents reported they had participated in a community wildfire activity and 14% reported they had reduced vegetation on community property. Fifteen percent reported they had helped neighbor(s) reduce vegetation.

Precautions taken to reduce smoke exposure in 2018 fire season

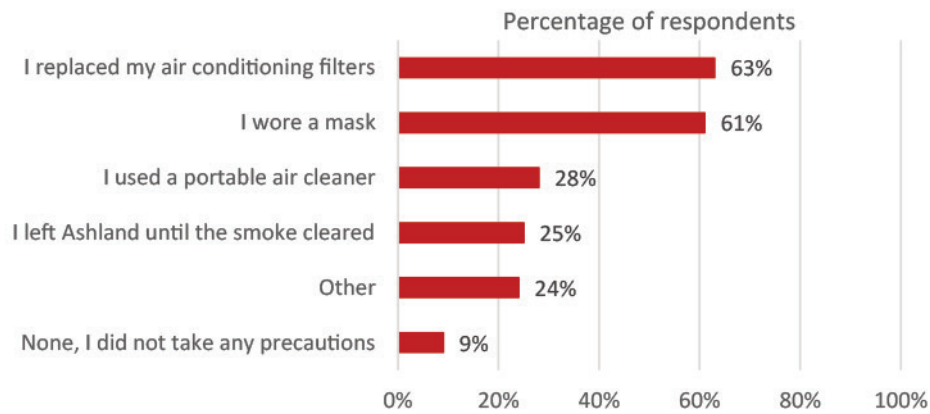


Figure 21—Precautions reported taken to reduce smoke exposure in 2018 fire season by residents in the Ashland, Oregon study area.

Fire risk reduction related activities

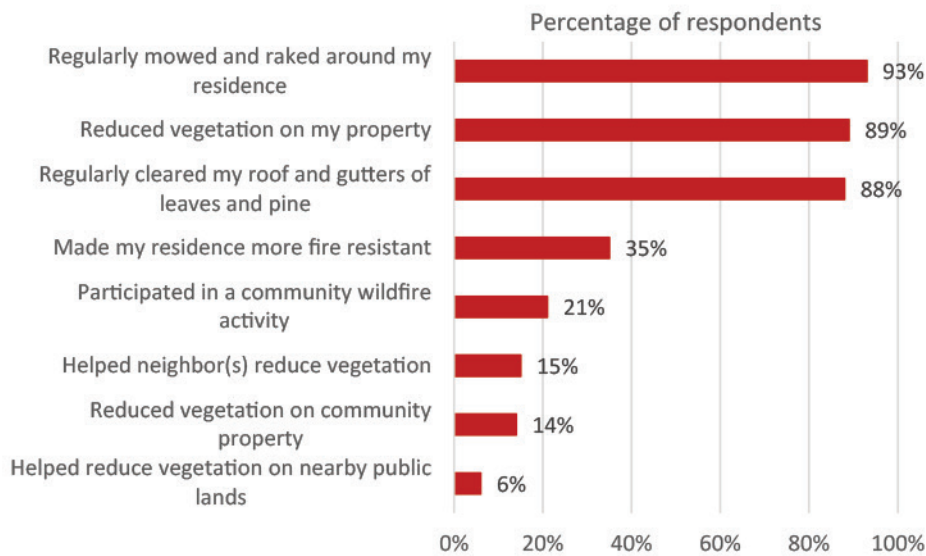


Figure 22—Fire risk reduction related activities reported by residents in the Ashland, Oregon study area.

There are a range of mitigation approaches for managing fuels on public lands. In order to undertake those activities, it is useful to understand how acceptable these activities are to the residents. We report on the percentage of respondents who reported mitigation activities were very or extremely acceptable (fig. 23). Overall, there is very high support for each of the items queried. Eighty-four percent of respondents reported that “removing trees and reducing other vegetation” was acceptable. Seventy-nine percent of respondents reported that “burning piles of vegetation (slash piles)” was acceptable. Seventy-eight percent reported that “managing a naturally ignited fire (such as lightning)” was acceptable and 75% reported that “conducting a prescribed fire ignited by fire managers” was acceptable.

Acceptable mitigation approaches

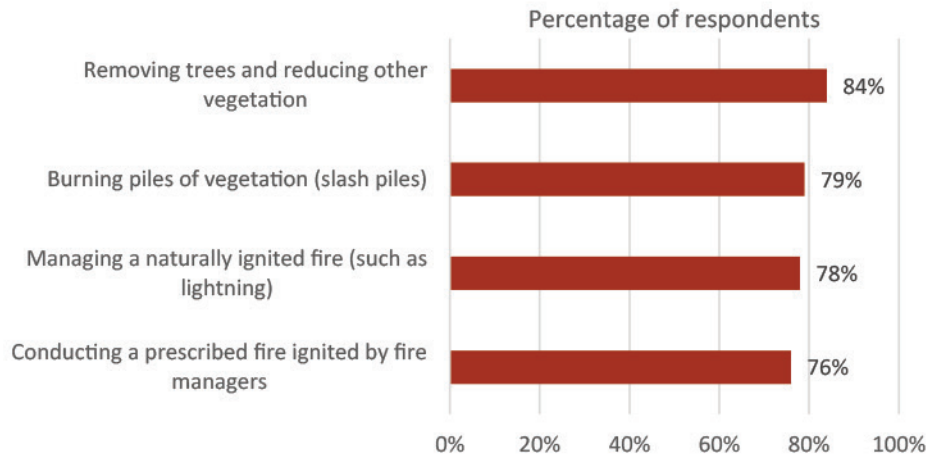


Figure 23—Acceptable mitigation approaches reported by residents in the Ashland, Oregon study area.

Barriers and Incentives

Survey respondents were asked, “Do any of the following prevent you from taking action to reduce the wildfire risk on your Ashland property?” Physical difficulty was the top reason respondents reported for not conducting mitigation, with nearly half (49%) reporting this was a barrier. Respondents reported the following as barriers: lack of specific information on how to reduce wildfire risk (38%), financial expense/cost (35%), and lack of information or options for removal of slash (34%). Twenty-one percent reported they did not want to change the way their property looks and 18% reported their barrier was “lack of effectiveness of risk reduction actions.” Only 7% of respondents reported homeowners association restrictions on cutting trees as a barrier to doing mitigation work (fig. 24).

Reasons for not conducting mitigation

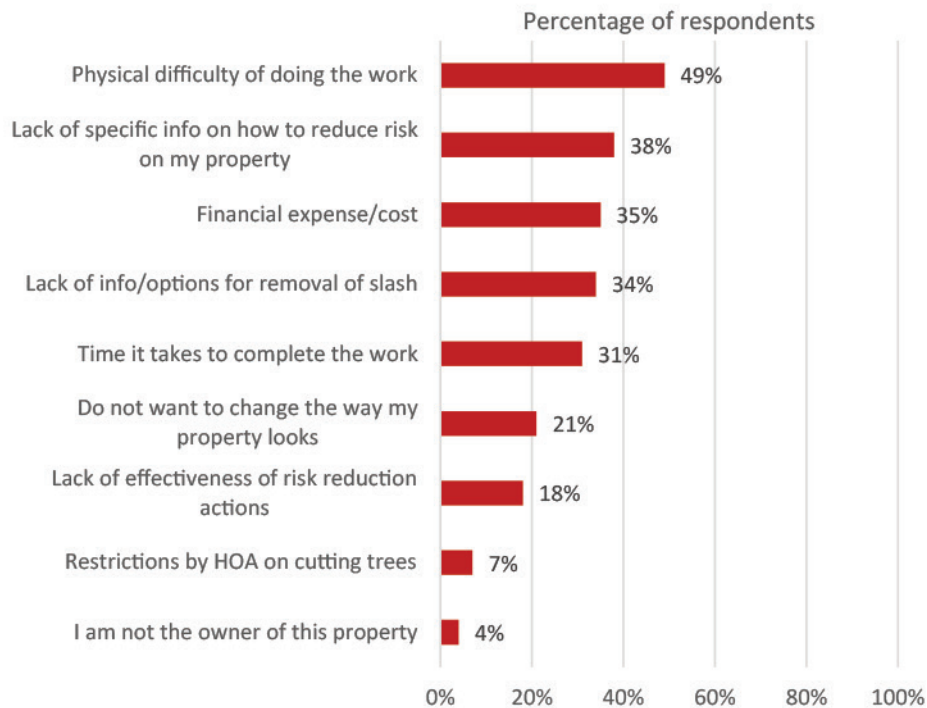


Figure 24—Reasons for not conducting mitigation reported by residents in the Ashland, Oregon study area.

When we asked what would encourage respondents to reduce wildfire risk on their property, we see that the top incentive was the provision of specific information about what needs to be done. Seventy-six percent of respondents reported that help doing the work would encourage them. Well over half indicated that financial assistance (65%) and a list of recommended contractors (63%) would encourage risk reduction (fig. 25).

Incentives that would encourage residents to mitigate

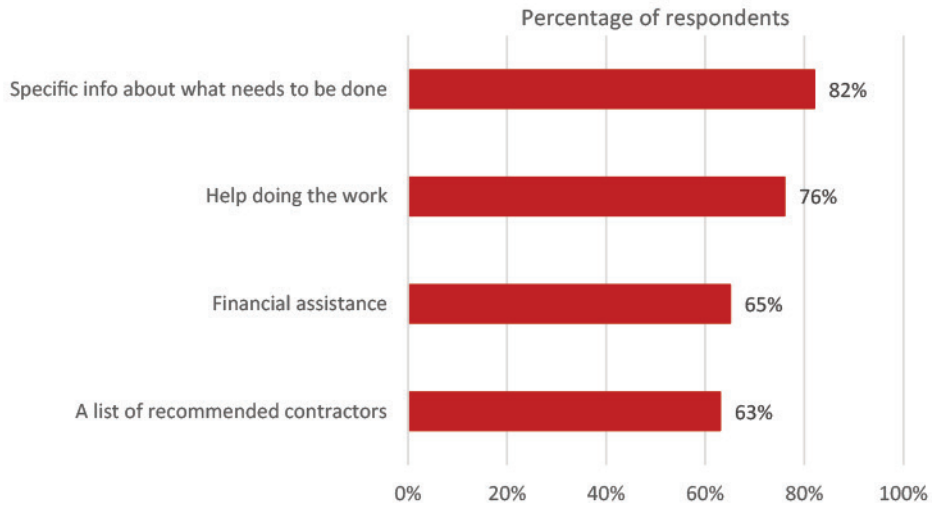


Figure 25—Incentives that would encourage residents to undertake activities to mitigate wildfire risk as reported by residents in the Ashland, Oregon study area.

The potential role of insurance providers to incentivize wildfire risk reduction activities among policy holders is often touted as an important complement to local wildfire risk reduction efforts. Only 12% of respondents reported that their insurance company had provided information on reducing risk of wildfire. Two percent indicated they had received an incentive by way of a discount because they had reduced wildfire risk on their property. The same portion (2%) had had an insurance company cancel or refuse to renew a policy due to wildfire risk (fig. 26).

Experience with insurance companies

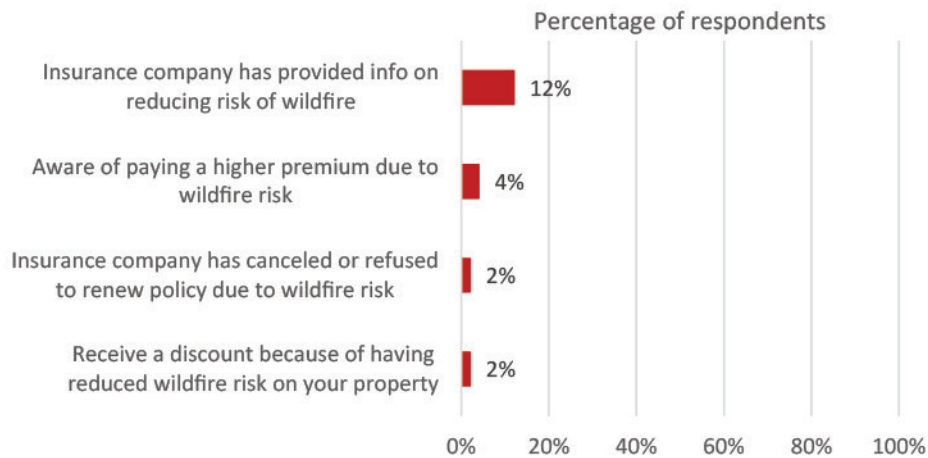


Figure 26—Experience with insurance company policies on wildfire as reported by residents in the Ashland, Oregon study area.

CONCLUSION

Ashland study participants are concerned about and preparing for wildfire; however, there remain opportunities for risk reduction, increased engagement and participation in community programs, and programmatic growth. Over half (59%) report having an evacuation plan for the people in their household; and for whom it applies, over half (56%) have a plan for the pets in their home/on their property. Further, only a third have signed up for Citizen Alert! (34%) and Nixle (30%)—indicating that these services have opportunity for substantial growth.

Survey respondents' responses indicate that their wildfire management priorities highlight protecting human life and property, and they recognize that wildfires are part a healthy forest and ecosystem. Consistent with low levels of wildfire experience, only 2% of respondents thought that there was a greater than 50% chance of a wildfire on their property in 2019. Nearly half (45%), however, think that if a wildfire starts or spreads to their property that there is a 50% or greater chance that they will lose their home.

Respondents indicated that they receive wildfire information primarily from the media and AFR, with more respondents indicating that the information from AFR was useful or very useful than from any other source. Despite the very active Firewise USA[®] program in the area, relatively few respondents report having participated in broader community activities related to wildfire, again indicating opportunities for programmatic growth.

As of this study, very few respondents indicated that they had had any specific interaction with their insurance provider regarding wildfire risk.

APPENDIX I

May 13, 2019



Dear Ashland Resident,

We have recently seen the devastating effects of wildfire in our community and those nearby. Ashland lost 12 homes to wildfire in the past decade, and climate change is predicted to bring us four times as much wildfire in coming decades. It is our goal to be proactive in confronting wildfire before another disaster occurs; therefore, Ashland Fire & Rescue is working to help homeowners understand and reduce their risk from wildfire.

Wildfire Risk Assessment

As part of our effort to better understand local wildfire risk, Ashland Fire & Rescue conducted wildfire risk assessments in March 2018 to determine how Ashland residents can be better prepared in the event of a wildfire.

Living with Wildfire in Ashland in 2019 Survey

To create the most effective programs possible, we need to understand what residents know about wildfire, their experiences with wildfire, as well as the characteristics of their properties. Your participation in this survey is voluntary, but the information you provide will help emergency responders better prepare for future fires as well as improve our outreach and education efforts. We realize your time is valuable and appreciate you taking the time to fill out the survey.

If you have any questions about this survey, please feel free to call Alison Lerch at 541-552-2231 or email at Alison.Lerch@ashland.or.us.

Thank you for participating.
Sincerely,



Chris Chambers
Wildfire Division Chief
Ashland Fire & Rescue



Alison Lerch
Fire Adapted Communities Coordinator
Ashland Fire & Rescue

Ashland Fire & Rescue
455 Siskiyou Boulevard
Ashland, OR 97520



May 28, 2019

Dear Ashland Resident,

Members of our community have felt the devastating effects of wildfire. In an attempt to confront disaster ahead of time, we are developing programs to help homeowners be better prepared. To create the most effective programs possible, we need to understand what you know about wildfire, your experiences with wildfire, as well as the characteristics of your property.

Ashland Fire & Rescue is asking that you, and all of your neighbors, complete the enclosed "Living with Wildfire in Ashland in 2019" survey. Your participation in this survey is voluntary but very important. Completing the survey will take approximately 20 minutes. We realize that your time is valuable and appreciate you taking the time to fill out the survey.

When you return the survey, your name will be deleted from the mailing list and never connected to your answers to the survey. After completing the survey, please fold it and put it in the postage paid return envelope.

If you have any questions about this survey, please feel free to call Alison Lerch at 541-552-2231 or email at Alison.Lerch@ashland.or.us.

Thank you for participating.

Sincerely,

Chris Chambers
Wildfire Division Chief
Ashland Fire & Rescue

Alison Lerch
Fire Adapted Communities Coordinator
Ashland Fire & Rescue

Ashland Fire & Rescue
455 Siskiyou Boulevard
Ashland, OR 97520

APPENDIX II

The Wildfire Research Center WiRē



Memorandum

Date: June 29, 2020
To: Chris Chambers Katie Gible, Ashland Fire and Rescue
From: Carolyn Wagner and Chris Barth, WiRē
CC: Hannah Brenkert-Smith, Colleen Donovan, Ali Lerch, Hilary Byerly; WiRē
Subject: Rapid Wildfire Risk Assessment Data Scoring

In this memorandum, we provide a summary of our final scoring approach for the Rapid Wildfire Risk Assessment (RA). In 2018, Ashland Fire and Rescue (AFR) collected RA data using a tool developed by Intterra. Working with AFR, the Wildfire Research (WiRē) Center and Team used the categorical information collected during the Intterra data collection and applied the WiRē scoring approach using a mapping process described herein. The purpose of this memorandum is to document the scoring approach and provide AFR with a comprehensive explanation of the steps and decisions.

1 Overall Risk Rating

Using the Intterra tool, AFR assessed 6,799 parcels for 31 attributes that affect a home’s vulnerability and wildfire risk. These attributes relate to the structure’s wildfire-vulnerability as well as response considerations, such as firefighter access and evacuation potential. The WiRē Team worked with AFR to assign each RA attribute a WiRē score. The scores are based on the WiRē Approach and modified to reflect AFR’s specific goals.

The overall rating from the RA is a categorized result of the weighted sum of the attribute scores (the risk score). The risk rating categories, or “bins,” are a relative measure of risk within a community and are determined using professional judgement of the WiRē Team and incorporating community-specific goals of AFR. The final risk ratings are presented in Table 1.

Table 1. Overall Risk Rating

	Minimum	Maximum
Low	30	320
Moderate	321	425
High	426	520
Very High	521	565
Extreme	566	1000

In Figure 1, we present a histogram of the risk scores. This histogram provides insights on the distribution of risk scores within the AFR community. We used this histogram to help

determine the risk rating categories in Table 1. Figure 2 provides the distribution of households that fall into each risk category.

Figure 1. Histogram of risk scores with adjective risk categories

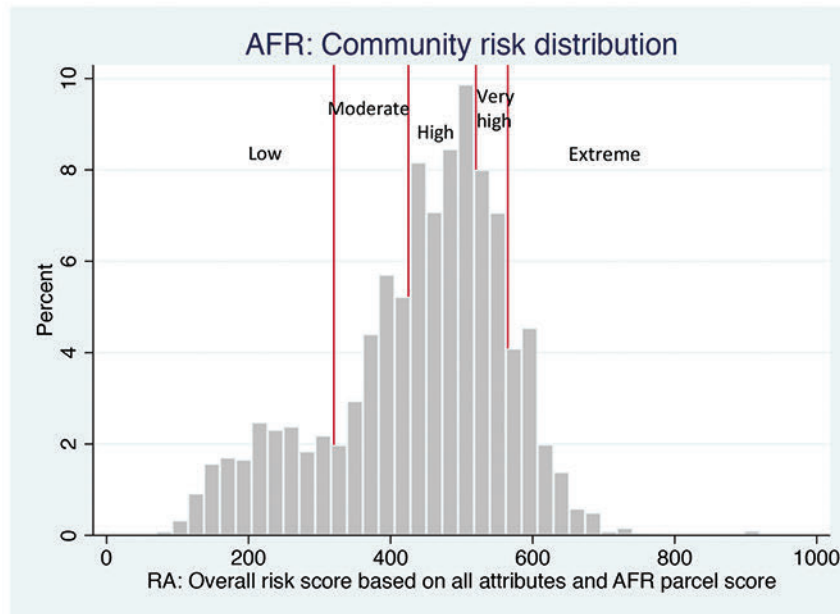
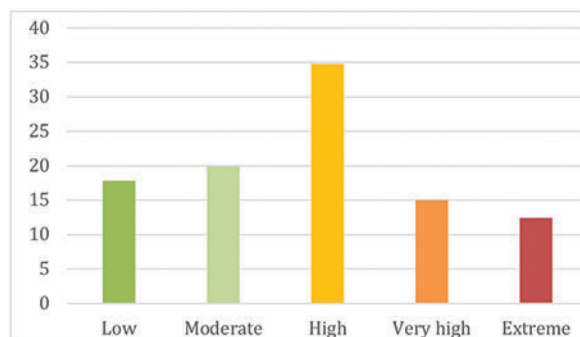


Figure 2. Distribution of households within each risk rating category



2 Scores by risk element

In Table 2 we present the RA attributes, the percentage of the risk rating for which each attribute is comprised, and the assigned score for each observed condition. The risk score is a 1,000-point scale, thus the sum of the maximum score across all risk elements is 1,000.

Table 2. Rapid Wildfire Risk Assessment

	Attribute description	Attribute weight	Response categories	Category score
Access	Address posting. Is the house number posted and visible from the end of the driveway?	2%	Yes	0
			No	20
	Ingress/egress. If the road to access the residence was blocked due to a wildfire, is there another road to get out of the community?	2%	Yes, two or more roads in/out	0
			No, one road in/out	20
	Driveway width. How wide is the driveway?	2%	16' or more	0
			15' or less	10
			Inaccessible	20
Driveway length. How long is the driveway? Does it have a turnaround?	2%	Less than 150' with turnaround	0	
		Less than 150' without turnaround	10	
		Greater than 150' with turnaround	10	
		Greater than 150' without turnaround/Inaccessible	20	
Background conditions	Distance to dangerous topography. What is the relative risk to the structure based on the alignment and distance to dangerous topographic features, its position on the slope, and the predominate aspect?	5%	Low	0
			Moderate	25
			High	50
	Slope. The "slope" or "grade" of a property refers to the steepness of the land. A large property may have steep, moderate, and gentle slopes. How would you describe the overall slope of the residence?	5%	Gentle (0 – 10%)	0
			Moderate (10 – 25%)	25
			Steep (greater than 25%)	50
Parcel exposure. The wildfire fuels beyond your defensible space and on surrounding properties	15%	Low	30	
		Moderate	60	
		High	90	
		Very high	120	
		Extreme	150	
Defensible space	Defensible space. What is the closest distance from the residence to overgrown, dense, or unmaintained vegetation?	25%	More than 100'	0
			Between 30' and 100'	125
			Less than 30'	250
	Other combustibles. What is the closest distance to combustible items other than vegetation (e.g., lumber, firewood, a propane tank, hay bales, or other materials) that could easily ignite?	5%	No combustible materials within 30'	0
Less than 30' from structure			50	

Table 2. Rapid Wildfire Risk Assessment Continued

	Attribute description	Attribute weight	Response categories	Category score
Home ignition potential	Roof. What is the most vulnerable roofing material, and how clean is the roof?	20%	Noncombustible, clean	0
			Noncombustible material w/ scattered combustible material	25
			Noncombustible material w/ clogged/thick	75
			Combustible (regardless of cleanliness)	200
	Siding. What is the exterior siding material?	12%	Non-combustible stucco or metal siding	0
			Log, heavy timbers, smooth wood, or vinyl siding	30
			Wood shake or ember receptive siding	120
	Attachments. Does the residence have a combustible balcony, deck, porch, or fence attached to the structure?	5%	None or fire-resistant material, sheathed in	0
			Combustible material, sheathed in	50
Combustible material, not sheathed in			50	

2.1.1 Attribute mapping

As described above, we used the categorical information contained within the RA dataset and assigned WiRe scores. Table 2 describes the mapping for the majority of attributes, however, several attributes required additional analysis, which is described in the remainder of this section.

Slope

Table 3 presents the original Intterra RA categories and their mapping to the WiRe scored attribute categories.

Table 3. Mapping of the slope attribute categories

	Original Intterra category	Scored category
	0-10%	Gentle
Slope within 150 ft of structure	10-25% Even	Moderate
	10-25% Gullied	
	>25% Even	Steep
	>25% Gullied	

Distance to dangerous topography

The Intterra data included four variables describing topography:

Table 4. Intterra topography information

Description	Category
Structure alignment. Is the structure/property in alignment with a canyon, gully, saddle, or chute?	Yes
	No
Setback. Structure setback from edge of slope	Adequate
	Inadequate
Position on slope. Position of structure on the slope	Valley bottom or lower slope
	Mid-slope
	Upper-slope
	Ridge top
Aspect. What is the predominant aspect around the structure?	Flat (0-5%)
	North (NW<-N->NE)
	East (NE<-E->SE)
	South (SE<-S->SW)
	West (SW<-W->NW)

We mapped these variables into the WiRē scoring approach as follows:

Table 5. Summary of topography mapping

What is the closest distance from the residence to a ridge, steep drainage, or narrow canyon?	Low	Moderate	High
Structure alignment	No	No	Yes
Structure setback	Adequate	Adequate	Inadequate
Position on slope	Bottom	Any other	Any other
Aspect	Flat	N/E	S/W

Defensible space

Intterra provided the following information on a property’s vegetation:

- Surface vegetation within 30’, and between 30 and 100’;
- Ladder fuels within 30’, and between 30 and 100’;
- Forest canopy within 30’, and between 30 and 100’

Table 6 presents the mapping of this information into the WiRē defensible space categories.

Table 6. Summary of defensible space mapping

	Surface vegetation within 100'	Ladder fuels within 100'	Forest canopy within 100'
	Lawn, mowed wild grass or non-combustible material	Absent	None
More than 100'	Dead and down woody material (Scattered, light, not continuous, includes bark/mulch)	Scattered	Separated
	Surface vegetation between 30 and 100'	Ladder fuels between 30 and 100'	Forest canopy between 30 and 100'
	Wild grass, not mowed or cut		
Between 30 and 100'	Brush Dead and down woody material (Abundant, heavy, and/or continuous)	Abundant	Continuous
	Surface vegetation between 30 and 100'	Ladder fuels between 30 and 100'	Forest canopy between 30 and 100'
	Wild grass, not mowed or cut		
Within 30'	Brush Dead and down woody material (Abundant, heavy, and/or continuous)	Abundant	Continuous

Parcel exposure

AFR conducted an assessment of wildfire risk associated with parcel exposure. We used this local risk assessment in place of WiRe’s typical scoring approach for Adjacent Fuels. The parcel exposure was a continuous variable ranging from 12.29 to 46. Following the process we used to define the RA ratings, we looked at the distribution and identified the categories as described in Table 7.

Table 7. Parcel exposure rating

	Minimum	Maximum	Percent of households
Low	12.29	18.5	9%
Moderate	18.51	22.9	21%
High	22.91	28.3	42%
Very High	28.31	31.8	18%
Extreme	31.81	46	9%

3 Assigning Community-Specific Attribute Weights

Once we assigned the typical WiRē scores to the Intterra attribute categories, we adjusted those scores to reflect AFR-specific priorities. For example, Ashland has very few combustible roofs. As such, roof material was a lower priority (weighted value) for AFR. To reflect this in our RA scoring, we decreased the weight of the roofing attribute from WiRē’s typical 30% to 20%. We summarize the final AFR weights in Figure 2 and Table 8.

Figure 2. Comparison of attribute weights

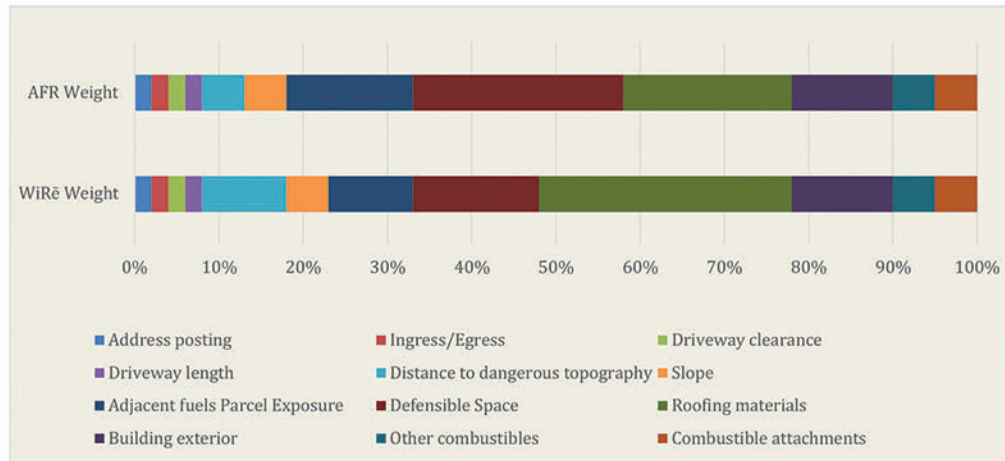


Table 8. Comparison of attribute weights

	Typical WiRē weight	Final AFR weight
Address visibility	2%	2%
Ingress/Egress	2%	2%
Driveway clearance	2%	2%
Driveway length	2%	2%
Distance to dangerous topography	10%	5%
Slope	5%	5%
Parcel exposure	10%	15%
Defensible space	15%	25%
Other combustibles	5%	5%
Roofing materials	30%	20%
Building exterior	12%	12%
Combustible attachments	5%	5%

APPENDIX III

WIRé Assessment: Ashland Fire and Rescue Rapid Assessment Compared to Household Survey Responses for Property Hazards
 Summary of the wildfire mitigation specialist rapid assessments (RA) and comparison against household survey (HS) responses for the set of 8 property risk elements included in the HS, and overall risk rating based on these elements

Field descriptions and color key	Rapid assessment: responses for all rapid assessments	RA - HS subset: rapid assessments for parcels matched with household surveys	Household survey: survey responses for parcels with both an RA and a paired HS response
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Category	ADDRESS POSTING (RA only) Is the house number posted and visible from the end of the driveway?				
Access	Value description	Score	RA (N=6,625)	Not asked in HS	
	Yes	0	80%		
	No	20	20%		
	INGRESS/EGRESS If the road you use to access your Ashland residence was blocked due to a wildfire, is there another road you could use to get out of your community?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,090)	HH Survey (N=1,090)
	Yes - multiple ways out	0	78%	78%	66%
	No - one way out	20	22%	22%	35%
	Pearson chi2(1) = 173.3975 Pr = 0.000				
	DRIVEWAY LENGTH How long is the driveway? Does it have a turnaround?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,040)	HH Survey (N=1,040)
	<150' with turnaround	0	83%	81%	18%
	<150' without turnaround or >150' with turnaround	10	12%	13%	78%
	>150' without turnaround/inaccessible	20	5%	5%	3%
	Pearson chi2(4) = 68.6172 Pr = 0.000				
	DRIVEWAY CLEARANCE How wide is the driveway of your Ashland residence at the narrowest point?				
Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,068)	HH Survey (N=1,068)	
16' or more	0	21%	25%	38%	
15' or less	10	77%	74%	55%	
Inaccessible	20	2%	1%	7%	
Pearson chi2(4) = 93.4918 Pr = 0.000					

WIRé Assessment: Ashland Fire and Rescue Rapid Assessment Compared to Household Survey Responses for Property Hazards
 Summary of the wildfire mitigation specialist rapid assessments (RA) and comparison against household survey (HS) responses for the set of 8 property risk elements included in the HS, and overall risk rating based on these elements

Field descriptions and color key	Rapid assessment: responses for all rapid assessments	RA - HS subset: rapid assessments for parcels matched with household surveys	Household survey: survey responses for parcels with both an RA and a paired HS response
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Category

Home Ignition Potential	ROOF What is the most vulnerable roofing material, and how clean is the roof?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,104)	HH Survey (N=1,104)
	Non-combustible, clean	0	48%	47%	82%
	Noncombustible material w/ scattered combustible material	25	40%	40%	15%
	Noncombustible material w/ clogged/thick	75	11%	12%	2%
	Combustible (regardless of clean)	200	1%	1%	1%
	Pearson chi2(9) = 48.1130 Pr = 0.000				
	SIDING What is the exterior siding material? (note: on HS, respondents were asked to mark ALL types of siding on their residence. This table reports the most risky)				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,060)	HH Survey (N=1,060)
	Non-combustible stucco or metal siding	0	6%	6%	12%
	Log, heavy timbers, smooth wood, or vinyl siding	30	88%	89%	27%
	Wood shake or ember receptive siding	120	5%	5%	61%
	Pearson chi2(4) = 245.5179 Pr = 0.000				
	COMBUSTIBLE ATTACHMENTS Does the residence have a combustible balcony, deck, porch, or fence attached to the structure?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,054)	HH Survey (N=1,054)
None or fire-resistant material, sheathed in	0	33%	27%	31%	
Combustible material (sheathed in and not sheathed in)	50	67%	73%	69%	
Pearson chi2(1) = 153.9911 Pr = 0.000					

WIRé Assessment: Ashland Fire and Rescue Rapid Assessment Compared to Household Survey Responses for Property Hazards
 Summary of the wildfire mitigation specialist rapid assessments (RA) and comparison against household survey (HS) responses for the set of 8 property risk elements included in the HS, and overall risk rating based on these elements

Field descriptions and color key	Rapid assessment: responses for all rapid assessments	RA - HS subset: rapid assessments for parcels matched with household surveys	Household survey: survey responses for parcels with both an RA and a paired HS response
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Category

Defensible Space	COMBUSTIBLE MATERIALS WITHIN 30FT What is the closest distance from your Ashland residence to combustible items other than vegetation such as lumber, firewood, or other materials that could easily ignite?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,092)	HH Survey (N=1,092)
	None, more than 30'	0	69%	74%	66%
	Less than 30'	30	31%	26%	34%
	Pearson chi2(1) = 21.3529 Pr = 0.000				
	DEFENSIBLE SPACE What is the closest distance from the residence to overgrown, dense, or unmaintained vegetation?				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=776)	HH Survey (N=776)
	More than 100'	0	16%	10%	7%
	Between 30 and 100' equivalent	125	12%	14%	20%
	Less than 30' equivalent	250	72%	77%	73%
	Pearson chi2(4) = 226.0926 Pr = 0.000				
	Surface vegetation within 30' (not scored - used for dspace scoring) Which of the following best describes the dominant surface vegetation near your Ashland residence? - within 30 feet				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,036)	HH Survey (N=1,036)
	Lawn or non-combustible material	n/a	18%	13%	36%
	Wood mulch close to residence, scattered organic material less than 1-inch deep	n/a	42%	43%	22%
	Wild grass, open fields, not mowed	n/a	1%	1%	2%
Brush, shrubs (no trees)	n/a	34%	40%	35%	
Dead organic material greater than 1-inch deep, overgrown shrubs	n/a	4%	3%	5%	
Pearson chi2(16) = 42.3938 Pr = 0.000					
Surface vegetation between 30 and 100' (not scored - used for dspace scoring) Which of the following best describes the dominant surface vegetation near your Ashland residence? - between 30 and 100'					
Value description	Score	RA (N=6,625)	RA - HH survey subset (N=711)	HH Survey (N=711)	
Lawn or non-combustible material	n/a	42%	26%	26%	
Wood mulch close to residence, scattered organic material less than 1-inch deep	n/a	5%	5%	16%	
Wild grass, open fields, not mowed	n/a	39%	48%	8%	
Brush, shrubs (no trees)	n/a	13%	18%	35%	
Dead organic material greater than 1-inch deep, overgrown shrubs	n/a	2%	3%	14%	
Pearson chi2(16) = 55.5667 Pr = 0.000					

WIRé Assessment: Ashland Fire and Rescue Rapid Assessment Compared to Household Survey Responses for Property Hazards
 Summary of the wildfire mitigation specialist rapid assessments (RA) and comparison against household survey (HS) responses for the set of 8 property risk elements included in the HS, and overall risk rating based on these elements

Field descriptions and color key	Rapid assessment: responses for all rapid assessments	RA - HS subset: rapid assessments for parcels matched with household surveys	Household survey: survey responses for parcels with both an RA and a paired HS response
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Category

Defensible Space, continued	Ladder fuels within 30' (not scored - used for dspace scoring) What best describes the amount of vegetation between the surface vegetation and any overhead conifer trees near your Ashland residence? - within 30'				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,021)	HH Survey (N=1,021)
	None, absent	n/a	10%	6%	24%
	Scattered, isolated	n/a	52%	64%	55%
	Abundant	n/a	38%	30%	21%
				Pearson chi2(4) = 5.5015 Pr = 0.240	
	Ladder fuels between 30 and 100' (not scored - used for dspace scoring) What best describes the amount of vegetation between the surface vegetation and any overhead conifer trees near your Ashland residence? - between 30 and 100'				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=822)	HH Survey (N=822)
	None, absent	n/a	6%	1%	17%
	Scattered, isolated	n/a	78%	84%	57%
	Abundant	n/a	17%	15%	27%
				Pearson chi2(4) = 2.2980 Pr = 0.681	
	Forest vegetation within 30' (not scored - used for dspace scoring) Which of the following best describes the arrangement of conifer trees near your Ashland residence? - within 30'				
	Value description	Score	RA (N=6,625)	RA - HH survey subset (N=1,024)	HH Survey (N=1,024)
	None, absent	n/a	15%	10%	21%
	Scattered, isolated	n/a	44%	36%	59%
Abundant	n/a	41%	54%	20%	
			Pearson chi2(4) = 141.8378 Pr = 0.000		
Forest vegetation between 30 and 100' (not scored - used for dspace scoring) Which of the following best describes the arrangement of conifer trees near your Ashland residence? - between 30 and 100'					
Value description	Score	RA (N=6,625)	RA - HH survey subset (N=861)	HH Survey (N=861)	
None, absent	n/a	10%	5%	14%	
Scattered, isolated	n/a	57%	49%	62%	
Abundant	n/a	33%	46%	24%	
			Pearson chi2(4) = 85.1583 Pr = 0.000		

WIRé Assessment: Ashland Fire and Rescue Rapid Assessment Compared to Household Survey Responses for Property Hazards
 Summary of the wildfire mitigation specialist rapid assessments (RA) and comparison against household survey (HS) responses for the set of 8 property risk elements included in the HS, and overall risk rating based on these elements

Field descriptions and color key	Rapid assessment: responses for all rapid assessments	RA - HS subset: rapid assessments for parcels matched with household surveys	Household survey: survey responses for parcels with both an RA and a paired HS response
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Category

Background Conditions	What is the relative risk to the structure based on the alignment and distance to dangerous topographic features, its position on the slope and the predominate aspect? (RA only)			
	Value description	Score	RA (N=6,625)	Not asked in HS
	Low	0	14%	
	Moderate	25	82%	
	High	50	4%	
	The "slope" or "grade" of a property refers to the steepness of the land. A large property may have steep, moderate, and gentle slopes. How would you describe the overall slope of the residence? (RA only)			
	Value description	Score	RA (N=6,625)	Not asked in HS
	Gentle (0 to 10%)	0	48%	
	Moderate (10 - 25%)	25	31%	
	Steep (greater than 25%)	50	20%	
	Parcel risk score (wildfire fuels beyond defensible space) (RA only)			
	Value description	Score	RA (N=6,625)	Not asked in HS
Low	30	9%		
Moderate	60	21%		
High	90	42%		
Very high	120	18%		
Extreme	150	9%		

Overall risk score	Risk rating compared to self assessed risk				
	Value description*	Score	RA (N=6,625)	RA - HH survey subset (N=1,098)	HH Survey (N=1,098)
	Low	30 - 320	18%	11%	29%
	Moderate	321 - 425	20%	16%	56%
	High	426 - 520	35%	33%	15%
	Very high	521 - 565	15%	21%	
	Extreme	566 - 1000	12%	19%	
				Pearson chi2(8) = 112.1329 Pr = 0.000	
*HS included 3 risk categories: low, moderate, high;					

APPENDIX IV

Living with Wildfire in Ashland in 2019



Prepared by The Wildfire Research Center

www.wildfireresearchcenter.org

for

Ashland Fire & Rescue
455 Siskiyou Boulevard
Ashland, OR 97520

Entered survey responses: 1128

n = number of responses per question

Blue numbers are percent responses (might not total to 100% due to rounding)

Red ALL CAPS are variable names

Please note: We encourage use of this survey instrument for applied and/or research purposes but request to be notified before any such use at: info@wildfireresearchcenter.org

Section 1: In this first section of the survey, we ask about your residence in Ashland. Please answer the following questions with respect to your **Ashland residence**.

When choosing a response, please fill in the circle completely. Correct: Incorrect:

OCCTYPE (n=1115)

1.1. Do you own or rent your Ashland residence? (*Fill in one circle*)

- 92% Own and occupy
- 0% Own and rent out short term
- 5% Own and rent out long term
- 3% I am a renter

MONTHS (n=1113)

1.2. How many months per year do you live at your Ashland residence?
(*Fill in the blank*)

AVERAGE = 11 months; 12 months = 84%

FULLTIME (n=1097)

1.3. In what year did you move to your Ashland residence? (*Fill in the blank*)

AVERAGE = 2002

YRBUILD (n=1088)

1.4. In what year was your Ashland residence originally built? (*Fill in the blank*)

AVERAGE = 1971

RISKAWAR (n=1110)

1.5. How aware of wildfire risk were you when you bought or decided to rent your Ashland residence? (*Fill in one circle*)

- 22% Very aware
- 40% Somewhat aware
- 34% Not aware
- 5% Don't remember

Section 2: In this section, we ask about your experience, if any, with wildfire at your Ashland residence.

FIRE (n=1121)

2.1. What is the closest distance (as a crow flies) a wildfire has come to your Ashland property? *(Fill in one circle)*

- 1% There has been a wildfire on my property
- 11% Less than 2 miles away but not on my property
- 42% 2 to 10 miles away
- 26% More than 10 miles away
- 22% Not sure

2.2. Has your Ashland residence ever had smoke or fire damage from a wildfire? *(Fill in one circle)*

		No	Yes
SMOKEDAM (n=1118)	My Ashland residence has had smoke damage	99%	1%
FIREDAM (n=1098)	My Ashland residence has had wildfire damage	100%	0%
DESTROY (n=1099)	My Ashland residence was destroyed by a wildfire	100%	0%

2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Ashland residence? *(Fill in all that apply)*

		No	Yes	Not applicable
EVACPPL (n=1108)	For people in my household	37%	59%	4%
EVACPETS (n=1092)	For the pets in my household and on my property	25%	32%	43%
EVACLIVSTOC (n=1076)	For livestock on my property	9%	1%	90%

2.4. What information would help you develop or further develop your evacuation plan? *(Fill in all that apply)*

- 72% How I will be notified about evacuating **EVACHOW (n=1128)**
- 68% When to evacuate **EVACWHEN (n=1128)**
- 72% Safe evacuation routes **EVACROUTE (n=1128)**
- 41% What to bring and what to leave behind **EVACWHAT (n=1128)**
- 11% None, I don't need any additional information **EVACINFONO (n=1128)**

2.5. Have you signed up for any of the following emergency notification services that call residents, notifying you to evacuate or prepare to evacuate in the event of a wildfire? (*Fill in all that apply*)

- 34% Citizen Alert! NOTIFYCITALERT (n=1128)
- 30% Nixle NOTIFYNIXLE (n=1128)
- 47% None of the above NOTIFYNO (n=1128)

EVACUATED (n=1121)

2.6. Have you ever evacuated from your Ashland residence due to a wildfire or threat of a wildfire? (*Fill in one circle*)

- 97% No
- 3% Yes

2.7. Please tell us about your experiences with your homeowners insurance for your Ashland residence. (*Fill in one circle per row*)

		No	Yes	Don't know
INSURE2 (n=1095)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	67%	12%	22%
INSURE3 (n=1099)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	94%	2%	5%
INSURE4 (n=1089)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	50%	4%	45%
INSURE1 0 (n=1089)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	67%	2%	31%

Section 3: In this section, we ask about the characteristics of your Ashland residence and the area near your Ashland residence.

ROOFTYPE_AFR (n=1116)

3.1. What type of roof does your Ashland residence have? *(Fill in one circle)*

- 8% Metal or tile
- 88% Asphalt or composition shingles
- 3% Other, non-combustible material
- 1% Wood shake shingles

CLEAN_AFR (n=1118)

3.2. Does the roof of your Ashland residence have an accumulation of leaf litter, needles, or other combustible material? *(Fill in one circle)*

- 82% No
- 15% Yes, scattered combustible material **less** than ½” deep
- 3% Yes, combustible material **greater** than ½” deep and/or blocked gutters

SIDETYPE1_AFR or SIDETYPE2_AFR or SIDETYPE3_AFR (n=1068)

3.3. Does your Ashland residence have any of the following exterior siding materials? *(Fill in all that apply)*

- 18% Non-combustible stucco, metal siding, or brick
- 30% Log, heavy timbers, fiber cement siding, engineered wood, or vinyl siding
- 61% Wood siding (plank, lap board, shake)

ATTACHMENT (n=1112)

3.4. Does your Ashland residence have a balcony, deck, or porch attached to the structure? *(Fill in one circle)*

- 13% No
- 87% Yes

→ Is **any** part of the balcony, deck, or porch made of...? *(Fill in one circle per row)*

		No	Yes
ATTACHCOMB_AFR1 (n=705)	Fire-resistant material (ex. concrete, stone, composite, or metal)	54%	46%
ATTACHCOMB_AFR2 (n=637)	Combustible material and closed in from below	64%	36%
ATTACHCOMB_AFR3 (n=774)	Combustible material and open from below	27%	73%

DRIVEWAYW_AFR (n=1076)

3.5. How wide is the driveway of your Ashland residence at the narrowest point? *(Fill in one circle)*

- 38% More than 15 feet wide
- 55% 10 to 15 feet wide
- 7% Less than 10 feet wide and/or blocked by vegetation

DRIVEWAYL_AFR (n=1083)

3.6. How long is the driveway of your Ashland residence? *(Fill in one circle)*

- 66% Less than 50 feet long
- 27% 51 to 150 feet long
- 6% 151 to 500 feet long
- 1% More than 500 feet long and/or blocked by vegetation

TURNARND (n=1068)

3.7. Would a fire truck be able to turn around in your driveway? *(Fill in one circle)*

- 79% No
- 21% Yes

The next three questions ask about the vegetation **within 30 feet** and **between 30 and 100 feet** of your Ashland residence (may include adjacent lots). For each question, fill in one circle per row.

3.8. Which of the following **best** describes the **dominant surface vegetation** near your Ashland residence? *(Fill in one circle per row)*
(Note: multiple responses coded to highest-risk option)

		Lawn or non-combustible material	Wild grass, open fields, not mowed	Brush, shrubs (no trees)	Wood mulch close to residence, scattered organic material less than 1-inch deep	Dead organic material greater than 1-inch deep, overgrown shrubs
SVEG_Z1_RECO DE_HS (n=1047)	Within 30 feet	36%	2%	35%	22%	5%
SVEG_Z2_RECO DE_HS (n=716)	Between 30 and 100 feet	26%	9%	35%	16%	15%

3.9. What **best describes** the amount of vegetation between the surface vegetation and any overhead conifer trees near your Ashland residence? (*Fill in one circle per row*)

		None, absent	Scattered, isolated	Abundant
LADFUEL_Z1 (n=1034)	Within 30 feet	24%	55%	21%
LADFUEL_Z2 (n=835)	Between 30 and 100 feet	17%	57%	27%

3.10. Which of the following **best describes** the arrangement of conifer trees near your Ashland residence? (*Fill in one circle per row*)

		None, no conifers	Scattered, isolated	Continuous, touching
FVEG_Z1_HS (n=1035)	Within 30 feet	21%	59%	20%
FVEG_Z2_HS (n=872)	Between 30 and 100 feet	14%	61%	25%

ROADS (n=1098)

3.11. If the road you use to access your Ashland residence was blocked due to a wildfire, is there another road you could use to get out of your community? (*Fill in one circle*)

35% No

65% Yes

COMBUST_AFR (n=1100)

3.12. What is the **closest** distance from your Ashland residence to combustible items other than vegetation such as lumber, firewood, or materials that could easily ignite? (*Fill in one circle*)

40% None, no combustible items

25% 30 feet or more

20% 10 to 29 feet

14% Less than 10 feet

RISKRATE_AFR (n=1106)

3.13. Homes are assessed for overall wildfire risk based on the items asked about in questions 3.1 – 3.12 above. What do you think is your Ashland residence's **current** overall wildfire risk rating? (*Fill in one circle*)

29% Low risk

56% Moderate risk

15% High risk

Section 4: The questions in this section focus on your wildfire risk reduction activities within your community and your perceptions of wildfire risk.

TALKFIRE (n=1117)

4.1. Have you ever talked about wildfire issues with a neighbor? *(Fill in one circle)*

37% No

63% Yes

SLACKER (n=1040)

4.2. Do you have neighbors who ARE NOT taking action to address sources of wildfire risk on their properties (ex. dense vegetation)? *(Fill in one circle)*

60% No

40% Yes

SLACKCOND (n=411)

→ Do conditions on some or all of these properties increase the likelihood of wildfire spreading to your Ashland property? *(Fill in one circle)*

10% No

90% Yes

NACTION (n=1007)

4.3. Do you have neighbors who ARE taking action to address sources of wildfire risk on their properties (ex. dense vegetation)? *(Fill in one circle)*

27% No

73% Yes

NACTCOND (n=703)

→ Do conditions on some or all of these properties change the likelihood of wildfire spreading to your Ashland property? *(Fill in one circle)*

16% No

78% Yes, it **decreases** the likelihood of wildfire spreading to my property

6% Yes, it **increases** the likelihood of wildfire spreading to my property

4.4. What precautions, if any, did you take to reduce smoke exposure during the 2018 fire season? *(Fill in all that apply)*

25%	I left Ashland until the smoke cleared	SMOKE1 (n=1128)
61%	I wore a mask	SMOKE2 (n=1128)
28%	I used a portable air cleaner	SMOKE3 (n=1128)
63%	I replaced my air conditioning filters	SMOKE4 (n=1128)
24%	Other (please specify)	SMOKE5 (n=1128)
9%	None, I did not take any precautions	SMOKENO (n=1128)

4.5. Have you done any of the following wildfire-related activities? *(Fill in one circle per row)*

		No	Yes
ACTIVITIES1 (n=1104)	Reduced vegetation on my Ashland property (ex. cleared or pruned weeds, brush, and trees)	11%	89%
ACTIVITIES7 (n=1106)	Regularly cleared my roof and gutters of leaves and pine needles)	12%	88%
ACTIVITIES8 (n=1099)	Regularly mowed and raked around my Ashland residence)	7%	93%
ACTIVITIES2 (n=1074)	Made my Ashland residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	65%	35%
ACTIVITIES3 (n=1086)	Helped neighbor(s) reduce vegetation on their properties	85%	15%
ACTIVITIES4 (n=1085)	Helped reduce vegetation on community property	86%	14%
ACTIVITIES5 (n=1085)	Helped reduce vegetation on nearby public lands	94%	6%
ACTIVITIES6 (n=1088)	Participated in a community wildfire activity (ex. meeting, chipper day, etc.)	79%	21%

4.6. In the event of a wildfire, how likely would the wildfire spread as follows?
(Fill in one circle per row)

		Extremely likely	Very likely	Moderately likely	Slightly likely	Not at all likely
	FROM nearby public/large undeveloped land TO:					
FIRESREAD1 (n=1075)	-> My neighborhood	18%	25%	35%	17%	6%
FIRESREAD2 (n=1056)	-> My Ashland property	13%	23%	34%	22%	8%
	FROM my neighborhood TO:					
FIRESREAD3 (n=1051)	-> Nearby public/large undeveloped land	13%	22%	28%	25%	12%
FIRESREAD4 (n=1059)	-> My Ashland property	15%	23%	33%	20%	9%
	FROM my Ashland property TO:					
FIRESREAD5 (n=1063)	-> My neighborhood	13%	22%	32%	24%	10%
FIRESREAD6 (n=1041)	-> Nearby public/large undeveloped land	10%	14%	25%	31%	20%

CHANCES1 (n=1050)

4.7. What do you think is the chance that a wildfire will be on your property this year?
(Fill in one circle)

For sure										No chance
10	9	8	7	6	5	4	3	2	1	0
1%	0%	0%	1%	1%	9%	3%	9%	18%	46%	12%

CHANCES2 (n=1061)

4.8. If there is a wildfire on your property this year, what do you think is the chance that it will destroy or severely damage your Ashland residence? (Fill in one circle)

For sure										No chance
10	9	8	7	6	5	4	3	2	1	0
11%	10%	12%	8%	4%	17%	6%	8%	7%	13%	3%

4.9. If there is a wildfire on your Ashland property, how likely do you think it is that the following would occur? (Fill in one circle per row)

		Extremely likely	Very likely	Moderately likely	Slightly likely	Not at all likely	Not applicable
LACT1 (n=1076)	I would put the fire out.	4%	7%	16%	32%	37%	4%
LACT2 (n=1073)	The fire department would save my home.	10%	29%	36%	20%	4%	1%
LACT3 (n=1071)	My home would have smoke damage.	23%	40%	25%	9%	2%	1%
LACT4 (n=1069)	My home would have some physical damage.	21%	37%	28%	11%	2%	1%
LACT5 (n=1060)	My home would be destroyed.	7%	21%	29%	29%	13%	1%
LACT6 (n=1063)	I would lose money due to the loss of business or income on my property.	12%	14%	9%	10%	15%	39%
LACT7 (n=1068)	My trees and landscape would burn.	20%	35%	26%	16%	3%	1%
LACT9 (n=1054)	My neighbors' homes would be damaged or destroyed.	11%	28%	32%	22%	6%	1%
LACT12 (n=1048)	Direct flame would ignite my home.	12%	24%	29%	26%	9%	1%
LACT13 (n=1059)	Embers would ignite my home.	10%	24%	31%	28%	6%	1%
LACT_AFR (n=1068)	My outdoor sprinkler system will put the fire out.	0%	1%	6%	17%	45%	31%
LACT14 (n=1060)	Nearby homes would ignite my home.	8%	22%	33%	27%	9%	2%

Section 5: In this section, we ask where you get information about wildfire and your thoughts about wildfire.

5.1. The following sources provide information about wildfire risk. If you have received it, how useful has this information been? (Fill in one circle per row)

		Extremel y useful	Very useful	Moderate ly useful	Slightly useful	Not at all useful	Have *NOT* received informati on from this source
SOURCEUSE1 (n=1078)	Ashland Fire & Rescue	16%	30%	19%	5%	1%	29%
SOURCEUSE17 (n=1057)	City of Ashland website	5%	16%	18%	10%	2%	50%
SOURCEUSE6 (n=1046)	Firewise USA	8%	11%	6%	5%	2%	69%
SOURCEUSE_A FR1 (n=1055)	Community Emergency Response Team (CERT)	6%	14%	9%	7%	1%	63%
SOURCEUSE2 (n=1061)	Community group (ex., homeowners association)	6%	6%	6%	5%	2%	75%
SOURCEUSE_A FR2 (n=1060)	Be Ready, Be Set, Go! Program	7%	11%	10%	6%	1%	66%
SOURCEUSEST ATE (n=1052)	Oregon Department of Forestry	2%	5%	6%	5%	1%	80%
SOURCEUSE_A FR3 (n=1044)	Rogue Valley Fire Prevention Cooperative	1%	2%	2%	3%	2%	91%
SOURCEUSE14 (n=1052)	U.S. Forest Service	2%	5%	4%	4%	2%	82%
SOURCEUSE15 (n=1052)	Bureau of Land Management	1%	3%	3%	3%	3%	88%
SOURCEUSE4 (n=1069)	Media	5%	14%	28%	21%	4%	27%

5.2. We want to know more about how you receive information about wildfire risk reduction. Please answer both questions for each row. (Fill in two circles per row)

	Do you currently receive information about how to reduce wildfire risk on your property from...?	Would you like to receive information about how to reduce wildfire risk on your property from...?	
		Yes	Yes
Email/e-newsletter	RECEIVEINFO1 (n=1012)	25%	WANTINFO1 (n=953) 67%
Mailed newsletter	RECEIVEINFO2 (n=1006)	44%	WANTINFO2 (n=938) 71%
Community meetings	RECEIVEINFO3 (n=1019)	23%	WANTINFO3 (n=896) 47%
In-person interactions	RECEIVEINFO4 (n=1016)	44%	WANTINFO4 (n=899) 58%
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=1015)	13%	WANTINFO5 (n=887) 20%
Internet (non-social media)	RECEIVEINFO6 (n=1017)	37%	WANTINFO6 (n=899) 54%
TV news	RECEIVEINFO7 (n=1029)	47%	WANTINFO7 (n=894) 50%
Newspaper	RECEIVEINFO8 (n=1037)	49%	WANTINFO8 (n=899) 56%
Radio	RECEIVEINFO9 (n=1013)	31%	WANTINFO9 (n=895) 45%

5.3. How acceptable to you are the following approaches to reducing wildfire risk on nearby public lands? (Fill in one circle per row)

		Extremely	Very	Moderately	Slightly	Not at all
		acceptable	acceptable	acceptable	acceptable	acceptable
ACCEPT1 (n=1087)	Removing trees and reducing other vegetation (thinning/fuel breaks)	59%	25%	11%	4%	1%
ACCEPT2 (n=1084)	Burning piles of vegetation (slash piles)	54%	25%	11%	4%	6%
ACCEPT3 (n=1081)	Conducting a prescribed fire ignited by fire managers	52%	24%	14%	5%	5%
ACCEPT4 (n=1068)	Managing a naturally ignited fire (such as lightning)	56%	22%	11%	5%	6%

5.4. How much do you agree or disagree with the following statements about wildfire?
(Fill in one circle per row)

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
STATE2 (n=1067)	With proper technology, we can control most wildfires.	6%	24%	32%	30%	8%
STATE3 (n=1099)	We should put out wildfires that threaten human life.	62%	33%	3%	1%	0%
STATE4 (n=1095)	We should put out wildfires that threaten property.	37%	42%	18%	3%	1%
STATE5 (n=1089)	During a wildfire, saving homes should be a priority over saving forests.	28%	39%	25%	6%	1%
STATE6 (n=1097)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	42%	44%	10%	2%	1%
STATE11 (n=1093)	I live here for the trees and will not remove any of them to reduce wildfire risk.	1%	4%	19%	40%	36%
STATE13 (n=1094)	Managing the wildfire danger is a government responsibility, not mine.	1%	4%	19%	51%	25%
STATE14 (n=1091)	Homeowners' actions to reduce wildfire are not effective.	1%	3%	13%	53%	29%
STATE15 (n=1093)	My property is at risk of wildfire.	15%	47%	22%	13%	3%
STATE17 (n=1090)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	4%	17%	28%	41%	10%
STATE19 (n=1079)	Local firefighters have sufficient resources to keep the wildfire from spreading.	1%	6%	34%	41%	19%
STATE20 (n=1074)	Local firefighters have sufficient resources to protect threatened homes.	1%	14%	37%	34%	15%
STATE21 (n=1089)	Firefighters should put their lives at risk to protect my home.	1%	4%	15%	40%	40%
STATE22 (n=1078)	Wildfires threaten my community water supply.	21%	46%	28%	4%	1%

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
STATE23 (n=1096)	Wildfire smoke caused me to consider moving out of the area.	12%	30%	15%	29%	14%

Section 6: In this section, we would like to know about your willingness to reduce the risk of wildfire to your Ashland property.

6.1. Do any of the following prevent you from taking action to reduce the wildfire risk on your Ashland property? (Fill in one circle per row)

		No	Yes
FACTOR1 (n=1078)	Financial expense/ cost	65%	35%
FACTOR2 (n=1074)	Time it takes to do the work	69%	31%
FACTOR3 (n=1081)	Physical difficulty of doing the work	51%	49%
FACTOR4 (n=1077)	Lack of specific information on how to reduce wildfire risk on my property	62%	38%
FACTOR5 (n=1027)	Lack of effectiveness of risk reduction actions	82%	18%
FACTOR6 (n=1052)	Do not want to change the way my property looks	79%	21%
FACTOR7 (n=1058)	Lack of information about or options for removal of materials from thinning trees and other vegetation	66%	34%
FACTOR9 (n=1047)	Restrictions by homeowners' association on cutting trees	93%	7%
FACTOR10 (n=1005)	I am not the owner of this property	96%	4%

6.2. Would any of the following items encourage you to reduce the wildfire risk on your property? (Fill in one circle per row)

		No	Yes
INCENTV1 (n=1065)	Financial assistance	35%	65%
INCENTV2 (n=1082)	Specific information about what needs to be done on my property	18%	82%
INCENTV3 (n=1079)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	24%	76%
INCENTV4 (n=1073)	A list of recommended contractors that could be hired to do the work	37%	63%

Section 7: In this section, we ask about personal and household characteristics. Your name will never be connected to your answers in any way.

RISKTAKE1 (n=1076)

7.1. Do you view yourself as someone who is not at all willing to take risks or very willing to take risks? *(Fill in one circle)*

Very willing to take risks										Not at all willing to take risks
10	9	8	7	6	5	4	3	2	1	0
3%	3%	10%	14%	14%	30%	6%	10%	7%	2%	2%

AGE (n=1084)

7.2. What is your age? *(Fill in the blank)*

AVERAGE = 67 years old

GENDER (n=1083)

7.3. Are you? *(Fill in one circle)*

- 49% Male
- 51% Female
- 0% Other

EDUC (n=1083)

7.4. What is the highest grade or year of school you completed? *(Fill in one circle)*

- 0% Less than high school
- 2% High school graduate
- 10% Some college or technical school
- 2% Technical or trade school
- 28% College graduate
- 12% Some graduate work
- 47% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

EMPLOY (n=1083)

7.5. Which of the following best describes your current employment situation?
(Fill in one circle)

- 23% Employed full time (including self-employed)
- 15% Employed part time (including self-employed)
- 2% Unemployed or do not work outside of the home
- 60% Retired

INCOME (n=990)

7.6. Which of the following categories describes your annual household income?
(Fill in one circle)

- 2% Less than \$15,000
- 4% \$15,000 - \$24,999
- 5% \$25,000 – \$34,999
- 10% \$35,000 - \$49,999
- 18% \$50,000 - \$74,999
- 17% \$75,000 - \$99,999
- 20% \$100,000 - \$149,999
- 9% \$150,000 - \$199,999
- 13% More than \$200,000

Thank you for your help. Please use the space below to write any additional comments.

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