

**Rocky Mountain Research Station** 

RMRS-RN-94

# Living With Wildfire in Grand County, Colorado: 2021 Data Report

## Hannah Brenkert-Smith, Abby E. McConnell, Schelly Olson, Adam Gosey, James R. Meldrum, Patricia A. Champ, Jamie Gomez, Christopher M. Barth, Colleen Donovan, Carolyn Wagner, Julia Goolsby

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#### Authors

Hannah Brenkert-Smith, University of Colorado, Institute of Behavioral Science, Boulder, Colorado

Abby E. McConnell, Student Contractor, U.S. Geological Survey, Fort Collins Science Center, Fort Collins, Colorado

Schelly Olson, Grand Fire Protection District / Grand County Wildfire Council, Grand County Colorado

Adam Gosey, East Grand Fire District / Grand County Wildfire Council, Grand County Colorado

James R. Meldrum, U.S. Geological Survey, Fort Collins Science Center, Fort Collins, Colorado

**Patricia A. Champ**, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado

Jamie Gomez, West Region Wildfire Council

**Christopher M. Barth**, U.S. Department of the Interior, Bureau of Land Management—Montana/Dakotas, Billings, Montana

Colleen Donovan, Wildfire Research (WiRē) Center, Niwot, Colorado

Carolyn Wagner, Wildfire Research (WiRē) Center, Niwot, Colorado

Julia Goolsby, University of Colorado, Institute of Behavioral Science, Boulder, Colorado

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## **EXECUTIVE SUMMARY**

Wildfire affects hundreds of wildland-urban interface communities each year, and yet most communities lack data reflecting the conditions before an event. This study was conducted before the devastating 2020 East Troublesome Fire<sup>1</sup>, which spread across 193,812 acres and resulted in two lives lost and 366 homes and 214 other structures burned. The fire's dramatic run threatened over 7,000 structures and led to a mandatory evacuation of over 35,000 people in Grand and Larimer Counties. The data reported here serve as baseline data to aid in understanding the parcel and social conditions before the fire. This report presents results from WiRē Rapid Wildfire Risk Assessment (WiRē RA) data, collected from 1,162 private residential properties in six communities in five fire protection districts (FPDs), the majority (72%) of which were characterized as high, very high, or extreme risk.

This report also presents results from household surveys sent to homeowners in the study area. Household survey respondents underestimated their risk compared to the conditions observed through the professional risk assessment. Respondents consistently overestimated the amount of defensible space and the distance from their homes to nonvegetative combustibles. Respondents also overestimated the availability of driveway clearance that would enable access for response vehicles and for safe passing of residents evacuating and responders arriving to their homes.

Despite overall and specific underestimations of risk, most respondents reported taking action to mitigate wildfire risk through reducing vegetation, clearing roof and gutters of combustible debris, and mowing and raking around their residence. At least a third of respondents in each of the FPDs reported having taken action to increase the fire resistance of their residence. Respondents also reported high levels of acceptance of risk mitigation on public lands through fuels reduction, slash pile burning, managing naturally ignited wildfire, and prescribed burns. Further, respondents reported high acceptance of land use and building codes.

At the time of the survey, only a small portion of respondents had had any direct wildfire experiences. Despite the fact that results indicate that most respondents have an evacuation plan, the percentage of respondents who reported being signed up for the CodeRED emergency notification service varied across the FPDs from 29% to 58%, indicating specific opportunities to improve residents' readiness to respond to emergency events. Data also indicate respondents across the FPDs are interested in additional evacuation information.

The sources from which respondents currently receive information about wildfire and the usefulness of that information varied by information source and across FPDs. Local sources of wildfire risk information were both the most commonly used and reported to be the most useful.

This study benefited from an extraordinarily high response rate, with an overall response rate of 50%, and response rates ranging from 46% to 52% across FPDs. Completing a lengthy paper survey requires time and interest in participating in sharing information with local partners. The response rate is notable considering that only 33% of the household survey respondents across all communities reported being full-time residents.

<sup>&</sup>lt;sup>1</sup><u>https://inciweb.nwcg.gov/incident/7242/</u>

## WHAT IS WiRe?

The Wildfire Research Center (WiRē<sup>2</sup> Center) works with wildfire practitioners seeking to create communities that are adapted to wildfire through 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 mitigate wildfire risk on their property before a fire, as well as supporting an 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, referred to as 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 support evidence-based community wildfire education efforts so that communities can live with wildfire. Specifically, the WiRē Center provides personalized expertise and support to collect, interpret, and use paired parcel-level wildfire risk and social data. The WiRē Approach enables partners to effectively allocate resources and engage with residents. Leveraging lessons learned across projects, the WiRē Center pursues scientific approaches to inform conversations and decisions about wildfire adaptation.

Individual WiRē Team members maintain a connection with the WiRē Center by participating on the Center's Advisory Committee or as a member 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 property-level WiRē Rapid Wildfire Risk Assessment (WiRē RA) based on attributes related to access to the property, background fuels and topography, vegetation near the home, and building materials. The WiRē RA also includes an overall risk rating for the property. It is an indicator of the relative risk of the private property within the community rather than an absolute measure of risk.
- 2. A social survey sent to the resident of each assessed property, which represents the resident's notions of wildfire risk, how they communicate about wildfire risk, risk mitigation behaviors including evacuation planning, and barriers and incentives to mitigate wildfire risk on private properties.

The WiRē Approach aims to empower the voice of wildfire practitioner partners. These partners both participate in the data collection process and share the results with their communities. Experience has demonstrated that sharing results with the community provides a common platform for constructive discussion about adapting to wildfire. During

<sup>&</sup>lt;sup>2</sup> Pronounced Wy-REE

these discussions, wildfire practitioner partners can draw from data that reflect the entire community, not just the vocal few. To support these discussions and other partner goals, the WiRē Center summarizes local data and provides wildfire practitioner partners with the tools to act on research results. The WiRē Center also works with some partners with a regional reach to 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 properties. 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 advances understandings of effective pathways to community wildfire adaptation.

#### Project Area: What Does the Community Look Like?

Grand County, Colorado, located in the north-central Rocky Mountains, covers 1,868 square miles that includes Arapaho-Roosevelt National Forest, Medicine-Bow Routt National Forest, and Rocky Mountain National Park lands (fig. 1). The topography varies from mountains to meadows, river valleys, and lakes. The area falls within a larger region of the western United



**Figure 1**—Map of community areas included in the study, Grand County, Colorado. Inset shows the location of Grand County, Colorado. Map image is the intellectual property of Esri and is used herein under license. Licensed image by Esri and its licensors, copyright © 2020. All rights reserved.

States affected by a mountain pine beetle (*Dendroctonus ponderosae*) epidemic that began in the mid to late 1990s in several species of pines, particularly lodgepole pines (*Pinus contorta*).<sup>3</sup> Although native to the area, conditions of crowded, older trees and changing weather patterns such as drought and milder winters have allowed the beetles to thrive. Declining numbers of beetle infestations have been observed in Grand County in recent years<sup>4</sup>; however, affected trees contribute to the vulnerability of the area to wildfire in ways that change over time. Fire hazard is initially elevated when the dead needles still cling to the trees, lessens once the needles drop, and rises again after the dead trees fall.<sup>5</sup>

The area has been affected by two significant events since data collection for this project. The Williams Fork Fire burned from August 14 through November 30, 2020, and consumed 14,833 acres. The East Troublesome Fire burned 193,812 acres between October 14 and November 30, 2020. This fast-moving wildfire resulted in two deaths, led to mandatory evacuation orders for over 35,000 individuals, and destroyed 366 residences. Given these events, it is likely that at least some of the answers provided by respondents to the household survey would be different if the survey were repeated today.

The study area includes six communities that are served by five fire protection districts (FPDs): Winter Park Ranch (East Grand FPD), Winter Park Highlands (Grand FPD), Columbine Lake (Grand Lake FPD), Aspen Canyon Ranch (Hot Sulphur Springs FPD), Copper Creek (Hot Sulphur Springs FPD), and Big Horn Park (Kremmling FPD).

East Grand FPD<sup>6</sup> has two main stations, each with "resident firefighters," and covers 209 square miles, including Winter Park Ranch. Grand FPD<sup>7</sup> has one station, with a second planned for construction to help meet growing demand for services in the 150 square mile area it serves, including Winter Park Highlands. In addition to fire response, Grand Lake FPD<sup>8</sup> provides emergency medical and other forms of assistance with its 24-hour staff in the area between Rocky Mountain National Park and County Road 4, including Columbine Lake. Columbine Lake was directly affected by the East Troublesome Fire. Hot Sulphur Springs/ Parshall FPD<sup>9</sup> (hereafter "Hot Sulphur Springs FPD") is a volunteer fire department with two stations. It provides assistance with emergencies beyond fire in an approximately 250 square mile area, including Aspen Canyon Ranch and Copper Creek. Kremmling FPD<sup>10</sup> is also comprised of volunteer firefighters who respond to various emergencies, including wildfire, within 360 square miles of service and response areas, including Big Horn Park.

- <sup>8</sup> https://www.grandlakefire.org/
- <sup>9</sup> http://www.hotsulphurfire.com/
- <sup>10</sup> <u>https://www.kremmlingfire.org/</u>

<sup>&</sup>lt;sup>3</sup> <u>https://csfs.colostate.edu/forest-management/common-forest-insects-diseases/mountain-pine-beetle/</u>

<sup>&</sup>lt;sup>4</sup> Negrón and Cain. 2019. Mountain pine beetle in Colorado: A story of changing forests. Journal of Forestry. 117(2): 144–151. <u>https://doi.org/10.1093/jofore/fvy032</u>

<sup>&</sup>lt;sup>5</sup> https://www.fs.usda.gov/Internet/FSE\_DOCUMENTS/stelprdb5337908.pdf

<sup>&</sup>lt;sup>6</sup> <u>https://eastgrandfire.com/</u>

<sup>&</sup>lt;sup>7</sup> https://www.grandfire.org/

#### WiRē Partner: Grand County Wildfire Council

Grand County Wildfire Council (GCWC) is a Colorado nonprofit that uses educational outreach to facilitate community engagement for residents of and visitors to the county. It consists of diverse stakeholders from local, state, and federal government agencies, local fire departments, local businesses, homeowner groups, and concerned citizens. Together, GCWC utilizes educational efforts and promotes action to increase wildland fire prevention, preparedness, mitigation, and survival. This work results in a county-wide platform that connects practitioners and amplifies their voices to advocate for wildfire resiliency.<sup>11</sup>

GCWC is implementing several initiatives to assist community members in preparing for and mitigating against wildfire on their properties. For example, GCWC offers 9-1-1 reflective address signs that residents can order and then post at the ends of driveways or on their homes to help firefighters locate their properties in low-light or smoky conditions. Community chipping days support residents' efforts to mitigate by providing safe and convenient disposal of vegetation cleared to mitigate wildfire risk from areas surrounding their homes. In addition, GCWC offers assistance in implementing recommended wildfire mitigation actions through a fuels reduction cost-share program. This program allows private landowners, as individuals or as groups, to apply for funding or technical assistance for creating defensible space around their homes or for completing landscape-scale fuel reduction projects. Finally, the GCWC website provides informational resources relevant to homeowners, homeowner associations, and visitors about wildfire prevention, safety, and other related topics, such as a list of contractors to hire for mitigation assistance.

<sup>&</sup>lt;sup>11</sup> More information about the Grand County Wildfire Council may be found on their website at <u>Grand County Wildfire Council – PREVENT. PREPARE. SURVIVE (https://bewildfireready.org/</u>).

## **METHODS: WHAT DID WE DO?**

GCWC and WiRē identified six communities in the five FPDs in which to implement the WiRē Approach. This systematic approach to data collection includes a rapid parcel-level wildfire risk assessment (WiRē RA) and a household survey. Together, these two forms of data collection support better understandings of wildfire risk and the residents whose decisions and actions shape the community landscape. The project launched with the mailing of an initial letter in early summer 2019 to inform residents of the upcoming activities (see Appendix A for correspondence materials).

#### **Rapid Wildfire Risk Assessments**

WiRē RAs were conducted for 1,162 properties in the summer months of 2019 using the standard WiRē RA. The standard WiRē RA is comprised of a set of 13 attributes that includes emergency property access, background fuels and topography, defensible space, and home ignition potential. An overall risk score is calculated for each property, based on the weighted sum of the attributes. The weights reflect the attributes' relative contribution to overall wildfire risk (see Appendix B WiRē Rapid Risk Assessment for details on attribute weighting). The overall risk scores are parsed into risk categories: low (20–240), moderate (241–305), high (306–435), very high (436–505), extreme (506–1000). As an important side note, the WiRē RA serves as an indicator of the relative risk of private land parcels within the study area, rather than an absolute measure of risk.

WiRē RA data collection is conducted as a census of all residential properties with a structure in the study communities. To ensure consistent, high quality data collection across the five FPDs, WiRē wildfire practitioners conducted a 2-day in-person orientation and training for participating members of GCWC who would conduct the rapid risk assessments. A standardized reference sheet for data collectors was available for use in the field (see Appendix C Assessor Reference Guide).

In instances when the mitigation specialist could not observe a risk attribute, the specialist selected "unknown/not observed" homes (see Appendix D for details on unobserved data). During data processing, these responses were assigned the highest risk score. For this project, WiRē used GIS to calculate to the proximity to adjacent homes.

#### **Household Survey**

The household survey is designed to collect a range of social data related to how residents live with the risk of wildfire. Some questions are repeated in every project using the WiRē Approach. Other questions are modified through iterative processes between WiRē and our practitioner partners. In this case, WiRē and GCWC met in person to step through the household survey, and then subsequently iterated drafts until we settled on a final version.

A household survey was mailed to the owners of all the properties for which the WiRē RA was conducted (table 1). Household survey data were collected using a modified Dillman approach<sup>12</sup> that includes three mailings after the initial letter announcing project activities

<sup>&</sup>lt;sup>12</sup> For details, see Dillman, Don A. 2000. Internet and mail surveys: The tailored design method. New York: John Wiley. 480 p.

and the data collection efforts (see table 1 for Survey Administration timing). The first mailing was a survey packet containing a cover letter, a household survey, and a postage-paid and addressed return envelope. The second mailing, a reminder/thank you postcard, was mailed to the entire mailing list approximately one month after the initial survey packet. The final mailing was a second complete survey packet with an updated cover letter mailed to nonrespondents approximately 1 month after the reminder postcard.

Initial letter	May and June 2019	1,382 potential participants
Completed risk assessments	Summer 2019	1,162 parcels
First survey package	April 24, 2020	1,112 households
Reminder postcard	June 3, 2020	1,112 households
Second survey package	July 10, 2020	781 households

 Table 1—Timing of Household Survey Administration.

The household survey administration process resulted in a 50% response rate overall. All FPDs had similarly high rates of response, ranging from 45% to 52% (table 2).

Fire Protection District	<b>⊺otal mailed</b>	Total completed	Response rate %
East Grand	273	140	51
Grand	287	133	46
Grand Lake	429	226	52
Hot Sulphur Springs	54	27	50
Kremmling	69	31	45
Overall	1,112	557	50

Table 2—Household survey response rates, by Fire Protection District.

## PAIRED RAPID ASSESSMENT AND HOUSEHOLD SURVEY DATA

All of the data from the 1,162 rapid assessments and 558 household surveys were compiled into a dataset (1,163 records) containing three types of data: properties for which we have both rapid assessments and household surveys (557 records), properties for which we have only a rapid assessment (605 records), and properties for which we have only a household survey (1 record). The paired rapid assessment and household survey data are the foundation for the results presented below.<sup>13</sup>

### Results

In the sections below, we report the rapid risk assessment (WiRē RA) and the household survey data. First, we present the distribution of risk assessment ratings for the overall study area to the subset of parcels for which there are paired household survey data (see Appendix D WiRē RA—Household Survey Comparison). Since the household survey includes a set of questions asking respondents to evaluate their properties with the same attributes used in the risk assessment, we then present a comparison of the distribution of overall risk ratings from respondents' self-assessment to the overall rating resulting from summing the weights of the attributes observed from the risk assessment. Next, we describe each attribute that comprises the WiRē RA by first comparing the self-reported conditions from the household survey and those observed through the WiRē RA. Then we present each attribute of the risk assessment, by FPD. And finally, we present the household survey data, by FPD, in order to demonstrate where there is consistency and differences in social dimensions among respondents in the FPDs in the study area (see Appendix E for Household Surveys with item responses for overall and each FPD).

### Community Risk: Results of the Parcel-Level WiRē Risk Assessment

Of the 1,162 parcels for which WiRē RA data were collected, 10% were categorized as low risk, 19% were characterized as moderate risk, over half (54%) were high risk, 12% were very high risk, and 5% were categorized as extreme risk.

A comparison between all parcels for which WiRē RA data were collected (n = 1,162) and the parcels that have both WiRē RA and household survey data for each element of the selfassessment (n = 548) show that the distribution of overall ratings are nearly identical. Thus, the overall distribution of risk rating across all the parcels is similar to the distribution of risk ratings for the parcels for which there are paired household survey data available for analysis (see figure 2).

<sup>&</sup>lt;sup>13</sup> Any differences between the numbers reported here and the Household Survey Codebook (Appendix D) should be minor and the result of rounding.



#### Distribution of rapid risk assessment (RA) ratings

**Figure 2**—Distribution of WiRē Rapid Assessment (RA) ratings for all Grand County Wildfire Council (GCWC) risk assessments (n = 1,162) and subset of risk assessments for which respondents answered every item of the self-assessment (n = 548).

#### **Overall Wildfire Risk**

In the WiRē RA, the overall wildfire risk rating is the summation of 13 weighted risk attributes. This overall wildfire risk rating reflects the relative risk of each parcel within the larger set of parcels. Unlike the WiRē RA, survey respondents' overall wildfire rating is directly estimated, rather than calculated based on individual attribute scores.

Overall, respondents rate their properties as lower risk than professional WiRē RA data show. Given five possible risk ratings, 10% of household survey respondents rated their property as low risk, similar to the WiRē RA. Notable differences are evident in the moderate- and high-risk categories. Sixty-seven percent of respondents rated their property as moderate risk, while the WiRē RA data show that only 19% of properties fall into this category. In contrast, 21% of respondents rated their property as high risk while the WiRē RA data show that 54% of properties fall into this category. This gap between the WiRē RA and the respondents' self-assessments continues with 2% of respondents rating their property as very high risk compared to 13% of properties falling into this category according to the WiRē RA data (see figure 3).

When considering the distribution of overall risk ratings among the participating FPDs, the overall distribution of the data is the same shape; however a few notable differences are evident. For example, a notably higher percentage of parcels in Hot Sulphur Springs FPD were characterized as having a low overall risk rating than the parcels assessed in the other FPDs. In contrast, over half of East Grand FPD (52%), Grand FPD (54%), and Grand Lake FPD (62%) parcels were rated as high risk compared to around a third of Hot Sulphur Springs FPD and Kremmling FPD parcels in the same category. And finally, over a fifth (21%) of Grand Lake FPD parcels were rated as very high risk, over twice as many as in the other FPDs (see figure 4).



#### Distribution of overall risk ratings for GCWC study area: household survey vs risk assessment





**Figure 4**—Distribution of overall risk ratings for Grand County Wildfire Council (GCWC) study area based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels assessed: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

#### Access

During a wildfire, the ability for emergency responders to safely locate and access a property, as well as the ability for residents to evacuate, is critical. During a wildfire, evacuation routes could be blocked, limiting a resident's ability to move to a safe area. The following four attributes relate to access.

#### **<u>Risk Attribute: Address Posting</u>**

When firefighters receive notice that a house is in immediate danger from wildfire, every second spent finding the property is crucial. Easy identification of a property's address can speed up the process. Properties are assessed for addressing condition based on local standards of posted, visible from the road, and reflective signage.

Survey respondents reported a much higher level of compliance with the local standards of posted and reflective addressing compared to the conditions observed by the professional risk assessment. Thirty-nine percent of respondents reported that their address was posted and had reflective signage, while 27% of the parcels were observed by the professional risk assessment as meeting that standard. The majority of parcels (72%) observed did not meet local standards of being posted and reflective (see figure 5).

When comparing results by FPD, the WiRē RA data show that most Grand FPD parcels were observed to have posted and reflective addresses (85%). In contrast, most parcels in the other FPDs did not have addressing that meets local standards. The vast majority of East Grand FPD (95%), Grand Lake FPD (93%), Hot Sulphur Springs FPD (86%), and Kremmling FPD (96%) parcels did not have addressing that meets local standards, with 55% of East Grand FPD, 57% of Grand Lake FPD, and 46% of Kremmling FPD parcels having no visible addressing at all (see figure 6).

#### **Risk Attribute: Evacuation Routes for Ingress/Egress**

The ability to evacuate during a wildfire, as well as the ability for emergency responders to safely access a property, is critical. Access to and from a property is determined by the available road system. During a wildfire, evacuation routes could be blocked by fire, limiting residents' ability to move to a safe area. Properties are evaluated based on having one or two (or more) roads in and out.

Seventy percent of survey respondents reported that there were two or more roads going in or out of their communities, while the risk assessment identified that fewer parcels (63%) had two or more roads for evacuation (see figure 7).

When considering evacuation route availability by FPD, more localized difference emerges. All of Kremmling FPD (100%) and most of Hot Sulphur Springs FPD (91%) parcels were characterized as having only one road in or out. In contrast, most East Grand FPD (92%) parcels have two or more roads for access or evacuation. The parcels that comprise Grand FPD and Grand Lake FPD were mixed, with more than half of the parcels (59% and 64%, respectively) having two or more roads for access or evacuation (see figure 8).

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**Figure 5**—Visibility of property address. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 531 respondents to this survey question.



**Figure 6**—Visibility of property address based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels assessed: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n =70).

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**Figure 7**—Number of evacuation routes in or out of community. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 547 respondents to this survey question.



**Figure 8**—Number of evacuation routes in or out of community based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

#### Risk Attribute: Driveway Clearance

Driveway clearance, including width, length, and the presence of a turnaround, affects the ability of fire engines to enter a property—and rapidly exit if necessary. Further, tree branches hanging over a driveway might block the entrance of a tall vehicle or pose a risk if the tree catches on fire. A narrow driveway, such as one lined by trees or with a narrow gate, makes it difficult for two firefighting vehicles to pass each other. Driveway clearance is assessed based on width: wide enough for two vehicles to pass (more than 26 feet), two cars wide (20 feet to 26 feet wide), or one car wide (less than 20 feet).

The WiRē RA data indicate that the majority of parcels assessed (80%) fell into the narrowest category (less than 20 feet across). The data suggest that the household survey respondents consistently underestimated the risk compared to the WiRē RA data, with fewer respondents characterizing their parcels by the narrowest category and more respondents characterizing their driveway clearance into the wider categories (see figure 9).

When comparing availability of adequate driveway clearance by FPD, it is evident that the majority of parcels across the FPDs have driveways that fall into the narrowest category (20 feet or less) ranging from 57% in Kremmling FPD to 93% in Hot Sulphur Springs FPD (see figure 10).

#### <u> Risk Attribute: Driveway Length</u>

As with driveway clearance, driveway length and the availability of space for response vehicles to turn around influence accessibility for safe fire response. Properties are assessed into three categories: those with driveways less than 150 feet, driveways longer than 150 feet with a turnaround suitable for a Type 1 engine, and driveways longer than 150 feet and lacking an adequate turnaround.

Most household survey respondents (74%) reported that their driveway was 150 feet or less, similar to the WiRē RA data that identified 78% of parcels having similar conditions. Six percent of parcels were characterized as having driveways longer than 150 feet with a turnaround and 16% were characterized by the highest risk category of having driveways longer than 150 feet and without a turnaround adequate for a Type 1 engine (see figure 11).

Assessments of driveway length show variation across the FPDs and among the parcels that comprise most FPDs. For example, over half of the Kremmling FPD parcels have driveways longer than 150 feet without adequate turn around for a Type 1 engine, a notably higher portion than in any other FPD. In Hot Sulphur Springs FPD, parcels vary in driveway length with 21% in the highest risk category, 32% in the middle category, and 47% in the lowest risk category of driveways of 150 feet or less. In contrast, in Grand Lake and East Grand FPDs, the vast majority of parcels have driveways that are 150 feet or less (see figure 12).

#### **Background Conditions**

Background conditions at the parcel level affect a home's wildfire risk. These conditions include dangerous topography, overall slope of the property, and the density of nearby vegetation, each of which are described below.



**Figure 9**—Width of residence driveway at its narrowest point. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 550 respondents to this survey question.



**Figure 10**—Width of residence driveway at its narrowest point based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).







**Figure 12**—Driveway length and presence of turnaround based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

#### Risk Attribute: Distance to Dangerous Topography

Steep topography can increase the rate of wildfire spread or cause erratic behavior and rough terrain can impede firefighter access. Properties are assessed on the distance between the home and steep or dangerous topography with distance categories of less than 50 feet, 50 feet to 150 feet, and more than 150 feet.

According to the risk assessment, most parcels (66%) have homes that are more than 150 feet from threats such as ridges, steep drainages, or narrow canyons. Most survey respondents (71%) characterized their parcel conditions in a similar manner. The risk assessment data suggest that 19% have a home within 50 feet of dangerous topography, a characterization that is largely similar to household survey responses (16%) (see figure 13).

Most parcels in each of the five FPDs had homes more than 150 feet from dangerous topography. The exception was in the Grand FPD where parcels were relatively evenly distributed across the three distance categories (see figure 14).

#### **Risk Attribute: Slope**

Fire behavior responds to the slope of the terrain on which it is burning with steeper slopes enabling faster fire spread. Furthermore, very steep slopes can limit firefighter access. Properties are assessed into three categories based on the overall slope of the property being either: gentle (less than 20%), moderate (between 20% and 45%), and steep (greater than 45%). The household survey included a diagram to visually demonstrate different slopes to aid respondents in their self-assessment.

Most respondents characterized the slope of their parcel as gentle (51%) or moderate (38%). Only 12% of survey respondents characterized the slope of their property as steep. The risk assessments characterized parcel slope in similar ways, with 59% characterized as gentle, 30% as moderate, and 10% as steep (see figure 15).

Most assessed parcels, regardless of FPD, were characterized as having a gentle or moderate slope, though the percentages in each of these categories varied by FPD, with more moderate parcels in East Grand FPD, Grand FPD, and Kremmling FPD. Of note, 19% of Grand FPD and a third (33%) of Kremmling FPD parcels were characterized as having a steep slope (see figure 16).

#### Risk Attribute: Adjacent Fuels

Vegetation beyond the defensible space zone can shape how fire travels across the landscape. As such, properties are assessed based on the density and characteristics of the majority of vegetation in the zone between 100 feet and 150 feet from the home, even if this area is outside the property boundary. The assessment categories are light (grasses), moderate (light brush and/or isolated trees), or dense (dense brush and/or dense trees).

Only 5% of household respondents reported that adjacent fuels on their and nearby surrounding properties were light, a similar percentage to the risk assessment (6%). The majority of respondents reported that adjacent fuels were moderate (75%), more than the



Figure 13—Closest distance from the home to dangerous topography (e.g., a ridge, steep drainage, or narrow canyon). Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRe Rapid Assessment (RA). N = 547 respondents to this survey question.



Distance to dangerous topography, by Fire Protection District

Figure 14—Closest distance from the home to dangerous topography (e.g., a ridge, steep drainage, or narrow canyon) based on WiRe Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).



**Figure 15**—Overall slope of property. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 548 respondents to this survey question.



**Figure 16**—Overall slope of property based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

percent of parcels characterized as having moderate fuels through the risk assessment (68%). About a fifth (21%) of respondents characterized the fuels in this space as dense, compared 28%, according to the risk assessment data (see figure 17).

When considering the risk assessment data across the FPDs, the majority of East Grand FPD, Grand FPD, and Grand Lake FPD parcels were characterized as having moderate fuels; however, the results indicate varied conditions across and within the FPDs. The percent of parcels with dense fuels ranged from 18% in Hot Sulphur Springs FPD to 37% in Grand FPD while the percent of parcels with light fuels ranged from zero in Grand Lake FPD to 39% in Hot Sulphur Springs FPD (see figure 18).

#### **Defensible Space**

Vegetation and other combustible materials near or touching the home can play a large role in home ignition, as they can catch fire and pass flames to the home.

#### Risk Attribute: Defensible Space

The quality of the defensible space around the home, in addition to the home's ignition potential, form the home ignition zone. Continuous fuels within the home ignition zone increase the home's risk for damage by wildfire. Flammable or abundant vegetation near the home may catch on fire and spread the fire to the home. Parcels were assessed based on the closest distance from the residence to overgrown, dense, or unmaintained vegetation.

Household survey respondents consistently overestimated distance between their home and overgrown, dense, or unmaintained vegetation compared to the risk assessment. According to the risk assessment, over a third (35%) of parcels had 5 feet to 29 feet of defensible space and 13% has less than 5 feet of defensible space (see figure 19).

Distance from home to dense, unmaintained, or overgrown vegetation varied among the parcels in each of the FPDs. Nine to 19% of parcels had less than 5 feet of defensible space and 21% to 39% of parcels had between 5 feet and 29 feet of defensible space. Hot Sulphur Springs FPD and Kremmling FPD had the most parcels (33% and 36%, respectively), with more than 100 feet between homes and dense, unmaintained, or overgrown vegetation (see figure 20).

#### **Risk Attribute: Other Combustibles**

Beyond vegetation, other combustible materials within 30 feet of the home can also affect the quality of defensible space. Household survey respondents were also asked to report on other nonvegetative combustibles near their home, such as lumber, firewood, propane tanks, hay bales, and other easily ignitable materials.

Notable differences are apparent in the presence of combustibles in the area 30 feet and farther from the home. Over half of survey respondents (55%) reported that they had no combustibles within the area beyond 30 feet from their home. In contrast, the WiRē RA suggested that only a third (34%) of homes had nonvegetative combustibles in the area beyond 30 feet from the home. A similar percent of self-reported (31%) and observed conditions (33%) were characterized as having combustibles within the 10–30 feet



**Figure 17**—Adjacent fuels, categorized by closest distance from home to overgrown, dense, or unmaintained vegetation. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 551 respondents to this survey question.



**Figure 18**—Adjacent fuels, categorized by closest distance from home to overgrown, dense, or unmaintained vegetation based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).



**Figure 19**—Defensible space, categorized by distance between the home and dense vegetation. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 548 respondents to this survey question.



**Figure 20**—Defensible space, categorized by distance between the home and dense vegetation based on WiRē Rapid Assessment (RA), by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

distance from the home. Only 14% of respondents indicated that there were combustibles within 10 feet of their home. In contrast, the WiRē RA suggests that over a third (33%) have nonvegetative combustibles within this area (see figure 21).

Across the FPDs, there was a fairly even distribution across the three categories of space between the home and other combustible materials (see figure 22).

#### Home Ignition Potential

The design of a structure and the building materials utilized in its construction play a significant role in the ignitability of a home in a wildfire event. With prolonged exposure to convective and radiant heat, even the most fire-resistant materials can fail.

#### <u>Risk Attribute: Roof</u>

Roof material has been shown to have a dramatic influence on the ignitability of a home during a wildfire. Roof coverings such as metal, tile, or asphalt composition shingles resist ignition to wildfire (are noncombustible), while combustible materials such as wood shingles can catch on fire easily.

Ninety-eight percent of household survey respondents reported that their roofs were made of noncombustible materials such as tile, metal, or asphalt shingles, while the remaining 2% reported combustible materials such as wood shake shingles. Similarly, WiRē RA data showed 97% of roofs were made of noncombustible materials, while 3% were made with combustible materials (see figure 23).

Most roofs on parcels within all five FPDs were made of noncombustible materials. While relatively rare, 9% of the parcels were observed to have combustible roofs in the Kremmling FPD (see figure 24).

#### Risk Attribute: 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 that is unmaintained and has noticeable gaps is more receptive to trapping blowing embers than noncombustible materials like metal or stucco. Home siding is categorized here as low risk or noncombustible (e.g., stucco, brick, stone), medium-risk of combustion (log, heavy timbers, maintained wood), or high risk of combustion (vinyl, unmaintained wood, or other ember-receptive siding).

Two-thirds (67%) of household survey respondents reported that their homes had wood or vinyl siding, the most combustible option. The WiRē RA results indicated that 81% of homes fell into the category of most combustible materials (see figure 25).

Wood or vinyl was the most common type of siding across all of the FPDs, with a low of 65% of Hot Sulphur Springs FPD properties and a high of 87% of the properties in Grand FPD. Nearly a quarter (23%) of parcels in Hot Sulphur Springs FPD had homes with log or heavy timbers, the most of this type of siding among the FPDs. In East Grand FPD, a quarter (24%) of parcels were observed to have homes with some type of noncombustible siding, the most of any of the parcels in this category (see figure 26).



**Figure 21**—Other combustible materials, categorized by closest distance from home to combustible items other than vegetation. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 549 respondents to this survey question.



**Figure 22**—Other combustible materials, categorized by closest distance from home to combustible items other than vegetation based on WiRē Rapid Assessment (RA) data, by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 56), Kremmling (n = 70).



**Figure 23**—Combustibility of residential roof type. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 548 respondents to this survey question.



**Figure 24**—Combustibility of residential roof type based on WiRē Rapid Assessment (RA) data, by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).



**Figure 25**—Residential exterior siding type, categorized by material into low, medium, and high-risk categories. Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 550 respondents to this survey question.



**Figure 26**—Residential exterior siding type, categorized by material into low, medium, and highrisk categories based on WiRē Rapid Assessment (RA) data, by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

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#### Risk Attribute: Attachments (Decking and Fencing)

Building materials used for the construction of attachments to the structure (e.g., decks, fences) present a significant ignition vulnerability. These expansive surfaces are exposed to and may trap wind-driven embers and increase convective and radiant heat. Parcels were assessed based on whether combustible attachments were present or not.

Eighty-eight percent of respondents indicated that they had at least one combustible attachment, such as fencing or porches, on their residence. Slightly more homes (94%) were observed to have combustible attachment (see figure 27).

The majority of parcels across the FPDs had some type of combustible attachment on the property. Hot Sulphur Springs FPD parcels stood out as being least likely to have a combustible attachment present, though 61% of parcels were observed to have a combustible attachment.

#### **Risk Attribute: Proximity to Adjacent Homes**

Home-to-home ignitions (i.e., conflagration) are a significant factor in the spread of fire through more densely built environments. Homes and structures are built with combustible materials and with gutters, attachments, and other vulnerable locations where embers can get trapped and combust, passing the fire to neighboring properties. Homes located in close proximity increase the likelihood of home-to-home ignition wherein homes transition from being the recipients of fire to being the drivers of fire (see figure 28).

Although not assessed during the initial Grand County project, proximity to adjacent homes was added to the WiRē RA standard after the field data were collected. As such, GIS was used to perform spatial measures. Results show that the majority of homes (52%) were more than 100 feet from another home, a third (32%) were 30 feet to 100 feet from another home, 14% were 10 feet to 29 feet, and 1% were less than 10 feet from another home. Proximity to adjacent homes was not included in the household survey (see figure 29).

Most parcels were observed to have homes with more than 100 feet from the nearest adjacent home. East Grand FPD and Grand Lake FPD parcels are notable exceptions with over half (58%) of Grand Lake FPD and over a third (37%) of East Grand FPD parcels having homes with adjacent homes within 30 feet to 100 feet, and over a third (35%) of Grand Lake FPD parcels having homes within nearby adjacent homes within 10–29 feet (see figure 30).



**Figure 27**—Combustible attachments (e.g., deck or fence). Comparison of Grand County Wildfire Council (GCWC) household survey as reported by respondents in the GCWC study area in Grand County, Colorado, and WiRē Rapid Assessment (RA). N = 554 respondents to this survey question.



**Figure 28**—Combustible attachments (e.g., deck or fence) based on WiRē Rapid Assessment (RA) data, by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).



#### Calculated distance to nearest adjacent home

**Figure 29**—Calculated distance to nearest adjacent home, categorized by closest distance to neighboring home. N = 1,162 parcels with GIS data.



**Figure 30**—Calculated proximity to nearest adjacent home, categorized by closest distance to neighboring home based on GIS data, by Fire Protection District (FPD). Parcels evaluated: East Grand (n = 289), Grand (n = 292), Grand Lake (n = 454), Hot Sulphur Springs (n = 57), Kremmling (n = 70).

## SOCIAL DIMENSIONS OF GRAND COUNTY: RESULTS OF THE HOUSEHOLD SURVEY

The majority of respondents across the FPDs own and occupy their homes, although in three FPDs, a small portion of respondents own and rent their properties short-term (9% in East Grand FPD, 6% in Grand FPD, and 12% in Grand Lake FPD). Just over a third (33%) reported living in their Grand County residence full time, with notable variation across the FPDs ranging from 15% in Grand Lake FPD to 60% in Hot Sulphur Springs FPD.

Of those respondents who do not live in their Grand County properties full time, most reported spending more than 6 months of the year at their residence (table 3). Respondents across the FPDs had, on average, occupied homes of similar age and reported having moved to their Grand County residence in the early 2000s.

**Table 3**—Descriptive average characteristics of residences by Fire Protection District (FPD), including average months inhabited per year, average year current residents moved in, and average year residence was built as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado.

FPD	Average number of months in residence per year	Average year moved to Grand County residence	Average year house was built
East Grand	8	2005	1991
Grand	8	2003	1990
Grand Lake	5	2003	1987
Hot Sulphur Springs	10	2004	1993
Kremmling	7	2003	1989

Study respondents were more likely to be male (68%) than female, the mean age of respondents was 64 years old, and no measurable differences were found in respondent employment status or income. The vast majority of respondents (92% across the FPDs) were either somewhat or very aware of wildfire risk when they decided to purchase or rent their residence in Grand County.

Seventy-nine percent of respondents surveyed held a bachelor's degree or higher. Notable variation was observed in highest reported education level, with variation across the FPDs. For example, Kremmling FPD residents tended to be more equally distributed across levels of formal education, while 50% of Hot Sulphur Springs FPD respondents were in the college graduate category. Also notable were the high percentages in advanced degrees among residents of East Grand FPD (39%), Grand FPD (43%), and Grand Lake FPD (38%).

### Origins of Wildfire Perceptions and Knowledge

#### Wildfire Experience

In the time after the study described here, the Williams Fork and East Troublesome fires burned in Grand County. It is likely that residents' responses to some survey questions would be different if asked after the fires. These data provide a baseline for the experiences of respondents before those events.

At the time the survey was administered, respondents' experience with wildfire proximity varied. The data demonstrate pronounced differences among respondents in the different FPDs, with 85% of Grand Lake FPD and nearly a third (31%) of Hot Sulphur Springs FPD respondents reporting a wildfire less than 2 miles from their property (see figure 31).

When asked specifically about wildfire damages and losses, the vast majority of respondents across the FPDs had not experienced smoke damage (99%) or fire damage (99%) or had their homes destroyed by wildfire (99%). In contrast, respondents reported varied experience with evacuation. While 51% of Grand Lake FPD and 12% of Hot Sulphur Springs FPD respondents had evacuated due to the threat of wildfire, only a very small portion of respondents from other FPDs reported this experience.

The majority of respondents across the FPDs reported having evacuation plans for the people in their homes (73%). This ranged from a little over two-thirds in East Grand FPD (62%) to nearly all in Kremmling FPD (94%). For whom it was applicable, fewer respondents across the FPDs (43%) reported having evacuation plans for the pets in their homes. Despite this relatively high level of reported evacuation planning, only 46% of respondents across the FPDs had signed up for the CodeRed emergency alert system. The highest reported percentage of signups was in Grand Lake FPD at 58% of respondents and the lowest percentage of reported signups were in East Grand FPD and Kremmling FPD with about a third of respondents signed up (29% and 32%, respectively) (see figure 32).

Despite what appears to be a relatively high percentage of respondents indicating they had an evacuation plan, demand for evacuation information was high across the FPDs. The top three types of information that most respondents across the FPDs would like are 1) when to evacuate, 2) how they will receive notifications about evacuations, and 3) safe evacuation routes. While in lower demand, more than two-thirds of respondents reported interest in information about what to take and leave behind during an evacuation. Notably, Kremmling FPD respondents reported lower information needs and were more likely to report having evacuation plans in place than respondents in other FPDs (see figure 33).

Insurance companies may provide positive or negative incentives to homeowners to mitigate their wildfire risk. Experience with insurance differs among the FPDs. Approximately a third of respondents had received information about reducing wildfire risk from their insurance company, ranging from 28% in Hot Sulphur Springs FPD to 40% in East Grand FPD. A quarter or more of the respondents indicated that they were aware of paying a higher insurance premium due to the wildfire risk in their area, from 25% in East Grand FPD to 52% in Hot Sulphur Springs FPD. Most respondents had never received a discount related to having taken action to reduce risk or faced cancellation or been declined a renewal due to wildfire risk (see figure 34).



#### Closest distance of wildfire to property, by Fire Protection District

**Figure 31**—Closest distance wildfire has come to home, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 139), Grand (n = 132), Grand Lake (n = 226), Hot Sulphur Springs (n = 26), Kremmling (n = 31).



Evacuation experience and plannning, by Fire Protection District

**Figure 32**—Evacuation experience and preparedness actions, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 134–138), Grand (n = 130–133), Grand Lake (n = 220–226), Hot Sulphur Springs (n = 24–26), Kremmling (n = 30–31).



Types of evacuation information wanted, by Fire Protection District

**Figure 33**—Information that would be helpful in evacuation plan development, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 135–136), Grand (n = 131–132), Grand Lake (n = 220–222), Hot Sulphur Springs (n = 26), Kremmling (n = 30–31).


#### Experience with insurance companies, by Fire Protection District

**Figure 34**—Respondents' knowledge of and experience with insurance company actions, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 138–139), Grand (n = 131–133), Grand Lake (n = 221–222), Hot Sulphur Springs (n = 25), Kremmling (n = 31).

Respondents were also asked if they thought their homes were adequately insured against loss from a wildfire. At the time of data collection, most respondents from each FPD felt that their homeowner's insurance was adequate, with the lowest percentage in Hot Sulphur Springs FPD (68%), and the highest in Grand Lake FPD (83%) (see figure 35).

## **Communication About Wildfire**

## Sources of Information and Reported Usefulness

Respondents were asked whether or not they have received wildfire risk information from various sources and to indicate the usefulness of that information. Overall, local sources of information, including community groups, local fire departments, the Grand County Wildfire Council, and Firewise USA were reported both as more used and more useful, although with notable variation across the FPDs. Respondents from Grand FPD and Grand Lake FPD were most likely to report using local information sources, with 93% of Grand FPD and 83% of Grand Lake FPD reporting having received information from a community group. In contrast, only 9% of East Grand FPD respondents reported receiving information from a community group (see figure 36).

Among these most used sources of wildfire risk information, respondents varied in their assessment of the usefulness of the information provided. For example, the percent of respondents who found information from their community group very or extremely useful ranged from 21% in Kremmling FPD to 64% in Grand FPD. A larger portion of respondents from Grand FPD and Grand Lake FPD rated the information provided by these sources as very or extremely useful compared to the respondents from the other FPDs (see figure 37).

Nonlocal sources were less commonly used sources of information across the FPDs. Although just over half (52%) of respondents across the FPDs reported using media as a source of information, only 4% to 15% of respondents rated the wildfire information from the media as very or extremely useful.

## **Current and Preferred Modes of Communication**

In order to gain more insight into communication about wildfire, respondents were asked to report on the modes by which they currently receive wildfire information as well as how they prefer to receive this information.

The top five ways respondents are currently receiving wildfire information are: email, paper mail, community meetings, in-person interactions, and internet sources not including social media. East Grand FPD respondents were notably less likely to be receiving wildfire information from community meetings (39%) and through in-person interactions (43%) (see figure 38).

Overall, respondents preferred to receive information about wildfire from many different sources, indicating that they would like more information.

The most consistently preferred mode of communication was in-person interactions, with approximately a third of respondents in all the FPDs, except East Grand FPD respondents.



Think home is adequately insured against wildfire, by Fire Protection District

**Figure 35**—Percent of respondents who think their home is adequately insured against wildfire as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 139), Grand (n = 132), Grand Lake (n = 223), Hot Sulphur Springs (n = 25), Kremmling (n = 31).



Most used local wildfire information sources, by Fire Protection District

**Figure 36**—Most used local sources of information, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 134–136), Grand (n = 128–132), Grand Lake (n = 219–220), Hot Sulphur Springs (n = 25), Kremmling (n = 31).



Usefulness of most used wildfire information sources, by Fire Protection District

**Figure 37**—Usefulness of most used wildfire information sources, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 134–136), Grand (n = 128–132), Grand Lake (n = 219–220), Hot Sulphur Springs (n = 25), Kremmling (n = 31).



Current modes of receiving wildfire information, by Fire Protection District

**Figure 38**—Current modes of receiving wildfire risk reduction information, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 120–130), Grand (n = 119–125), Grand Lake (n = 182–198), Hot Sulphur Springs (n = 21–23), Kremmling (n = 28–30).

Email was the most preferred mode of communication about wildfire information overall, but it was also the mode for which there was the most variation across the FPD respondents. The majority of Grand FPD and Grand Lake FPD respondents would like to receive information by email (65% and 55%, respectively), compared to only 4% of respondents in Hot Sulphur Springs FPD, 10% of respondents in East Grand FPD, and 14% of respondents in Kremmling FPD.

Community meetings were the second most preferred way that respondents wanted to receive information about wildfire overall, but variation was observed among FPDs. For example, 7% of East Grand FPD respondents wanted to receive information this way, compared to 48% of Grand Lake FPD respondents (see figure 39).

There was less variation among other modes of communication, which were also less preferred. Less than a third of respondents preferred TV news or newspaper sources, and social media was consistently the least preferred mode of communication across the FPDs (see figure 40).

## What Are Respondents Doing About Wildfire?

## Mitigation

When asked about wildfire risk reduction undertaken on their own properties, respondents reported high levels of activities. Nearly all respondents reported taking action to reduce vegetation on their property to reduce wildfire risk (90% in Kremmling FPD to 96% in Hot Sulphur Springs FPD).

Respondents reported high levels of activities to maintain fuels that grow or collect rapidly, though the variation across the FPD is notable. Respondents reporting having cleared roofs and gutters of combustible materials ranged from 62% in Grand FPD to 87% in Hot Sulphur Springs FPD. Likewise, respondents reporting having mowed and raked to reduce combustible fuels ranged from 58% in Grand FPD to 88% in Hot Sulphur Springs FPD.

Notably, few respondents had met with a wildfire professional about their home's risk, with a low of 10% in Kremmling FPD and a high of 24% in Grand FPD (see figure 41).

Respondents were also asked whether or not they had participated in a variety of community risk reduction activities. There was notable variation in participation in community wildfire activities such as a community chipping day with a low of 7% in East Grand FPD and a high of 44% in Grand Lake FPD. Variation was also observed in reporting having helped neighbors reduce vegetation on their property to reduce wildfire risk with a low of 15% in East Grand FPD and a high FPD and a high of 37% in Kremmling FPD (see figure 42).

Across the FPDs, large percentages of residents reported the different approaches to reducing wildfire risk presented in the survey either very or extremely acceptable. The greatest acceptability was found for activities such as reducing and disposing of potential fuels (81% across the FPDs), while the activity with the lowest (although still at almost two-thirds across the FPDs) was prescribed burns (58% across the FPDs). The majority of respondents in all the FPDs indicated that two local fuel management projects, the Sheep Mountain fuel break and the Blue Ridge prescribed burn near Cottonwood Pass, were extremely or very acceptable (see figure 43).



Preferred modes of communication about wildfire risk reduction, by Fire Protection District

**Figure 39**—Preferred modes of communication about wildfire risk reduction by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 137), Grand (n = 125–129), Grand Lake (n = 198–205), Hot Sulphur Springs (n = 23–24), Kremmling (n = 28–31).



Preferred modes of communication about wildfire risk reduction, by Fire Protection District (continued)

**Figure 40**—Preferred modes of communication about wildfire risk, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado (continued). Respondents to this survey question: East Grand (n = 135–137), Grand (n = 123–127), Grand Lake (n = 198–205), Hot Sulphur Springs (n = 24), Kremmling (n = 29–30).



Reported private property risk reduction activities, by Fire Protection District

**Figure 41**—Reported private property risk reduction activities, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 135–138), Grand (n = 120–133), Grand Lake (n = 207–224), Hot Sulphur Springs (n = 23–26), Kremmling (n = 30–31).



Engagement with community risk reduction activities, by Fire Protection District

**Figure 42**—Engagement with community risk reduction actions, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 136–138), Grand (n = 131–133), Grand Lake (n = 220–223), Hot Sulphur Springs (n = 25), Kremmling (n = 30–31).



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## **Barriers and Incentives**

Across all the FPDs, the most common barriers to mitigation were the physical difficulty of completing this work, lack of information and options for slash removal, and lack of time to complete the work. There was notable variation of reported barriers among the FPDs. For example, lack of specific information was a much greater barrier for respondents in East Grand FPD (46%) compared to respondents in Hot Sulphur Springs FPD, for which only 17% indicated that this was a barrier. Likewise, Grand FPD respondents, among whom half (50%) reported that time to complete mitigation work was a barrier, compared to about a third (31%) of Grand Lake FPD respondents who identified time as a barrier (see figure 44).

Respondents were asked about potential incentives that would support them in implementing mitigation activities. The two most commonly selected incentives were the provision of specific information about what needs to be done on their properties to mitigate wildfire risk and help doing the work. These results were consistent across the FPDs. Notable variation was observed in responses to whether or not a list of recommended contractors or financial assistance would encourage mitigation. For example, 73% of Grand Lake FPD and two-thirds of East Grand FPD (66%) and Grand FPD (67%) respondents indicated a list of contractors compared to less than half of Hot Sulphur Springs FPD (48%) and Kremmling FPD (48%) respondents. Finally, more than half of responses ranged from 51% in East Grand FPD to 88% in Hot Sulphur Springs FPD (see figure 45).

## **Perceptions of Risk**

Survey respondents were asked to consider the likelihood of a wildfire occurring and potential outcomes given a wildfire. When asked about expectations about the chances of a wildfire on their property this year, respondents across the FPDs thought the likelihood was very low, ranging from 4% in East Grand FPD to 32% in Hot Sulphur Springs FPD. When asked about the chances of their home being severely damaged or destroyed if there was a wildfire on their property, respondents thought it was much more likely. Conditional on a wildfire on their property, responses indicating a 50% or greater chance of this outcome varied from 44% in East Grand FPD to 72% in Hot Sulphur Springs FPD (see figure 46).

Respondents were also asked to consider the likelihood of various outcomes if there was a wildfire on their property. The most frequently expected outcome was that wildfire would result in burned trees and landscape, ranging from 51% among Grand FPD respondents to 71% of Hot Sulphur Springs FPD respondents reporting that this outcome was very or extremely likely. A notable percentage of respondents across the FPDs thought it was very or extremely likely that their home would be damaged by smoke (ranging from 30% in Kremmling FPD to 56% in Hot Sulphur Springs FPD). Respondents were consistently more likely to think that it was very or extremely likely that their neighbor's home would be destroyed than their own (see figure 47).

There was a great deal of variation in respondents' expectations about whether or not their home might be destroyed. The percent of respondents that thought their home would be destroyed ranged from 8% of Grand FPD respondents to 40% Hot Sulphur Springs FPD respondents, while those that thought it was very or extremely likely that the fire department would save their home varied from 7% among Kremmling FPD respondents to 53% of Grand Lake FPD respondents.



### Barriers to conducting mitigation, by Fire Protection District

**Figure 44**—Barriers to conducting mitigation on property, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 132–137), Grand (n = 125–128), Grand Lake (n = 210–217), Hot Sulphur Springs (n = 24–25), Kremmling (n = 29–31).



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#### Research Note RMRS-RN-94. August 2022



Expectations about wildfire on property, by Fire Protection District

**Figure 46**—Expectations about wildfire on property—estimate of the chances of a wildfire on property in the next year and chances of losing home in that case, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 135), Grand (n = 131–132), Grand Lake (n = 220–221), Hot Sulphur Springs (n = 25), Kremmling (n = 31).



Expectations about wildfire outcomes, by Fire Protection District

**Figure 47**—Expectations about wildfire outcomes. Percentage of respondents who think outcomes are very or extremely likely in the event of a wildfire on their property, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Respondents to this survey question: East Grand (n = 134–136), Grand (n = 129–131), Grand Lake (n = 216–220), Hot Sulphur Springs (n = 25), Kremmling (n = 30–31).

A larger percentage of respondents across the FPDs thought it was very or extremely likely that direct flame would ignite their homes (ranging from 22% in East Grand FPD to 40% in Kremmling FPD) compared other modes of ignition. Forty percent of Hot Sulphur Springs FPD respondents thought it was very or extremely likely that embers would ignite their home and over a quarter (27%) of Grand Lake FPD respondents thought it was very or extremely likely that nearby homes would ignite their homes (see figure 48).

Most respondents across the five FPDs reported that they thought the conditions on neighboring properties increase the risk of wildfire spreading onto their properties (83% in Kremmling FPD to 100% in Hot Sulphur Springs FPD). Despite this, most respondents also reported that they have neighbors that are taking action to reduce risk (67% in East Grand FPD to 83% in Hot Sulphur Springs FPD) and that such action decreases the likelihood of wildfire spreading to their property (65% in Hot Sulphur Springs FPD to 83% in Kremmling FPD).

Notable variation was observed, however, among the FPDs in reported interactions with neighbors about wildfire with the lowest level in East Grand FPD (35%) and the highest in Hot Sulphur Springs FPD (77%). Notable variation among the FPDs is also observed in reporting having neighbors who are not taking action to reduce risk with a low of 35% in Grand Lake FPD and a high of 58% in Kremmling FPD (see figure 49).

Respondents were asked a series of questions to better understand how they thought wildfire might spread to and from public land, their neighborhood, and their property. Respondents across the FPDs were slightly more likely to think that it was very or extremely likely that a wildfire would spread from public lands to their neighborhood than from their neighborhood to nearby public lands. Likewise, respondents in most of the FPDs were slightly more likely to think that it was very or extremely likely to think that it was very or extremely likely to think that it was very or extremely likely that wildfire would spread from nearby public lands to their property than from their property to nearby public lands. When asked about the direction of spread between their neighborhood and their property, the overall percentage of respondents who thought both directions of spread were very or extremely likely was similar.

Across all the measures there was notable variation, with a much smaller percentage of East Grand FPD respondents reporting that any of the directions of spread were very or extremely likely, compared to respondents from the other FPDs. In contrast, 50% to 64% of Hot Sulphur Springs FPD respondents thought that the direction of wildfire spread was very or extremely likely for each item (see figure 50).

## Notions of Hazard and Response

Survey respondents were asked to what extent they agree or disagree with a wide range of statements about wildfire. When asked about their perspective on firefighting, there was broad acknowledgment of constraints on local firefighting resources. Eight to 20% of respondents agreed or strongly agreed that local firefighters have sufficient resources to protect threatened homes in the event of a wildfire. Similarly, 4% to 17% of respondents agreed or strongly agreed that local firefighters have sufficient resources have sufficient resources to keep a wildfire from spreading. Importantly, only a very small percent of respondents agreed or strongly agreed that firefighters should put their lives at risk to protect their property (see figure 51).



Expectations of residents about wildfire outcomes, by Fire Protection District (continued)

**Figure 48**—Expectations about wildfire outcomes, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado (continued). Percentage of respondents who think outcomes are very or extremely likely in the event of a wildfire on their property. Respondents to this survey question: East Grand (n = 134–136), Grand (n = 130–131), Grand Lake (n = 216–219), Hot Sulphur Springs (n = 23–25), Kremmling (n = 30–31).



Neighbor wildfire interactions, by Fire Protection District

**Figure 49**—Neighbor wildfire interactions, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Percent of respondents responding "Yes" to neighbor experiences. Respondents to this survey question: East Grand (n = 46–137), Grand (n = 56–132), Grand Lake (n = 71–224), Hot Sulphur Springs (n = 13–26), Kremmling (n = 18–31).



Expected direction of wildfire spread, by Fire Protection District

**Figure 50**—Expectations of fire spread, by Fire Protection District (FPD) as reported by respondents in the Grand County Wildfire Council (GCWC) study area in Grand County, Colorado. Percent of respondents who reported very or extremely likely direction of spread, in the event of a wildfire. Respondents to this survey question: East Grand (n = 130–135), Grand (n = 126–130), Grand Lake (n = 207–220), Hot Sulphur Springs (n = 24–25), Kremmling (n = 31).



There was overwhelming consistency across the FPDs in agreement about a series of attitudes about wildfire. Most respondents across the FPDs agreed or strongly agreed that wildfires that threaten human life (93% to 98%) or property (74% to 92%) should be put out. While agreement was very strong that saving homes should be a priority over saving forests, there was more variation in agreement among the FPDs, with the percent agreeing or strongly agreeing ranging from 68% in Grand Lake FPD to 96% in Hot Sulphur Springs FPD.

When asked if respondents agreed with the statement, "My property is at risk of wildfire," the percent agreeing or strongly agreeing ranged from 50% in East Grand FPD to 80% in Hot Sulphur Springs FPD (see figure 52).

There was also widespread agreement across the FPDs with other wildfire statements. Most respondents indicated that they do not plan to move out of the area in the next year due to wildfires. Most respondents also disagreed or strongly disagreed with the statement, "Homeowners' actions to reduce wildfire are not effective," with the percent disagreeing or strongly disagreeing ranging from 72% in Hot Sulphur Springs FPD to 93% in Grand FPD. Likewise, most respondents disagreed or strongly disagreed with the statement, "I live here for the trees and will not remove any of them to reduce wildfire risk," with responses ranging from 68% in Kremmling FPD to 89% in Grand FPD (see figure 53).



Agreement with statements about wildfire, by Fire Protection District

Wildfire Council (GCWC) study area in Grand County, Colorado. Percentage of respondents responding agree or strongly agree on 5-point Likert scale. Respondents to this survey question: East Grand (n = 133–134), Grand (n = 130–131), Grand Lake (n = 216–219), Hot Sulphur Springs (n = 25), Kremmling (n = 31), All FPDs (n = 536–540)



## CONCLUSION

This project was conducted before the devastating 2020 wildfire season in which the East Troublesome and Williams Fork fires caused significant disruption and losses in Grand County. The data reported here provide insights into the social and parcel-level conditions in the study communities before the fires and may help identify opportunities as the county and its residents work toward a more resilient future.

The WiRē Rapid Risk Assessment demonstrated ample opportunities to reduce parcel-level conditions through relatively low-cost risk mitigation actions including improved addressing, expanded and improved defensible space, and the removal of nonvegetative combustibles from near homes. Most household survey respondents reported taking action to mitigate risk, indicating an overall willingness to address these conditions, but the systematic underestimation of risk demonstrated through the comparison of the household survey and the risk assessment indicates ongoing and targeted opportunities for engagement with residents.

Community groups, the FPDs, and GCWC were the most common sources of wildfire risk information, and respondents reported that these same sources, along with Firewise USA, provided useful information. However, there was notable variation across the FPDs in the extent to which respondents had received information from these sources and deemed that information as useful. This indicates that efforts to bolster and improve existing pathways for communications should attend to these differences. Importantly, how respondents prefer to receive their information varied by FPD, indicating that a successful mode of communication to residents in one FPD may not function as well in another. Education and outreach campaigns attending to this variation may have more success. Notably, across the FPDs there was low interest in expanded use of social media as a mechanism for those communications.

The household survey indicated notable variation across the FPDs related to prior wildfire and evacuation experience (ranging from zero to 51%). Despite this variation, the majority of survey respondents reported having an evacuation plan for people in their household (ranging from 62% to 94%). Critically, the percent indicating that they had signed up for the county's emergency notification system (CodeRED) varied from 29% to 58%, indicating a substantial portion of respondents reported having an evacuation plan but had not yet signed up for emergency notification. In addition to improving sign-up rates to CodeRED, ample opportunity for improved or expanded communications about evacuation information are evident based on the majority of respondents across the FPDs reporting wanting information about when to evacuate, how they will receive information about evacuations, safe evacuation routes, and what to bring and what to leave behind. Such information and actions to improve preparedness are critical in an area with highly varied access to evacuation routes.

In order to attend to some information needs identified through the survey, WiRē and GCWC collaborated to develop an infographic-style outreach mailer that included project results and information related to local resources supporting mitigation and evacuation preparedness (see Appendix F).

## **Appendix A: Correspondence Materials Package**

May 15, 2019

Dear Winter Park Highlands Resident,



We have all seen the devastating effects of wildfire in Colorado and around the nation. We have been very lucky here in Grand County, but we all know it is just a question of "when," not "if" a major wildfire will affect us at home. It is our goal to be proactive in confronting wildfire issues before a catastrophic fire occurs. Therefore, the Grand County Wildfire Council is working with Grand Fire Protection District No. 1 to help homeowners understand and reduce their risk from wildfire.

#### Wildfire Risk Assessment

As part of our effort to better understand local wildfire risk, the Grand County Wildfire Council will be conducting wildfire risk assessments to determine how residents can be better prepared in the event of a wildfire. Members of the Grand County Wildfire Council and the Grand Fire Protection District will be in your community conducting "rapid" assessments this summer. *You may remember that we mailed this letter to you last summer, but we were unable to get out in the field due to the busy fire season.* 

#### Survey: "Living with Wildfire in Grand County in 2019"

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. We will gather this information through a hard copy survey that will be mailed to your address via the USPS. 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. Please keep an eye out for the survey in your USPS mail.

If you have any questions about the rapid assessments or the survey, please feel free to call me at 970-887-3380 or email me at solson@grandfire.org.

Thank you for participating. Sincerely,

Schelly Olson Chairperson Grand County Wildfire Council



In cooperation with Grand Fire Protection District No. 1

Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

DATE



Dear Grand County Resident,

The Grand County Wildfire Council shares your concerns related to the rapid changes and uncertainty associated with the COVID-19 pandemic. However, we are also committed to continuing our efforts to prepare Grand County for the eventuality of wildfire because now is the time to engage with homeowners and do mitigation work. Fire is an important part of the natural landscape in Grand County; however, we have recently seen the devastating effects of wildfires in our community and those nearby. In order to prepare for a wildfire, we are developing programs to support homeowners' efforts to reduce their risk. 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.

The Grand County Wildfire Council is asking that you complete the enclosed "Living with Wildfire in Grand County in 2020" 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. During this time when so many things are out of our control, this is one area where you can make an impact.

When you return the survey, your name will be deleted from the mailing list and never connected to your answers in any way. 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 me at 970-887-3380 or email me at solson@grandfire.org.

Thank you for participating.

Sincerely,

Schelly Olson Chairperson Grand County Wildfire Council



Chief Brad White Chief K Grand Fire Gran Protection District No. 1 Protecti



Chief Kevin Ratzmann Grand Lake Fire Protection District No. 2



Chief Tom Baumgarten Hot Sulphur Springs/Parshall Fire Protection District No. 3



Chief Todd Holzwarth East Grand Fire Protection District No. 4



Chief Tony Tucker Kremmling Fire Protection District No. 5



We value your opinions. The information you provide is very important for the development of

Thank you for your participation in the "Living with Wildfire in Grand County in 2020" survey.

Dear Grand County Resident,

Sincerely,

Schelly Olson

Grand County Wildfire Council Chairperson



Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

June 30, 2020



Dear Grand County Resident,

We recently requested your participation in an important survey about Grand County and wildfire. Many residents have completed and returned the survey to us. However, we would like to hear from you, so we can consider your opinions. If you have already returned the survey, thank you for your participation. If you have not yet responded, please complete and return the enclosed survey.

The Grand County Wildfire Council needs your help to develop more effective community wildfire programs. It is our goal to proactively confront wildfire preparedness issues before the smoke is in the air. The "Living with Wildfire in Grand County in 2020" survey is intended to take roughly 20 minutes. We understand that your time is valuable and appreciate your contribution to building resilient communities. During this time when so many things are out of our control, this is one area where you can make an impact.

When you return the survey, your name will be deleted from the mailing list and never connected to your answers in any way. 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 me at 970-887-3380 or email me at solson@grandfire.org.

Thank you for participating.

Sincerely,

Schelly Olson Chairperson Grand County Wildfire Council



Chief Brad White Grand Fire Protection District No. 1



Chief Kevin Ratzmann Grand Lake Fire Protection District No. 2



Chief Tom Baumgarten Hot Sulphur Springs/Parshall Fire Protection District No. 3



Chief Todd Holzwarth East Grand Fire Protection District No. 4



Chief Tony Tucker Kremmling Fire Protection District No. 5

# Appendix B: WiRē Rapid Risk Assessment

RA Category	Field Name	Description	Response Categories	Final WiRē Score
			Yes, posted and reflective	0
	Address posting	Is the house number posted at the end of the driveway	Yes, posted but not reflective	5
	Address posting	and is the posted number reflective?	No, not posted (or visible)	10
	pry         Field Name         Description         Response Categories           Address posting         is the house number posted at the end of the driveway 'es, posted but not reflective and is the posted number reflective?         Yes, posted but not reflective No, not posted for visible UNKNORM*. Net observed           Ingress/Egress         If the road to access the residence was blocked due to awildine, is there another road to get out of the community?         Yes, posted but not reflective No. not posted for visible UNKNORM*. Net observed           Driveway clearance         How wide is the driveway of the residence at the anarowest point?         More than 250 (more than two cars wide) UNKNORM*. Not observed           Driveway length         What best describes the driveway?         Unger than 150 feet with turnaround for Type 1 Longer than 150 feet with our cars wide) UNKNORM*. Not observed           Under the add to be reader of a property refers to the steepness of the land. A large property may have describe the owerall slope of the residence?         More than 250 feet UNKNORM*. Not observed           More than 150 feet und ons         The "slope" or "grade" of a property refers to the steepness of the land. A large property may have describe the owerall slope of the residence?         More than 25% (c11.31.24.23.3 deg Stepe - Greater than 45% (c)24.23 degrees.) UNKNORM*. Not observed           Other combustible somediately surrounding if?         What is the closest distance from the residence to overgrown, dense, or unmaintained wegetation?         UNKNORM*. Not observed           Other combustibles space         What	UNKNOWN - Not observed	10	
		If the road to access the residence was blocked due to a wildfire, is there another road to get out of the	YES, Two or more roads in/out	0
	Ingress/Egress		NO, One road in/out	10
		community?	UNKNOWN - Not observed	10
Access	Driveway clearance	How wide is the driveway of the residence at the narrowest point?	More than 26' (more than two cars wide)	0
			Between 20' -26' (two cars wide)	5
			Less than 20' (one car wide)	10
			UNKNOWN - Not observed	10
			150 feet long or less	0
	Driveway length	What best describes the driveway?	Longer than 150 feet with turnaround for Type 1 engine	5
			Longer than 150 feet without turnaround for Type 1 engine	10
			UNKNOWN - Not observed	10
	Distance to		More than 150 feet	0
RA Category Access Background Conditions Defensible Space Home Ignition	egory         Field Name         Description           Address posting         is the house number posted at the end of the driveway         Yes, posted and reflective           ingress/Egress         if the road to access the residence was blocked due to a wildfire, is there another road to get out of the onnumuity?         Yes, posted and reflective?           Driveway clearance         How wide is the driveway of the residence at the narrowest point?         More than 250 (more than Between 20:220 (two co- less than 20 (one car wildfire, is there another road to get out of the outshow wild is the diveway?         More than 250 (more than Driveway length)           Driveway length         What best describes the driveway?         Longer than 150 feet will UNKNOWN - Not observe (unstrome than 26 (more than Driveway length)           Slope         Distance to dangerous topography         What is the closest distance from the residence to ridge, steep drainage or narrow canyon?         More than 150 feet UNKNOWN - Not observe (moderate, and gentle slopes. How would you describe the overall slope of the residence?         More than 150 feet UNKNOWN - Not observe (moderate, and gentle slopes. How would you steep, moderate, and gentle slopes. How would you describe the overall slope of the residence?         More than 150' Moderate - Estwae 20 UNKNOWN - Not observe (moderate, and gentle slopes. How would you steep, foreater than 459 Defensible space         More than 150' Between 10' a0' Less than 20' Between 10' a0' Less than 10' UNKNOWN - Not observe (moderate) approvery and those properties immediately surrounding it?         More than 150' Between 10' a0' Less than 10' Between 10' a0' Less than 10' Bet	What is the closest distance from the residence to a	Between 50 and 150 feet	
		Less than 50 feet	50	
	topoBraphy		UNKNOWN - Not observed	50
		The "slope" or "grade" of a property refers to the	Gentle - Less than 20% (<11.31 degrees)	Response CategoriesFinal WiRê Score1 reflective0not reflective5(or visible)10t observed10re roads in/out01/out10nore than two cars wide)06 (two cars wide)06 (two cars wide)10nore than two cars wide)06 (two cars wide)00 feet without turnaround for Type 1 engine1010 feet00 feet without turnaround for Type 1 engine1010 feet010 feet010 feet010 feet010 feet010 at observed1010 feet010 at observed1010 feet010 at observed1011 at 45% (>24.23 degrees)1011 than 45% (>24.23 degrees)1012 brush and/or isolated trees (e.g. grass with some lodgepoleaspen, or other conifer)7510 ot observed10150'5030'75100100150'300150'300150'300150'300150'300150'300150'300150'300150'300150'300150'300150'300150'300150'300150'100150'10015
Background Conditions	Field Name         Description         Response Categories           Address posting         is the house number posted at the end of the driveway and is the posted number reflective?         No. not posted of or visible No. not posted (or visible)           Ingress/Egress         if the road to access the residence was blocked due to and within, is there another road to get out of the community?         TS. Two or more roads in/out           Driveway clearene         how wide is the driveway of the residence at the narrowest point?         More than 26 (more than two cars wide) Batteem 20 - 26 (more than two cars wide)           Driveway length         What is the doset distance from the residence to dage the 100 feet without turnaround for Type 1 engine Driveway length         What is the doset distance from the residence to toge the 100 feet without turnaround for Type 1 engine Driveway length           Supper         The "slope" or "grade" of a property refers to the steepness of the land. A large roperty may how otges, moderate, and gentle slopes. How would you describe the overall slope of the residence to what is the dosest distance from the residence to the steepness of the land. A large roperty may how steep, moderate, and gentle slopes. How would you describe the overall slope of the residence?         Moderate - as tween 20% - 45% (13.13.24.23 dgrees)           Adjacent fuels         What is the dosest distance from the residence to overgrown, dense, or unmaintaned vegetation?         Moderate - as the anot a large rope of the residence to overgrown, dense, or unmaintaned vegetation?           Defensible space         What is the dosest distance from the residence t	steepness of the land. A large property may have steep, moderate, and gentle slopes. How would you	Moderate - Between 20% - 45% (11.31-24.23 degrees)	10
			Steep - Greater than 45% (>24.23 degrees)	20
Conditions		20		
Conditions	Adjacent fuels		Light - Grasses	10
		Slope       steep, moderate, and gentle slopes. How would you describe the overall slope of the residence?         acent fuels       Which of the following best describes the dominant vegetation on the property and those properties immediately surrounding it?         nsible space       What is the closest distance from the residence to overgrown, dense, or unmaintained vegetation?	Medium - Light brush and/or isolated trees (e.g. grass with some lodgepole	20
			pine, scattered aspen, or other conifer)	20
			Dense - Dense brush and/or dense trees (e.g. continuous lodgepole pine,	40
			dense aspen or other conifer)	40
			UNKNOWN - Not observed	40
			More than 150'	0
		What is the closest distance from the residence to	Between 31' - 150'	50
Address posting         is the house number posted at the end of the driveway and is the posted number reflective?         Yes, posted but not No. no posted (nr. UNKNOWN-Not ob UNKNOWN-Not ob Not posted (nr. UNKNOWN-Not ob Not posted (nr. UNKNOWN-Not ob Not posted (nr. UNKNOWN-Not ob Not posted (nr. Not post	Defensible space	overgrown dense, or unmaintained vegetation?	Between 10' - 30'	75
	Less than 10'	100		
Defensible Space			UNKNOWN - Not observed	100
		What is the closest distance to combustible items	More than 30 feet from the structure	0
	Other combustibles	other than vegetation such as lumber, firewood, a	Between 10 feet and 30 feet from the structure	40
	other combustibles	propane tank, hay bales, or other materials that could	Less than 10 feet from the structure	80
		easily ignite?	UNKNOWN - Not observed	80
			Tile, metal, or asphalt shingles	0
	Roofing materials	What is the most vulnerable roofing material?	Wood (shake shingles)	300
Background Conditions         ridge, steep drainage or narrow canyon?         Less than 50 feet UNKNOWN - Not observed           Background Conditions         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?         Gentle - Less than 20% (<11.31 c42.23 degrees)	UNKNOWN - Not observed	300		
		What is the most vulnerable siding material?	Stucco, cement, brick, stone, or other noncombustible siding	0
	Building exterior		Log or heavy timbers	35
			Wood or vinyl siding	70
			UNKNOWN - Not observed	70
Home Ignition	Combustible attachments	Does the residence have a combustible balcony, deck, porch, or fence attached to the structure?	No	0
Potential			Non-combustible deck, balcony, porch, and/or fence attached to structure	0
			Combustible deck, balcony, porch, and/or fence attached to structure	100
			UNKNOWN - Not observed	100
		What is the closest distance to a neighboring home? (calculated using GIS)	More than 100'	0
	Proximity to		30' - 100'	50
			10' - 29' away	100
	aujacent nomes		Less than 10'	200
			Unknown - not observed	200

# Appendix C: Assessor Reference Guide

Domain Name	Field Name	Description	Response categories	Rationale & Additional Considerations	Related	
			Primary	This is a living dwelling that is or could be occupied by a resident for living purposes.		
domStructureType StructureType		What best describes this structure?	Secondary	This is any other type of structure that does not qualify as "primary". Examples include shops, barns, sheds, etc.		
			Unimproved	No home or structure.		
domMailSurvey MailSurvey	MailSurvey		NO - Other structure or lot, remove from mailing list	Answer NO if there is a valid reason why the mailing address associated with this parcel should not receive a survey.		
	win one address receive a mailed survey packet?	YES - Primary residence, mail a survey packet	This should likely be the default answer for this domain and/or the answer for any structures listed as "secondary".			
		What is the most vulnerable roofing material?	Tile, metal, or asphalt shingles	If the home has one single type of roofing material than this is a fairly straighforward exercise. Certainly there are some additional types of roofing materials that are used besides the ones listed - in which case the assessor should make a determination using best available information related to the roofing material and its potential ignitability. In other instances, multipe types of roofing materials are used, particular in homes with complex roof lines, dormers and extensions. In these cases, we recommend rating the	It is important to note that roofing material is only one factor in the roofing equation as it relates to wildland fire. During a more in-depth analysis, it will be important to consider the entire roofing assembly with regards to the potential for future ignition during a wildland fire. Certain asphalt shingle and even metal roofs remain wildenable to ignition due to the assessmbly or how	
domRoofingMat RoofingMat	RoofingMat		Wood (shake shingles)			
			UNKNOWN - Not observed	entire roof as whatever is the most vulnerable section.	the home was constructed.	
			Stucco, cement, brick, stone, or other noncombustible siding	This is probably the most challenging domain to assess during the Rapid Assessment. There are literally dozens of commonly used materials that exist on the market for the exterior cladding of a home. Many of these materials claim to be resistant to fire, resistant to ignition or noncombustible. In addition, it is very common for a home to incorporate multiple different types of exterior cladding/siding. Additionally, some of the newer available products that fall in the general category of "fiber cement siding" have been designed to mimic wood - and are increasingly getting better at 'looking the part'. These products can make it difficult to discern the difference. Additionally, it is known that not all stucco applications meet fire resistant standards. All of this said, the intent of this domain is to increase awareness related to the potential for home ignition via risk exposure vulnerabilities network of the assessor is to determine if any such ignition vulnerabilities likely exist. Using all availables router as clading/siding represents a potential risk for ignition on the home and to utilize the response categories to denote these risk. Please note, for log or heavy timbers - the typical standard to meet this category is full logs that have been stripped of bark and are fully chinked together. Smaller diameter cut logs (D-Log, square logs, etc.) do not qualify for the Log or heavy timber response category and should be denoted as "wood siding".	After the roof, the exterior siding represents the second largest (in terms of square feet) surface that is exposed to potential ignition risks. However, mitigating the risk, even to wood siding, can be achieved through defensible space combined with a variety of other "ember mitigation" techniques.	
domSidingMat SidingMat			Log or heavy timbers			
	SidingMat	What is the most vulnerable siding material?	Wood or vinyl siding			
			UNKNOWN - Not observed			
		Does the residence have a combustible balcony, deck, porch, or fence attached to the structure?	No	Decks and fences are well know to be considerable home ignition vulnerabilities. If no deck or fence is attached to the structure, then the answer is no. However, if a deck or fence is attached, the assessor will need to determine to what extent the attached deck or fence poses an ignition risk. The second category "Non-combustible" is actually referencing decks that utilize a composite decking material (e.g. Trex decking) or incorporate ignition resistant materials that would significantly reduce the potential for ignition on the deck. All other standard wood based decks and fences, assuming they are attached, would be assessed in the "combustible category".	Attached decks and fences is a complicated subject. There are many, many types of decks construction styles and materials on the market. Recent research has indicated some novel approaches to mitigation for decks, including covering the tops of joists with a metal wrap.	
	DeckFence		Non-combustible deck, balcony, porch, and/or fence attached to structure			
domDeckFence			Combustible deck, balcony, porch, and/or fence			
		what best describes the driveway? <sup>150</sup> feet long or less Longer than 150 feet without turnaround for Type 1 engine Longer than 150 feet without turnaround for Type 1 engine           Similar to DrivewyClear, length is related to the safety of emergency responders that are accessing the home. The longer the         driveway, the more risk that each responder is exposed to. Length may be estimated by driving down the driveway (which will be         very helpful to answer several other additional questions) or by utilizing GIS technologies. Similarly, the "turnaround" aspect of th         engine         very neap that a turnaround exists that meets the local FPD/county/relevant jurisdictional standards for emergency         very leight urmaround.		If a local FPD/county/local jurisdictional standard for emergency vehicle		
de a Dairean de sette	Drivered exeth		Longer than 150 feet with turnaround for Type 1 engine	Similar to DrivewyClear, length is related to the safety of emergency responders that are accessing the home. The longer the driveway, the more risk that each responder is exposed to. Length may be estimated by driving down the driveway (which will be very helpful to answer several other additional questions) or by utilizing GIS technologies. Similarly, the "turnaround" aspect of the question relates to whether or not an adequate and appropriate turnaround exists along the driveway. By "adequate and appropriate" - we mean that a turnaround exists that meets the local FPD/county/relevant jurisdictional standards for emergency vehicle turnarounds.	turnarounds does not exist, your jurisdiction may elect to develop a standard- whether or not there is a strict requirement for homeowners to meet the standard. One such standard, from Boulder County, has a nice companion flyer which provides visuals which can be helfpul when trying to relay this information to the public. Boulder County Turnaround Standards Link: https://assets.bouldercounty.org/wo-content/uoloads/2017/03/w04-	
domDrivewyLength Drivey	DrivewyLength		Longer than 150 feet without turnaround for Type 1 engine			
			UNKNOWN - Not observed		emergency-vehicles-access.pdf	
			More than 26' (more than two cars wide)	The rationale behind this question is primarily related to emergency access, and in particular, access for wildland fire engines,		
domDrivewyClear DrivewyC		How wide is the driveway of the residence at the narrowest point?	Between 20' -26' (two cars wide)	structure fire apparatus and other emergency responders to access/evacuate the home site. Under ideal circumstances, each WUI driveway would provide enough horizontal width so that two vehicles could easily pass one another along the driveway. By width, we are talking about horizontal obstruction-free clearance that would permit vehicle access. We are not talking solely about roadbase. In other words, if a driveway roadbase is 12 feet wide and is bordered by flat ground, that could easily be driven on by any of the above listed vehicles, with no obstructions in either direction for at least 7 feet on each side (a total of 26 feet), then the assessor should mark the driveway as "More than 26 ft". However, if there are obstructions, such as vegetation, driveway gateways or anything else deemed as an obstruction that would make it difficult or impossible for two vehicles to pass each other along the driveway, at any point, than the assessor should rate this domain as "Betwen 20-26 ft" or "Less than 20 ft" depending on an observational estimate of the width of the constructions. The take home for homeowners is that they may need to remove obstructions, such as vegetation or gateways, so that emergency vehicles can safely utlize their driveway during a future incident.	Vertical obstructions are another consideration. Overhanging tree branches or ranch style gateways can create vertical obstructions. A typical vertical clearnance standard is 13.5 feet.	
	DrivewyClear		Less than 20' (one car wide)			
			UNKNOWN - Not observed			
domAddressPosted AddressPosted	AddressPosted a	is the house number posted at the end of the driveway and is the posted number reflective?	Yes, posted and reflective	A clearly visisble address sign, that remains visible during dark conditions (e.g. night, smokey) is critical for safe and effective emergency response – particularly EMS. In some locations, a local jurisdiction may have a standard for address signs. Typical standards for violifarie considerations include: The sign and post are non-combustible, the lettering is at least 3 inches tall, the sign incorporates a retrooreflective contrasting color scheme, and the sign has been posted in a highly visible location at the juncture of the public road and the driveway. In some instances, multiple homes are accessed from a common driveway. In these instances, it may be necessary to post multiple address signs where the common driveway junctures with the public road and then additional individual address signs where each individual driveway breaks off. For the purposes of this rapid assessment, "posted" is meant to imply that the address sing is visible at the inucture of the ubulic road and the driveway. This assessment is not considering sign to may that the address.	Is the homeowner signed up for the local emergency notification system for cell phone and email alerts?	
			Yes, posted but not reflective			
			No, not posted (or visible)			
		UNKNOWN - Not observed	no may une use avoides sign is visione at the juncture of the provider food and the driveway. This assessment is not considering sign material or any other potential local standards.			

## Research Note RMRS-RN-94. August 2022

	Proximity to adjacent home	What is the closest distance to a neighboring home? (calculated using GIS)			
	Notes	understand the responses.	user input	database	
		Enter any additional comments necessary to	UNKNOWN - Not observed	tire and does that tuel type cover at least 30% of the defined area. For example, if posted address DOES NOT MATCH use comments sertion to note: ADDRFSS POSTED AS XXXX. Reconcile with assessor	
domAdjacentFuels	AdjacentFuels	Which of the following best describes the dominant vegetation on the property and those properties immediately surrounding it?	Light - Grasses Medium - Light brush and/or isolated trees (e.g. grass with some lodgepole pine, scattered aspen, or other conifer) Dense - Dense brush and/or dense trees (e.g. continuous lodgepole pine, dense aspen or other conifer)	Fuels are one of the three categories on the wildfire behavior triangle. This domain looks at a proxy of "fuel type" and does not necessarily analyze factors related to fuel conditions that are critical to understanding future potential wildfire behavior including: true fuel type, fuel arrangement, fuel continuity (vertical and horizontal), fuel moisutres, fuel loads, combustion characteristics, etc. As such, this domain is subject to a significant amount of assessor interpretation and subjectivity. That said, we recommend the following methodology: took at the general area where the home is situated. Within approximately 500 feet of the home, in all directions, guestimate what is the dominant and primary fuel description. By "dominant and primary" we mean which of the fuels within this area will more likely than not play the greatest role in a future wildfire incident should those fuels become involved in the free and does the fuel fuel occore the art 300° of the defined read.	
			UNKNOWN - Not observed		
		community?	NO, One road in/out	route for getting in and out of the property and to a reasonably far away location, that will more likely than not be considered a safe location, during a future willfire incident.	driven them?
domCommAccess	CommunityAccess	If the road to access the residence was blocked due to a wildfire, is there another road to get out of the	YES, Two or more roads in/out	Safe and effective ingress and egress is a critical component to community planning as well as safe and effective emergency response. Numerous types of emergency ingress/egress situations can exist such that there may be certiain locations that will have more than one road out from the immediate house, but then over some distance, these multiple ingress/egress routes funnel back in to a single ingress/egress routes funnt to the distribution of the asteroist to detarming if a consert the anex then are 1/4015	Does the family have a plan for evacuation, including a rendezvous (meetup) location A and location B in case cell phone communications are lost? Is the resident aware of the main course for evacuation the home and have the
Slope	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?	Gentle - Less than 20% (<11.31 degrees) Moderate - Between 20% - 45% (11.31-24.23 degrees) Steep - Greater than 45% (>24.23 degrees) UNKNOWN - Not observed	While certain topographic features can signficantly influence wildfire behavior characteristics, the overall slope of the land where the home is situated has a signficant influence in how wildfire will likely behave. While the arrangement of fuels (type, moisture levels, vertical continuity, horizontal continuity, etc.), aspect and incident specific weather conditions will also become signficant factors, we know that as slope increases, the potential for elevated fire behavior characteristics increases correspondingly. To this end, the intent of this domain is to raise/increase awareness about this basic wildfire behavior facts so that those folls that have homes on steep slopes are extra diligent with regards to mitigation and preparedness - as they should be. But how do we measure slope? Slope is a measurement of the vertical rise between at least two points. To maintain consistency, we recomment that each assessor utilize the same methodology for estimating slope. The recommended methodology is as follows: Draw an imaginary transect that is 300 feet in length with the center of the transect being the center of the home. Situate the transect so that it is grependicular to the countours of the slope. Please note that the transect must be a straight line. If numerous undulations/topographic complexities exist, do your best to make an estimate of the overall lay of the land within approximately 150 feet of the home. Estimate the total elevation along (in feet 3) along the transect, Finally, divide the elevation change number by 300 and multiply that result by 100. Example: If you estimate a slope is 8 in elevation between to the two ends of the imaginary transect then your percent slope is equal to 33/300-12.66%. If you estimate 120 feet of elevation change number by 300 and multiply that result by 100. Example: If you estimate slope. This type of measurement can also be done using GIS. <b>PLEASE NOTE THE DIFFERENCE BETWEEN PERCENT SLOPE AND DEGREES</b> .	Slope can be measured in truly infinite number of ways. If your group elects to go with a different measurement methodology - that is okay so long as all of the assessors are using the same methodology. Certain GIS tools have made the measurement of slope possible from your computer. That stail, keep in mind that for this assessment, we are putting slope in to three categories which are fairly course descriptions of slope options.
domDistSlope	DistanceToSlope	What is the closest distance from the residence to a ridge, steep drainage or narrow canyon?	Note than 350 reet Between 50 and 150 feet Less than 50 feet UNKNOWN - Not observed	Topography is one of the three main factors that influence wildland fire behavior. It is well documented and understood that certain topographic features, such as guilies and drainages, are known to dramatically increase the flame front intenstity (and similar measures of wildfire behavior) when the fire is interacting with these bio-physical environments. As such, homes that are located in the direct 'line of fire' with these features are at significantly higher risk than those homes that are situated back and away from such features. The goal of this domain is to assess the relative proximity of the home to any feature.	
			More than 150 feet		Other combustibles are extremely common. It is important for homeowners to be aware that these materials represent a risk, particularly during the fire season, and particularly related to ember ignition exposure.
domOtherCombust	OtherCombust	what is the closest distance to combustion items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?	Less than 10 feet from the structure	want to remove/clean up in the event of an impending wildfire? Common items include lumber, construction materials, freewood incey propane tanks, hay bales, leaves, wicker furniture, decorative ornaments, etc. etc If so, how close to the home is this item or these items?	
			Between 10 feet and 30 feet from the structure		
		What is the elecast distance to combustible items	More than 30 feet from the structure	Are there any other combustible materials, part the home (within Zone 1), that a structure protection specialist group would likely.	
			UNKNOWN - Not observed	Primary experimental research from the International Crown Fire Modeling Experiment (1998) demonstrated that mockup home structures (stick built, T-1-111 siding, composite shingles) were able to survive (with light scorch) from the <u>radiant</u> heat of an active crownfire (Jack Pine) at a distance as little as 10 meters (38.24 ft), the same structures survived without any scorch. Along with modeling, case studies and other research, this famous experiment lait the foundation for the classic zones of defensible space: Zone 1 (0-30 feet) / Zone 2 (30-100 feet) / Zone 3 (100 feet or more with slope factor). Additional understanding and research has lead to a fuller understanding of ignition vulnerabilities for the home (primarily related to ember ignitions) but the same general principles related to radiant and convective heat expourse apply. For this domain, each assessor will need to determine, using best professional judgement, the amount of distance (in feet) between the home and any "overgrown, dense or unmaintained vegetation". To this extent, it is important to consider the vegetation in question and whether or not than <i>particular</i> vegetation would more likely than not contribute to an active wildland fire and thusly expose the home in question to direct flames and/or radiant heat and/or convective heat that could presumably result in ignition in most imagined scenarios. In other words, if you were recommending treatements for defensible space, would you recommend that the vegetation in question be managed within 10 feet of the home? Within 30 feet of the home? Within 150 feet of the home?	Truly assessing defensible space requires a more throughough evaluation of the home and its immediate surroundings and typically necessitates an in- person walk through with the homeowenc. Determining an appropriate prescription for vegetation management will depend upon a number of factors. The intent of question is to raise and/or increase awareness related to the fact that additional vegetation management is necessary to adequately reduce the potential for radiant or convective heat exposure to the home from burning vegetation during a wildland fire. While the different "buckets" of 10, 30 & 150 may not exactly align with your program's D-Space recommendations, it does provide some level of additional granularity about the need for additional D-Space work.
dom Defend Space Defe	DefendSpace	What is the closest distance from the residence to overgrown, dense, or unmaintained vegetation?	Less than 10'		
			Between 10' - 30'		
			Between 31' - 150'		
			More than 150'		

## Appendix D: WiRē RA—Household Survey Comparison

(Starts on the following page.)

# The Wildfire Research Center WiRē



# 1 Grand County Wildfire Council Rapid Assessment Compared to Household Survey Responses

The Grand County Wildfire Council conducted parcel-level rapid wildfire risk assessments (RA) and administered a household survey. The following tables present a summary of the professional's assessment of the overall wildfire risk rating, which is the sum of the attribute scores; and compares it to the homeowner's self-reported overall risk. Additionally, the document presents the professional's responses to the 12 risk attributes in the RA and the homeowner's self-assessment for each of the risk attributes. One additional risk attribute, proximity to adjacent homes, was calculated in GIS and is included as well.

RA results are presented in two forms: all RA data in the study area, and a subset of that data, which includes only the RA data for parcels that returned a household survey. The tables below are organized by the overall risk rating and the individual risk categories of access, home ignition potential, defensible space, and background conditions. The percentages in each column might not add to 100% due to rounding.

In instances when the Grand County Wildfire Council mitigation specialists could not observe a risk attribute, the specialist selected "unknown/not observed." It is WiRē's protocol to assign the "unknown/not observed" and true missing data (i.e., the mitigation specialist did not select a response) the highest risk score for the attribute in question. This is consistent with other parcel risk and structure protection assessments. If a particular attribute is "unknown/not observed" or missing, practitioners and firefighters assume that a hazard exists. At best, the correct attribute response is chosen; at worst, the assessment invites a conversation with the parcel owner to delve deeper into the mitigation needs of the parcel in question and an update to their parcel risk assessment.

This protocol allows us to report results for all residential parcels in the study area rather than only those for which all attributes could be observed. For each risk attribute in the tables below, we report the number of "unknown/not observed" and missing as a footnote.

## Summary of results

• The majority (67%) of survey respondents rated their overall risk as moderate. RA results placed most (54%) parcels in the high-risk category.

1

• Generally, self-assessed risk ratings from the household survey are moderately lower for each attribute than the RA. For example, 28% of homeowners estimated their defensible space to be more than 150 feet, while RA data places only 12% of parcels into that category.

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

## Overall risk rating

Overall risk rating:					
RA: Based on the sum of the 13 attribute scores. Homeowner's self-assessment response to: What do you think					
is your Grand County property's current overall wildfire risk rating?					
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=548)	Self-assessment from household surveys (N=548)		
Low	10%	9%	10%		
Moderate	19%	19%	67%		
High	54%	54%	21%		
Very high	12%	13%	2%		
Extreme	5%	5%	1%		

The histogram below shows the distribution of the RA risk ratings across the study area.



Low Moderate High Very high Extreme

Wi<mark>Rē</mark>
### Access

<b>Risk attribute: Address Posting</b> (1% of total RA score) Is the house number posted at the end of the driveway and is the posted number reflective?				
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=531)	Self-assessment from household surveys (N=531)	
Posted and reflective	26%	27%	39%	
Posted, NOT reflective	32%	34%	25%	
Not posted (not visible)	42%ª	38% <sup>b</sup>	36%	

a. Out of all RAs in study area, 8 were missing/unobserved (1%) and included in the highest risk category.
b. Out of the subset of RAs for parcels that returned a household survey, 2 were missing/unobserved (<1%) and included in the highest risk category.</li>

### Risk attribute: Ingress/Egress (1% of total RA score)

If the road to access the residence was blocked due to a wildfire, is there another road to get out of the community?

Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=547)	Self-assessment from household surveys (N=547)
Two or more roads in/out	63%	63%	70%
One road in/out	37%ª	37% <sup>b</sup>	30%
a. Out of all RAs in study area, 5 were missing/unobserved (<1%) and included in the highest risk category.			

b. Out of the *subset of RAs for parcels that returned a household survey*, 2 were missing/unobserved (<1%) and included in the highest risk category.

Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=550)	Self-assessment from household surveys (N=550)
More than 26' (more than two cars wide)	6%	4%	11%
Between 20' -26' ( <i>two cars wide</i> )	18%	16%	25%
Less than 20' (one car wide)	76%ª	80% <sup>b</sup>	64%

highest risk category.

Risk attribute: Driveway length (1% of total RA score) What best describes the driveway?				
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=525)	Self-assessment from household surveys (N=525)	
150 feet long or less	76%	78%	74%	
Longer than 150 feet with turnaround for Type 1 engine	8%	6%	17%	
Longer than 150 feet without	16%ª	16% <sup>b</sup>	9%	
turnaround for Type 1 engine				
a. Out of all RAs in study area, 6 were missing/unobserved (1%) and included in the highest risk category.				
b. Out of the subset of RAs for parcel	s that returned a household sur	vey, 2 were missing/unobserv	ved (<1%) and included in the	
highest risk category.				

### **Background conditions**

Risk attribute: Distance to dangerous topography (5% of total RA score)			
What is the closest distance from the home to a ridge, steep drainage, or narrow canyon?			
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=547)	Self-assessment from household surveys (N=547)
More than 150'	65%	66%	71%
50' - 150'	17%	15%	14%
Less than 50'	18%ª	19% <sup>b</sup>	16%
a. Out of all RAs in study area, 19 were missing/unobserved (2%) and included in the highest risk category.			
b. Out of the subset of RAs for parcel	s that returned a household su	rvey, 10 were missing/unobse	rved (2%) and included in the
highest risk category.			

### Risk attribute: Slope (2% of total RA score)

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?

Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=548)	Self-assessment from household surveys (N=548)
Gentle (less than 20%)	60%	59%	51%
Moderate (between 20% and 45%)	30%	30%	38%
Steep (greater than 45%)	10%ª	10% <sup>b</sup>	12%
a. Out of all RAs in study area, 8 were	e missing/unobserved (1%) and	included in the highest risk ca	ategory.
b. Out of the subset of RAs for parcel	ls that returned a household sur	vey, 4 were missing/unobserv	ved (1%) and included in the
highest risk category.			

### Risk attribute: Adjacent Fuels (4% of total RA score)

Which of the following best describes the dominant vegetation on the property and those properties immediately surrounding it?

Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=551)	Self-assessment from household surveys (N=551)
Light - Grasses	6%	4%	5%
Moderate - Light brush and/or isolated trees	66%	68%	75%
Dense - Dense brush and/or dense trees	29%ª	28% <sup>b</sup>	21%
a. Out of all RAs in study area, 12 we	re missing/unobserved (1%) and	d included in the highest risk	category.

b. Out of the *subset of RAs for parcels that returned a household survey*, 7 were missing/unobserved (1%) and included in the highest risk category.

### Defensible space

### Risk attribute: Defensible Space (10% of total RA score)

What is the closest distance from your Grand County residence to overgrown, dense, or unmaintained vegetation?

Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=548)	Self-assessment from household surveys (N=548)
More than 150'	15%	12%	28%
Between 31' - 150'	37%	40%	40%
Between 10' - 30'	34%	35%	25%
Less than 10'	15%ª	13% <sup>b</sup>	7%

a. Out of all RAs in study area, 14 were missing/unobserved (1%) and included in the highest risk category.

b. Out of the *subset of RAs for parcels that returned a household survey*, 6 were missing/unobserved (1%) and included in the highest risk category.

### Risk attribute: Other combustibles (8% of total RA score)

What is the closest distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?

Response categories	(N=1,162)	parcels that returned a household survey (N=549)	household surveys (N=549)
None, greater than 30' from structure	32%	34%	55%
Between 10'-30' from structure	34%	33%	31%
Less than 10' from structure	34%ª	33% <sup>b</sup>	14%

a. Out of all RAs in study area, 8 were missing/unobserved (16%) and included in the highest risk category.
b. Out of the subset of RAs for parcels that returned a household survey, 86 were missing/unobserved (16%) and included in the highest risk category.

### Home ignition potential

Risk attribute: Roof (30% of total RA score)				
What is the most vulnerable roofing material?				
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=548)	Self-assessment from household surveys (N=548)	
Non-combustible (tile, metal, or asphalt shingles)	97%	97%	98%	
Combustible (wood shake shingles)	3%ª	3% <sup>b</sup>	2%	
a. Out of all RAs in study area, 11 were missing/unobserved (1%) and included in the highest risk category.				
b. Out of the subset of RAs for parcel	's that returned a household su	rvey, 3 were missing/unobserv	red (1%) and included in the	
highest risk category.				

Risk attribute: Siding (7% of total RA score) What is the most vulnerable siding material?				
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=550)	Self-assessment from household surveys (N=550)	
Stucco, cement, brick, stone, or other noncombustible siding	10%	9%	11%	
Log or heavy timbers	9%	11%	23%	
Wood or vinyl siding	81%ª	81% <sup>b</sup>	67%	

a. Out of all RAs in study area, 13 were missing/unobserved (1%) and included in the highest risk category.
b. Out of the subset of RAs for parcels that returned a household survey, 6 were missing/unobserved (1%) and included in the highest risk category.

<b>Risk attribute: Combustible Attachments (Decking and Fencing)</b> (10% of total RA score) Does the residence have a combustible balcony, deck, porch, or fence attached to the structure?				
Response categories	All RAs in study area (N=1,162)	Subset of RAs for parcels that returned a household survey (N=554)	Self-assessment from household surveys (N=554)	
No combustible attachments	7%	6%	12%	
Combustible attachments present	93%ª	94% <sup>b</sup>	88%	
a. Out of all RAs in study area, 77 were missing/unobserved (7%) and included in the highest risk category. b. Out of the subset of RAs for parcels that returned a household survey, 40 were missing/unobserved (7%) and included in the				

<b>Risk attribute: Proximity to adjacent homes</b> <sup>a</sup> (20% of total RA score) What is the closest distance to a neighboring home?					
Response categories	All RAs in study area (N=1,162)				
More than 100'	52%				
30' – 100'	32%	Not asked in survey			
10' – 29'	14%				
Less than 10'	1%				
a. Data for this risk attribute was not	collected during the RA survey.	It was collected after the survey, using GIS data			

### Appendix E: Household Survey Codebooks Overall and by FPD

(Starts on the following page.)

# Living with Wildfire in Grand County in 2020







### Prepared by The Wildfire Research Center for: Grand County Wildfire Council bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 557n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

When choosing a response, please fill in the circle completely. Correct:  $\bigcirc$  Incorrect:  $\oslash \otimes \odot \odot$ 

### OCCTYPE (n=553)

- 1.1. Do you own or rent your Grand County residence? (*Fill in one circle*)
  - 89% Own and occupy
  - 9% Own and rent out short term
  - 2% Own and rent out long term
  - 0% I am a renter

### MONTHS (n=513)

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

AVERAGE = 7 months, 12 months = 33%

### FULLTIME (n=543)

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

### **AVERAGE = 2003**

### YRBUILD (n=538)

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

### **AVERAGE = 1989**

#### RISKAWAR (n=554)

- 1.5. How aware of wildfire risk were you when you bought or decided to rent your Grand County residence? (*Fill in one circle*)
  - 50% Very aware
  - **41%** Somewhat aware
  - 6% Not aware
  - 2% Don't remember

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

### FIRE (n=554)

- 2.1. What is the closest distance (as a crow flies) a wildfire has come to your Grand County property? (*Fill in one circle*)
  - 1% There has been a wildfire on my property
  - 38% Less than 2 miles away but not on my property
  - **27%** 2 to 10 miles away
  - **21%** More than 10 miles away
  - 13% Not sure
- 2.2. Has your Grand County residence ever had smoke or fire damage from a wildfire? (*Fill in one circle per row*)

		No	Yes
SMOKEDAM (n=554)	My Grand County residence has had smoke damage	99%	1%
FIREDAM (n=546)	My Grand County residence has had wildfire damage	99%	1%
DESTROY (n=546)	My Grand County residence was destroyed by a wildfire	99%	1%

2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

		No	Yes	Not applicable
EVACPPL (n=553)	For people in my household	24%	73%	3%
EVACPETS (n=548)	For the pets in my household and on my property	18%	43%	39%
EVACLIVSTOC (n=541)	For livestock on my property	7%	2%	91%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=545)	How I will be notified about evacuating	6%	94%
EVACINFO9 (n=544)	When to evacuate	5%	95%
EVACINFO3 (n=545)	Safe evacuation routes	10%	90%
EVACINFO5 (n=542)	What to bring and what to leave behind	36%	64%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2 (n=539)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	54%	46%
EVACUATED (n=549)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	78%	22%
ACTIVITIES9 (n=550)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	84%	16%

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

		No	Yes	Don't know
INSURE2 (n=550)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	49%	37%	14%
INSURE3 (n=549)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	86%	13%	2%
INSURE4 (n=547)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	31%	29%	40%
INSURE10 (n=547)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	61%	9%	29%
INSURE12 (n=550)	Do you think your home is adequately insured against loss from a wildfire?	7%	78%	16%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=548)	Tile, metal, or asphalt shingles	1%	99%
ROOFTYPE2 (n=548)	Wood (shake shingles)	98%	2%

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

		No	Yes
SIDETYPE1 (n=550)	Stucco, cement, brick, stone, or other noncombustible siding	78%	22%
SIDETYPE2 (n=550)	Log or heavy timbers	73%	27%
SIDETYPE3 (n=550)	Wood or vinyl siding	33%	67%

### ATTACHMENT (n=554)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

3%	No			
97%	Yes	$\rightarrow$	ATTACHCC Is <b>any</b> part combustib	OMB (n=526) of the balcony, deck, porch, or fence made of le materials? ( <i>Fill in one circle</i> )
			7%	No
			93%	Yes

### DRIVEWAYW1 (n=550)

- 3.4. How wide is the driveway of your Grand County residence at the narrowest point? (*Fill in one circle*)
  - 11% More than 26 feet (more than two cars wide)
  - 25% 20 26 feet (two cars wide)
  - 64% Less than 20 feet (one car wide)

### DRIVEWAYL (n=530)

73%

3.5. How long is your driveway? (*Fill in one circle*)

73%	150 feet long or less			
27%	Longer than 150 feet	$\rightarrow$	TURN/ Would drivew	<mark>ARND (n=150)</mark> l a fire truck be able to turn around in your vay? ( <i>Fill in one circle</i> )
			37%	No
			63%	Yes

### HOMENUM (n=544)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (Fill in one circle)

35%	No					
65%	Yes	$\rightarrow$	Answer t	ne following two questions (Fill in one cire	cle per	row)
					No	Yes
		HOME (n=353	NUMVIS I)	Is the posted number visible from the road?	4%	96%
		REFLE	CT (n=337)	Is the posted number reflective?	39%	61%

### CLOSEVEG (n=548)

- 3.7. What is the **closest** distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (Fill in one circle)
  - 7% More than 150 feet
  - 25% 31 – 150 feet
  - 40% 10 – 30 feet
  - 28% Less than 10 feet

### COMBUST (n=549)

- 3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (*Fill in one circle*)
  - 55% None or more than 30 feet
  - 31% 10 – 30 feet
  - 14% Less than 10 feet

### RIDGE(n=547)

- 3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)
  - 71% More than 150 feet
  - 14% 50 150 feet
  - 16% Less than 50 feet

### SLOPE (n=548)

3.10. 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 your Grand County residence? (*Fill in one circle*)

12%	Gentle – Less than 20%	Steep / Greater than 4570	$\overline{\uparrow}$
38%	Moderate – 20% to 45%	Moderate / 20 – 45%	ţ
51%	Steep – Greater than 45%	Gentle / Less than 20%	1

### ROADS (n=547)

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

30% No 70% Yes

### DOMVEG (n=551)

3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)

5%	Grasses
75%	Light brush and/or isolated trees (e.g., grass with some lodgepole pine,
	scattered aspen, or other conifer)
21%	Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense
	aspen, and/or dense mixed conifer)

### RISKRATE (n=548)

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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)

10%	Low risk
67 %	Moderate risk
21%	High risk
2%	Very high risk
1%	Extreme 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=550)

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

42% No 58% Yes

### SLACKER (n=538)

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	$\rightarrow$	SLACKCO Do cond wildfire <i>circle</i> )	OND (n=204) itions on those properties increase the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			10%	No
			90%	Yes

### NACTION1 (n=524)

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			
74%	Yes	$\rightarrow$	NACTCO Do cond wildfire <i>circle</i> )	ND1 (n=375) itions on those properties change the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			24%	No
			70% 6%	Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of
				wildfire spreading to my property

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

		No	Yes
ACTIVITIES1 (n=550)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	6%	94%
ACTIVITIES7 (n=516)	Regularly cleared my roof and gutters of leaves and pine needles	31%	69%
ACTIVITIES8 (n=539)	Regularly mowed and raked around my Grand County residence	33%	67%
ACTIVITIES2 (n=541)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	60%	40%
ACTIVITIES3 (n=542)	Helped neighbor(s) reduce vegetation on their properties	77%	23%
ACTIVITIES4 (n=549)	Helped reduce vegetation on community property	83%	17%
ACTIVITIES5 (n=548)	Helped reduce vegetation on nearby public lands	94%	6%
ACTIVITIES6 (n=549)	Participated in a community wildfire activity (ex. meeting, chipper day)	70%	30%
ACTIVITIES9 (n=549)	Met with a wildfire professional to evaluate home's risk	84%	16%

# 4.5. 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	FROM nearby public/large undeveloped land TO:								
FIRESPREAD1 (n=541)	-> My neighborhood	16%	34%	34%	13%	3%				
FIRESPREAD2 (n=518)	-> My Grand County property	11%	28%	37%	19%	5%				
	FROM my neighborh	nood TO:								
FIRESPREAD3 (n=539)	-> Nearby public/large undeveloped land	12%	30%	32%	21%	5%				
FIRESPREAD4 (n=528)	-> My Grand County property	11%	33%	33%	20%	3%				
	FROM my Grand Co	ounty property	y TO:							
FIRESPREAD5 (n=538)	-> My neighborhood	12%	32%	32%	20%	5%				
FIRESPREAD6 (n=527)	-> Nearby public/large undeveloped land	8%	22%	30%	28%	12%				

### CHANCES1 (544)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	1%	1%	2%	11%	4%	12%	20%	43%	6%

### CHANCES2 (n=542)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
6%	7%	12%	11%	6%	19%	5%	9%	12%	11%	3%

4.8. If there is a wildfire on your Grand County 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=537)	I would put the fire out.	4%	5%	18%	31%	40%	2%
LACT2 (n=537)	The fire department would save my home.	10%	29%	36%	18%	7%	0%
LACT3 (n=539)	My home would have smoke damage.	13%	36%	33%	14%	3%	1%
LACT4 (n=542)	My home would have some physical damage.	10%	35%	37%	16%	2%	1%
LACT5 (n=540)	My home would be destroyed.	4%	17%	36%	32%	10%	1%
LACT6 (n=535)	I would lose money due to the loss of business or income on my property.	8%	11%	8%	11%	17%	46%
LACT7 (n=540)	My trees and landscape would burn.	18%	39%	29%	12%	2%	1%
LACT9 (n=541)	My neighbors' homes would be damaged or destroyed.	6%	22%	41%	24%	7%	1%
LACT12 (n=538)	Direct flame would ignite my home.	8%	23%	33%	26%	10%	0%
LACT13 (n=541)	Embers would ignite my home.	5%	20%	39%	29%	7%	0%
LACT14 (n=540)	Nearby homes would ignite my home.	4%	13%	31%	29%	22%	1%

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*)

		Uso respo fro Extremely useful	efulness ndents om the s Very useful	s of informat who received ource (sums Moderately useful	ion amo d inform to ~100' Slightly useful	ng ation %) Not at all useful	Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source
SOURCEUSE1 (n=539)	Local fire department	26%	45%	19%	7%	3%	49%	51%
SOURCEUSE2 (n=544)	Community group (ex., homeowners association)	23%	37%	25%	11%	4%	63%	37%
SOURCEUSE5 (n=540)	Firewise USA	15%	40%	22%	16%	7%	24%	76%
SOURCEUSE27 (n=538)	Grand County Wildfire Council	20%	50%	20%	7%	3%	46%	54%
SOURCEUSE6 (n=535)	Colorado State Forest Service	14%	42%	28%	13%	3%	26%	74%
SOURCEUSE14 (n=536)	U.S. Forest Service	17%	34%	31%	15%	3%	27%	73%
SOURCEUSE15 (n=538)	Bureau of Land Management	11%	27%	32%	20%	10%	17%	83%
SOURCEUSE4 (n=541)	Media (newspaper, TV, radio, internet)	5%	19%	28%	35%	13%	52%	48%

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 info how to reduce wildfire risk or from?	rmation a your prop	Would you like to receive information about how to reduce wildfire risk on your property from 2				
		No	Yes		No	Yes	
Email/e-newsletter	RECEIVEINFO1 (n=506)	21%	79%	WANTINFO1 (n=522)	59%	41%	
Mailed newsletter	RECEIVEINFO2 (n=494)	36%	64%	WANTINFO2 (n=514)	<mark>69%</mark>	31%	
Community meetings	RECEIVEINFO3 (n=474)	<b>46%</b>	54%	WANTINFO3 (n=521)	<mark>66</mark> %	34%	
In-person interactions	RECEIVEINFO4 (n=478)	50%	50%	WANTINFO4 (n=517)	<mark>69%</mark>	31%	
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=481)	80%	20%	WANTINFO5 (n=515)	89%	11%	
Internet (non-social media)	RECEIVEINFO6 (n=483)	50%	50%	WANTINFO6 (n=514)	73%	27%	
TV news	RECEIVEINFO7 (n=482)	62%	38%	WANTINFO7 (n=519)	70%	30%	
Newspaper	RECEIVEINFO8 (n=486)	62%	38%	WANTINFO8 (n=512)	73%	27%	
Radio	RECEIVEINFO9 (n=479)	73%	27%	WANTINFO9 (n=516)	83%	17%	

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=529)	Removing trees and reducing other vegetation (thinning/fuel breaks)	47%	34%	13%	5%	1%
ACCEPT2 (n=532)	Burning piles of vegetation (slash piles)	45%	33%	11%	6%	5%
ACCEPT3 (n=530)	Conducting a prescribed fire ignited by fire managers	29%	29%	23%	10%	10%
ACCEPT4 (n=528)	Managing a naturally ignited fire (such as lightning)	36%	37%	15%	6%	6%
ACCEPT1 _WR012 (n=466)	Creating Sheep Mountain wildfire fuel break	32%	35%	21%	7%	5%
ACCEPT2 _WR012 (n=470)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	27%	32%	25%	9%	8%
ACCEPT5 (n=520)	Addressing wildfire issues with land use and building codes	30%	34%	23%	8%	4%

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

				Neither		
		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=534)	With proper technology, we can control most wildfires.	4%	31%	36%	25%	4%
STATE3 (n=540)	We should put out wildfires that threaten human life.	59%	38%	3%	1%	0%
STATE4 (n=536)	We should put out wildfires that threaten property.	35%	50%	13%	1%	0%
STATE5 (n=538)	During a wildfire, saving homes should be a priority over saving forests.	32%	41%	22%	4%	1%
STATE6 (n=539)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	40%	51%	7%	1%	1%
STATE11 (n=541)	I live here for the trees and will not remove any of them to reduce wildfire risk.	1%	4%	12%	49%	34%
STATE13 (n=540)	Managing the wildfire danger is a government responsibility, not mine.	0%	4%	16%	53%	28%
STATE14 (n=540)	Homeowners' actions to reduce wildfire are not effective.	1%	2%	10%	57%	30%
STATE15 (n=537)	My property is at risk of wildfire.	10%	55%	21%	12%	3%
STATE17 (n=537)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	3%	16%	29%	46%	6%
STATE19 (n=536)	Local firefighters have sufficient resources to keep the wildfire from spreading.	1%	10%	40%	37%	12%
STATE20 (n=535)	Local firefighters have sufficient resources to protect threatened homes.	1%	14%	44%	30%	11%
STATE21 (n=539)	Firefighters should put their lives at risk to protect my home.	1%	3%	12%	41%	44%
STATE22 (n=532)	Wildfires threaten my community water supply.	5%	23%	44%	23%	6%
STATE24 (n=541)	I plan on moving out of the area in the next year because of wildfires.	0%	0%	4%	29%	67%

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

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

		No	Yes
FACTOR1 (n=536)	Financial expense/ cost	73%	27%
FACTOR2 (n=536)	Time it takes to do the work	63%	37%
FACTOR3 (n=537)	Physical difficulty of doing the work	55%	45%
FACTOR4 (n=529)	Lack of specific information on how to reduce wildfire risk on my property	65%	35%
FACTOR5 (n=521)	Lack of effectiveness of risk reduction actions	88%	12%
FACTOR6 (n=531)	Do not want to change the way my property looks	77%	23%
FACTOR7 (n=534)	Lack of information about or options for removal of materials from thinning trees and other vegetation	61%	39%
FACTOR9 (n=533)	Restrictions by homeowners' association on cutting trees	95%	5%
FACTOR10 (n=504)	I am not the owner of this property	98%	2%

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

		No	Yes
INCENTV1 (n=531)	Financial assistance	41%	59%
INCENTV2 (n=537)	Specific information about what needs to be done on my property	21%	80%
INCENTV3 (n=536)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	27%	73%
INCENTV4 (n=534)	A list of recommended contractors that could be hired to do the work	33%	67%

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=538)

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
2%	4%	13%	19%	16%	25%	7%	7%	4%	2%	2%

### AGE (n=536)

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

#### AVERAGE = 64 years old

#### GENDER (n=526)

- 7.3. Are you? (*Fill in one circle*)
  - 68% Male
  - 33% Female

EDUC (n=539What is the highest grade or year of school you completed? (Fill in one circle)

- 0% Less than high school
- 3% High school graduate
- 13% Some college or technical school
- 4% Technical or trade school
- 31% College graduate
- 12% Some graduate work
- 36% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

EMPLOY (n=536Which of the following best describes your current employment situation? (*Fill in one circle*)

- 40% Employed full time (including self-employed)
- 8% Employed part time (including self-employed)
- 2% Unemployed or do not work outside of the home
- 50% Retired

**INCOME** (n=475Which of the following categories describes your annual household income? (*Fill in one circle*)

- 1% Less than \$15,000
- **2%** \$15,000 \$24,999
- **2%** \$25,000 \$34,999
- **6%** \$35,000 \$49,999
- 11% \$50,000 \$74,999
- **15%** \$75,000 \$99,999
- 20% \$100,000 \$149,999
- **16%** \$150,000 \$199,999
- 28% \$200,000 or more

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

# Living with Wildfire in Grand County in 2020

## East Grand FPD Survey Results







Prepared by The Wildfire Research Center for: Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 140n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

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

### OCCTYPE (n=138)

- 1.1. Do you own or rent your Grand County residence? (*Fill in one circle*)
- 88% Own and occupy
- 9% Own and rent out short term
- 3% Own and rent out long term
- 0% I am a renter

### MONTHS (n=135)

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

AVERAGE = 8 months; 12 months = 48%

### FULLTIME (n=134)

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

AVERAGE = 2005

### YRBUILD (n=133)

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

AVERAGE = 1991

### RISKAWAR (n=139)

- 1.5. How aware of wildfire risk were you when you bought or decided to rent your Grand County residence? (*Fill in one circle*)
  - 52% Very aware

37% Somewhat aware

8% Not aware

3% Don't remember

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

### FIRE (n=139)

- 2.1. What is the closest distance (as a crow flies) a wildfire has come to your Grand County property? (*Fill in one circle*)
  - 0% There has been a wildfire on my property
  - 0% Less than 2 miles away but not on my property
  - **35%** 2 to 10 miles away
  - 42% More than 10 miles away
  - 24% Not sure
- 2.2. Has your Grand County residence ever had smoke or fire damage from a wildfire? (*Fill in one circle per row*)

		No	Yes
SMOKEDAM (n=139)	My Grand County residence has had smoke damage	100%	0%
FIREDAM (n=136)	My Grand County residence has had wildfire damage	100%	0%
DESTROY (n=136)	My Grand County residence was destroyed by a wildfire	100%	0%

## 2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

		No	Yes	Not applicable
EVACPPL (n=138)	For people in my household	35%	<mark>62%</mark>	4%
EVACPETS (n=138)	For the pets in my household and on my property	26%	33%	41%
EVACLIVSTOC (n=138)	For livestock on my property	9%	1%	89%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=136)	How I will be notified about evacuating	6%	94%
EVACINFO9 (n=135)	When to evacuate	<mark>6%</mark>	94%
EVACINFO3 (n=136)	Safe evacuation routes	10%	90%
EVACINFO5 (n=135)	What to bring and what to leave behind	33%	67%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2(n=134)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	71%	29%
EVACUATED (n=138)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	99%	1%
ACTIVITIES9 (n=138)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	87%	13%

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

		No	Yes	Don't know
INSURE2 (n=139)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	48%	40%	12%
INSURE3 (n=139)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	90%	9%	1%
INSURE4 (n=139)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	32%	25%	44%
INSURE10 (n=138)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	55%	8%	37%
INSURE12 (n=139)	Do you think your home is adequately insured against loss from a wildfire?	7%	75%	19%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=137)	Tile, metal, or asphalt shingles	1%	99%
ROOFTYPE2 (n=137)	Wood (shake shingles)	98%	2%

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

		No	Yes
SIDETYPE1 (n=138)	Stucco, cement, brick, stone, or other noncombustible siding	70%	30%
SIDETYPE2 (n=138)	Log or heavy timbers	87%	13%
SIDETYPE3 (n=138)	Wood or vinyl siding	25%	75%

### ATTACHMENT (n=140)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

2%	No			
98%	Yes	$\rightarrow$	ATTACHCOM Is <b>any</b> part of combustible	VIB (n=134) of the balcony, deck, porch, or fence made of e materials? ( <i>Fill in one circle</i> )
			10%	No

### DRIVEWAYW1 (n=139)

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

Yes

10% More than 26 feet (more than two cars wide)

90%

- 21% 20 26 feet (two cars wide)
- 69% Less than 20 feet (one car wide)

### DRIVEWAYL (n=133)

70%

3.5. How long is your driveway? (*Fill in one circle*)

79%	150 feet long or less			
21%	Longer than 150 feet	$\rightarrow$	TURNA Would drivew	ARND (n=31) a fire truck be able to turn around in your ay? ( <i>Fill in one circle</i> )
			39%	No
			61%	Yes

### HOMENUM (n=137)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (Fill in one circle)

42%	No					
58%	Yes	$\rightarrow$	Answer t	he following two questions (Fill in one cire	cle per	row)
					No	Yes
		HOMENUMVIS (n=80)		Is the posted number visible from the road?	6%	94%
		REFLE	ECT (n=75)	Is the posted number reflective?	65%	35%

### CLOSEVEG (n=139)

- 3.7. What is the **closest** distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (Fill in one circle)
  - 6% More than 150 feet
  - 22% 31 – 150 feet
  - 45% 10 – 30 feet
  - 27% Less than 10 feet

### COMBUST (n=139)

- 3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (*Fill in one circle*)
  - 68% None or more than 30 feet
  - 19% 10 – 30 feet
  - 13% Less than 10 feet

### RIDGE(n=140)

- 3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)
  - 81% More than 150 feet
  - 8% 50 150 feet
  - 11% Less than 50 feet

### SLOPE (n=140)

3.10. 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 your Grand County residence? (*Fill in one circle*)

4%	Gentle – Less than 20%	Steep / Greater than 45% 🔸	1
42%	Moderate – 20% to 45%	haderate / 20 - 45%	
54%	Steep – Greater than 45%	Modelass	1
		Gentle / Less than 20%	

### ROADS (n=137)

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

15%	No
85%	Yes

### DOMVEG (n=140)

- 3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)
  - 7% Grasses
  - 74% Light brush and/or isolated trees (e.g., grass with some lodgepole pine, scattered aspen, or other conifer)
  - 19% Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense aspen, and/or dense mixed conifer)

### RISKRATE (n=139)

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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)

13%	Low risk
73%	Moderate risk
14%	High risk
0%	Very high risk

0% Extreme 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=137)

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

65%	No
35%	Yes

### SLACKER (n=134)

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*)

65%	No			
35%	Yes	$\rightarrow$	SLACKCC Do cond wildfire <i>circle</i> )	OND (n=46) itions on those properties increase the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			11%	No
			89%	Yes

### NACTION1 (n=132)

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*)

33%	No							
67%	Yes	$\rightarrow$	NACTCOND1 (n=84) Do conditions on those properties change the likelihood of wildfire spreading to your Grand County property? ( <i>Fill in</i> <i>circle</i> )					
			24%	No				
			69% 7%	Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of wildfire spreading to my property				

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

		No	Yes
ACTIVITIES1 (n=137)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	6%	94%
ACTIVITIES7 (n=135)	Regularly cleared my roof and gutters of leaves and pine needles	24%	76%
ACTIVITIES8 (n=137)	Regularly mowed and raked around my Grand County residence	34%	66%
ACTIVITIES2 (n=136)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	66%	34%
ACTIVITIES3 (n=136)	Helped neighbor(s) reduce vegetation on their properties	85%	15%
ACTIVITIES4 (n=138)	Helped reduce vegetation on community property	91%	9%
ACTIVITIES5 (n=138)	Helped reduce vegetation on nearby public lands	95%	5%
ACTIVITIES6 (n=138)	Participated in a community wildfire activity (ex. meeting, chipper day)	93%	7%

4.5. 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	c/large undev	eloped la	and TO:		
FIRESPREAD1 (n=135)	-> My neighborhood	5%	23%	44%	21%	7%
FIRESPREAD2 (n=130	-> My Grand County property	3%	20%	39%	29%	9%
	FROM my neighbor	hood TO:				
FIRESPREAD3 (n=134)	-> Nearby public/large undeveloped land	3%	25%	36%	28%	9%
FIRESPREAD4 (n=132)	-> My Grand County property	4%	29%	33%	30%	4%
	FROM my Grand Co	ounty property	y TO:			
FIRESPREAD5 (n=133)	-> My neighborhood	3%	28%	39%	23%	8%
FIRESPREAD6 (n=131)	-> Nearby public/large undeveloped land	2%	18%	30%	33%	17%

### CHANCES1 (n=135)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	1%	0%	0%	3%	3%	10%	18%	55%	10%

### CHANCES2 (n=135)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
2%	6%	5%	6%	7%	18%	7%	10%	17%	17%	4%

4.8. If there is a wildfire on your Grand County 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=135)	I would put the fire out.	6%	4%	15%	34%	40%	1%
LACT2 (n=134)	The fire department would save my home.	11%	33%	46%	10%	1%	0%
LACT3 (n=135)	My home would have smoke damage.	9%	36%	39%	13%	2%	0%
LACT4 (n=135)	My home would have some physical damage.	4%	33%	41%	21%	2%	0%
LACT5 (n=136)	My home would be destroyed.	1%	7%	38%	40%	14%	0%
LACT6 (n=134)	I would lose money due to the loss of business or income on my property.	8%	8%	9%	13%	18%	44%
LACT7 (n=135)	My trees and landscape would burn.	12%	40%	31%	16%	2%	0%
LACT9 (n=136)	My neighbors' homes would be damaged or destroyed.	3%	17%	39%	29%	12%	1%
LACT12 (n=136)	Direct flame would ignite my home.	3%	19%	30%	35%	13%	0%
LACT13 (n=136)	Embers would ignite my home.	3%	14%	44%	30%	9%	0%
LACT14 (n=135)	Nearby homes would ignite my home.	2%	7%	27%	36%	29%	0%

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*)

		Uso respo fro Extremely useful	efulness ndents m the s Very useful	s of informat who receive ource (sums Moderately useful	Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source		
SOURCEUSE1 (n=134)	Local fire department	11%	39%	33%	14%	3%	27%	73%
SOURCEUSE2 (n=136)	Community group (ex., homeowners association)	0%	33%	42%	17%	8%	9%	91%
SOURCEUSE5 (n=136)	Firewise USA	6%	50%	25%	19%	0%	12%	88%
SOURCEUSE27 (n=135)	Grand County Wildfire Council	20%	46%	27%	7%	0%	30%	70%
SOURCEUSE6 (n=135)	Colorado State Forest Service	5%	40%	40%	15%	0%	15%	85%
SOURCEUSE14 (n=134)	U.S. Forest Service	8%	30%	37%	26%	0%	20%	80%
SOURCEUSE15 (n=135)	Bureau of Land Management	0%	42%	33%	25%	0%	9%	91%
SOURCEUSE4 (n=135)	Media (newspaper, TV, radio, internet)	3%	25%	30%	30%	13%	47%	53%

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?				
		No	Yes		No	Yes		
Email/e-newsletter	RECEIVEINFO1 (n=130)	20%	80%	WANTINFO1 (n=137)	90%	10%		
Mailed newsletter	RECEIVEINFO2 (n=125)	34%	<mark>66</mark> %	WANTINFO2 (n=137)	83%	17%		
Community meetings	RECEIVEINFO3 (n=122)	<mark>61%</mark>	39%	WANTINFO3 (n=137)	93%	7%		
In-person interactions	RECEIVEINFO4 (n=123)	57%	43%	WANTINFO4 (n=137)	81%	19%		
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=120)	78%	22%	WANTINFO5 (n=135)	94%	6%		
Internet (non-social media)	RECEIVEINFO6 (n=122)	43%	57%	WANTINFO6 (n=136)	73%	27%		
TV news	RECEIVEINFO7 (n=123)	59%	41%	WANTINFO7 (n=135)	74%	<mark>26</mark> %		
Newspaper	RECEIVEINFO8 (n=123)	59%	41%	WANTINFO8 (n=136)	72%	28%		
Radio	RECEIVEINFO9 (n=120)	75%	25%	WANTINFO9 (n=137)	85%	15%		

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=135)	Removing trees and reducing other vegetation (thinning/fuel breaks)	44%	34%	12%	7%	2%
ACCEPT2 (n=135)	Burning piles of vegetation (slash piles)	39%	36%	12%	7%	5%
ACCEPT3 (n=135)	Conducting a prescribed fire ignited by fire managers	22%	31%	25%	13%	10%
ACCEPT4 (n=134)	Managing a naturally ignited fire (such as lightning)	28%	43%	17%	7%	5%
ACCEPT1 _WR012 (n=125)	Creating Sheep Mountain wildfire fuel break	23%	40%	25%	8%	4%
ACCEPT2 _WR012 (n=124)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	22%	33%	27%	10%	8%
ACCEPT5 (n=132)	Addressing wildfire issues with land use and building codes	28%	38%	23%	8%	3%
5.4. How much do you agree or disagree with the following statements about wildfire? (*Fill in one circle per row*)

				Neither		
		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=136)	With proper technology, we can control most wildfires.	2%	27%	40%	28%	3%
STATE3 (n=134)	We should put out wildfires that threaten human life.	53%	45%	2%	0%	0%
STATE4 (n=133)	We should put out wildfires that threaten property.	32%	50%	17%	1%	1%
STATE5 (n=135)	During a wildfire, saving homes should be a priority over saving forests.	30%	44%	21%	5%	0%
STATE6 (n=134)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	40%	50%	9%	2%	0%
STATE11 (n=135)	I live here for the trees and will not remove any of them to reduce wildfire risk.	0%	5%	7%	55%	33%
STATE13 (n=135)	Managing the wildfire danger is a government responsibility, not mine.	0%	4%	21%	54%	22%
STATE14 (n=134)	Homeowners' actions to reduce wildfire are not effective.	1%	1%	11%	63%	25%
STATE15 (n=134)	My property is at risk of wildfire.	4%	46%	25%	22%	4%
STATE17 (n=143)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	2%	15%	25%	53%	6%
STATE19 (n=133)	Local firefighters have sufficient resources to keep the wildfire from spreading.	0%	10%	44%	38%	8%
STATE20 (n=132)	Local firefighters have sufficient resources to protect threatened homes.	0%	15%	52%	27%	6%
STATE21 (n=134)	Firefighters should put their lives at risk to protect my home.	1%	3%	12%	46%	38%
STATE22 (n=133)	Wildfires threaten my community water supply.	5%	22%	49%	23%	1%
STATE24 (n=135)	I plan on moving out of the area in the next year because of wildfires.	1%	0%	4%	32%	63%

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

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

		No	Yes
FACTOR1 (n=137)	Financial expense/ cost	75%	25%
FACTOR2 (n=137)	Time it takes to do the work	66%	34%
FACTOR3 (n=137)	Physical difficulty of doing the work	60%	40%
FACTOR4 (n=137)	Lack of specific information on how to reduce wildfire risk on my property	54%	46%
FACTOR5 (n=132)	Lack of effectiveness of risk reduction actions	89%	11%
FACTOR6 (n=135)	Do not want to change the way my property looks	74%	26%
FACTOR7 (n=135)	Lack of information about or options for removal of materials from thinning trees and other vegetation	53%	47%
FACTOR9 (n=136)	Restrictions by homeowners' association on cutting trees	99%	2%
FACTOR10 (n=131)	I am not the owner of this property	98%	2%

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

		No	Yes
INCENTV1 (n=135)	Financial assistance	49%	51%
INCENTV2 (n=135)	Specific information about what needs to be done on my property	18%	82%
INCENTV3 (n=135)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	30%	70%
INCENTV4 (n=137)	A list of recommended contractors that could be hired to do the work	34%	66%

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=136)

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
2%	4%	16%	18%	13%	26%	7%	7%	3%	2%	2%

#### AGE (n=134)

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

AVERAGE = 62 years old

#### GENDER (n=130)

- 7.3. Are you? (*Fill in one circle*)
  - 67% Male
  - 33% Female

EDUC (n=135What 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
- 3% Technical or trade school
- 33% College graduate
- 13% Some graduate work
- 39% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

EMPLOY (n=135Which of the following best describes your current employment situation? (*Fill in one circle*)

- 45% Employed full time (including self-employed)
- 9% Employed part time (including self-employed)
- 2% Unemployed or do not work outside of the home
- 44% Retired

**INCOME** (n=119Which of the following categories describes your annual household income? (*Fill in one circle*)

- 0% Less than \$15,000
- **1%** \$15,000 \$24,999
- **3%** \$25,000 \$34,999
- **3%** \$35,000 \$49,999
- 12% \$50,000 \$74,999
- 14% \$75,000 \$99,999
- 20% \$100,000 \$149,999
- **19%** \$150,000 \$199,999
- 28% \$200,000 or more

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

# Living with Wildfire in Grand County in 2020

### **Grand FPD Survey Results**







Prepared by The Wildfire Research Center for: Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 133n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

When choosing a response, please fill in the circle completely. Correct:  $\bigcirc$  Incorrect:  $\oslash \odot \odot \odot$ 

#### OCCTYPE (n=132)

- 1.1. Do you own or rent your Grand County residence? (*Fill in one circle*)
  - 93% Own and occupy
  - 6% Own and rent out short term
  - 1% Own and rent out long term
  - 0% I am a renter

#### MONTHS (n=128)

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

AVERAGE = 8 months; 12 months = 41%

#### FULLTIME (n=132)

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

**AVERAGE = 2003** 

#### YRBUILD (n=131)

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

**AVERAGE = 1990** 

#### RISKAWAR (n=133)

- 1.5. How aware of wildfire risk were you when you bought or decided to rent your Grand County residence? (*Fill in one circle*)
  - 49% Very aware
  - 42% Somewhat aware
  - 8% Not aware
  - 1% Don't remember

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

#### FIRE (n=132)

- 2.1. What is the closest distance (as a crow flies) a wildfire has come to your Grand County property? (*Fill in one circle*)
  - 1% There has been a wildfire on my property
  - 5% Less than 2 miles away but not on my property
  - **48%** 2 to 10 miles away
  - 26% More than 10 miles away
  - 21% Not sure
- 2.2. Has your Grand County residence ever had smoke or fire damage from a wildfire? (*Fill in one circle per row*)

		No	Yes
SMOKEDAM (n=133)	My Grand County residence has had smoke damage	99%	1%
FIREDAM (n=131)	My Grand County residence has had wildfire damage	99%	1%
DESTROY (n=131)	My Grand County residence was destroyed by a wildfire	99%	1%

### 2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

		No	Yes	Not applicable
EVACPPL (n=133)	For people in my household	22%	75%	3%
EVACPETS (n=132)	For the pets in my household and on my property	17%	45%	37%
EVACLIVSTOC (n=130)	For livestock on my property	8%	1%	92%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=132)	How I will be notified about evacuating	7%	93%
EVACINFO9 (n=131)	When to evacuate	5%	95%
EVACINFO3 (n=132)	Safe evacuation routes	11%	89%
EVACINFO5 (n=131)	What to bring and what to leave behind	41%	60%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2(n=130)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	53%	47%
EVACUATED (n=133)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	98%	2%
ACTIVITIES9 (n=132)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	76%	24%

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

		No	Yes	Don't know
INSURE2 (n=133)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	56%	32%	12%
INSURE3 (n=133)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	85%	13%	2%
INSURE4 (n=131)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	31%	28%	42%
INSURE10 (n=131)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	58%	17%	25%
INSURE12 (n=132)	Do you think your home is adequately insured against loss from a wildfire?	9%	75%	16%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=132)	Tile, metal, or asphalt shingles	2%	98%
ROOFTYPE2 (n=132)	Wood (shake shingles)	97%	3%

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

		No	Yes
SIDETYPE1 (n=132)	Stucco, cement, brick, stone, or other noncombustible siding	74%	26%
SIDETYPE2 (n=132)	Log or heavy timbers	78%	22%
SIDETYPE3 (n=132)	Wood or vinyl siding	31%	67%

#### ATTACHMENT (n=133)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

2%	No			
98%	Yes	$\rightarrow$	ATTACHCO ls <b>any</b> part combustibl	MB (n=127) of the balcony, deck, porch, or fence made of e materials? ( <i>Fill in one circle</i> )
			6%	No
			94%	Yes

#### DRIVEWAYW1 (n=132)

- 3.4. How wide is the driveway of your Grand County residence at the narrowest point? (*Fill in one circle*)
  - 6% More than 26 feet (more than two cars wide)
  - 24% 20 26 feet (two cars wide)

70% Less than 20 feet (one car wide)

#### DRIVEWAYL (n=125)

- 3.5. How long is your driveway? (Fill in one circle)
  - 55% 150 feet long or less
  - 45% Longer than 150 feet  $\rightarrow$  TURNARND (n=60)

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

47% No

53% Yes

#### HOMENUM (n=130)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (Fill in one circle)

3%	No							
97%	Yes	Yes $\rightarrow$ Answer the following two questions ( <i>Fill in one circle</i>						
					No	Yes		
		HOMEN (n=127)	NUMVIS )	Is the posted number visible from the road?	2%	98%		
		REFLE	CT (n=122)	Is the posted number reflective?	11%	89%		

#### CLOSEVEG (n=132)

- 3.7. What is the closest distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (Fill in one circle)
  - 4% More than 150 feet
  - 25% 31 – 150 feet
  - 50% 10 – 30 feet
  - 21% Less than 10 feet

#### COMBUST (n=131)

3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (Fill in one circle)

49% None or more than 30 feet 40% 10 – 30 feet

11% Less than 10 feet

#### RIDGE(n=132)

3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)

56% More than 150 feet

**25%** 50 – 150 feet

19% Less than 50 feet

#### SLOPE (n=130)

3.10. 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 your Grand County residence? (*Fill in one circle*)

24%	Gentle – Less than 20%	Steep / Greater than 45%
49%	Moderate – 20% to 45%	Moderate / 20 – 45%
27%	Steep – Greater than 45%	Gentle / Less than 20%

#### ROADS (n=132)

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

34%	No
66%	Yes

#### DOMVEG (n=132)

- 3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)
  - 0% Grasses
  - 72% Light brush and/or isolated trees (e.g., grass with some lodgepole pine, scattered aspen, or other conifer)
  - 28% Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense aspen, and/or dense mixed conifer)

#### RISKRATE (n=132)

- 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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)
  - 5% Low risk

55%	Moderate risk
39%	High risk
2%	Very high risk
0%	Extreme 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=132)

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

36% No64% Yes

### SLACKER (n=130)

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*)

55%	No			
45%	Yes	$\rightarrow$	SLACKCO Do cond wildfire <i>circle</i> )	OND (n=56) itions on those properties increase the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			13%	No
			88%	Yes

#### NACTION1 (n=127)

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*)

18%	No		
82%	Yes	$\rightarrow$	NACTCOND1 (n=103) Do conditions on those properties change the likelihood of wildfire spreading to your Grand County property? ( <i>Fill in one</i> <i>circle</i> )
			21% No

72% 7% Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of wildfire spreading to my property

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

		No	Yes
ACTIVITIES1 (n=133)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	7%	93%
ACTIVITIES7 (n=120)	Regularly cleared my roof and gutters of leaves and pine needles	38%	62%
ACTIVITIES8 (n=130)	Regularly mowed and raked around my Grand County residence	42%	58%
ACTIVITIES2 (n=132)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	55%	45%
ACTIVITIES3 (n=131)	Helped neighbor(s) reduce vegetation on their properties	79%	21%
ACTIVITIES4 (n=133)	Helped reduce vegetation on community property	80%	20%
ACTIVITIES5 (n=132)	Helped reduce vegetation on nearby public lands	92%	8%
ACTIVITIES6 (n=132)	Participated in a community wildfire activity (ex. meeting, chipper day)	64%	36%

4.5. 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	FROM nearby public/large undeveloped land TO:									
FIRESPREAD1 (n=130)	-> My neighborhood	14%	43%	29%	14%	1%					
FIRESPREAD2 (n=126)	-> My Grand County property	9%	35%	32%	21%	3%					
	FROM my neighborh	FROM my neighborhood TO:									
FIRESPREAD3 (n=130)	-> Nearby public/large undeveloped land	11%	32%	32%	23%	2%					
FIRESPREAD4 (n=127)	-> My Grand County property	10%	39%	34%	17%	1%					
	FROM my Grand Co	FROM my Grand County property TO:									
FIRESPREAD5 (n=130)	-> My neighborhood	12%	35%	32%	19%	2%					

		Extremely likely	Very likely	Moderately likely	Slightly likely	Not at all likely
FIRESPREAD6 (n=130)	-> Nearby public/large undeveloped land	7%	22%	29%	32%	12%

#### CHANCES1 (n=132)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	2%	1%	2%	12%	5%	10%	19%	45%	4%

#### CHANCES2 (n=131)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
5%	7%	14%	9%	3%	25%	7%	11%	12%	7%	1%

### 4.8. If there is a wildfire on your Grand County 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=130)	I would put the fire out.	2%	5%	17%	29%	47%	1%
LACT2 (n=130)	The fire department would save my home.	3%	21%	37%	34%	5%	0%
LACT3 (n=131)	My home would have smoke damage.	14%	37%	34%	14%	2%	1%
LACT4 (n=131)	My home would have some physical damage.	11%	34%	41%	13%	2%	0%
LACT5 (n=129)	My home would be destroyed.	5%	20%	36%	32%	7%	0%
LACT6 (n=131)	I would lose money due to the loss of business or income on my property.	5%	12%	4%	10%	12%	57%
LACT7 (n=131)	My trees and landscape would burn.	21%	41%	24%	11%	2%	0%
LACT9 (n=131)	My neighbors' homes would be damaged or destroyed.	4%	21%	42%	27%	5%	2%

		Extremely likely	Very likely	Moderately likely	Slightly likely	Not at all likely	Not applicable
LACT12 (n=131)	Direct flame would ignite my home.	6%	18%	37%	31%	8%	1%
LACT13 (n=131)	Embers would ignite my home.	4%	25%	38%	29%	5%	0%
LACT14 (n=131)	Nearby homes would ignite my home.	1%	8%	27%	29%	34%	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*)

		Use respo fro Extremely useful	efulness ndents m the s Very useful	s of informat who received ource (sums Moderately useful	ion amo d inform to ~100 Slightly useful	ng ation %) Not at all useful	Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source
SOURCEUSE1 (n=129)	Local fire department	25%	45%	24%	4%	1%	58%	42%
SOURCEUSE2 (n=132)	Community group (ex., homeowners association)	25%	39%	22%	11%	2%	93%	7%
SOURCEUSE5 (n=128)	Firewise USA	20%	39%	25%	13%	3%	50%	50%
SOURCEUSE27 (n=128)	Grand County Wildfire Council	22%	50%	21%	4%	3%	59%	41%
SOURCEUSE6 (n=127)	Colorado State Forest Service	24%	37%	24%	13%	2%	36%	64%
SOURCEUSE14 (n=126)	U.S. Forest Service	24%	24%	32%	14%	5%	29%	71%
SOURCEUSE15 (n=126)	Bureau of Land Management	14%	18%	29%	25%	14%	22%	78%
SOURCEUSE4 (n=130)	Media (newspaper, TV, radio, internet)	6%	13%	22%	48%	11%	49%	51%

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 N 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?			
		No	Yes		No	Yes	
Email/e-newsletter	RECEIVEINFO1 (n=125)	<mark>26</mark> %	74%	WANTINFO1 (n=128)	35%	65%	
Mailed newsletter	RECEIVEINFO2 (n=120)	41%	59%	WANTINFO2 (n=125)	<mark>66</mark> %	34%	
Community meetings	RECEIVEINFO3 (n=119)	40%	60%	WANTINFO3 (n=129)	55%	45%	
In-person interactions	RECEIVEINFO4 (n=120)	50%	50%	WANTINFO4 (n=126)	64%	37%	
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=123)	84%	16%	WANTINFO5 (n=127)	90%	10%	
Internet (non-social media)	RECEIVEINFO6 (n=120)	55%	45%	WANTINFO6 (n=123)	71%	29%	
TV news	RECEIVEINFO7 (n=120)	71%	29%	WANTINFO7 (n=126)	80%	20%	
Newspaper	RECEIVEINFO8 (n=122)	57%	43%	WANTINFO8 (n=125)	70%	30%	
Radio	RECEIVEINFO9 (n=121)	76%	24%	WANTINFO9 (n=126)	86%	14%	

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=128)	Removing trees and reducing other vegetation (thinning/fuel breaks)	49%	38%	9%	4%	1%
ACCEPT2 (n=129)	Burning piles of vegetation (slash piles)	52%	30%	11%	5%	2%
ACCEPT3 (n=129)	Conducting a prescribed fire ignited by fire managers	29%	31%	24%	12%	5%
ACCEPT4 (n=127)	Managing a naturally ignited fire (such as lightning)	35%	39%	17%	6%	4%
ACCEPT1 _WR012 (n=108)	Creating Sheep Mountain wildfire fuel break	35%	31%	27%	6%	2%
ACCEPT2 _WR012 (n=110)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	25%	34%	29%	7%	5%
ACCEPT5 (n=125)	Addressing wildfire issues with land use and building codes	33%	33%	26%	6%	2%

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

				Neither		
		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=130)	With proper technology, we can control most wildfires.	2%	25%	35%	32%	5%
STATE3 (n=131)	We should put out wildfires that threaten human life.	50%	46%	3%	2%	0%
STATE4 (n=131)	We should put out wildfires that threaten property.	30%	52%	17%	2%	0%
STATE5 (n=130)	During a wildfire, saving homes should be a priority over saving forests.	28%	45%	22%	5%	1%
STATE6 (n=131)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	50%	46%	2%	1%	2%
STATE11 (n=130)	I live here for the trees and will not remove any of them to reduce wildfire risk.	1%	2%	9%	51%	38%
STATE13 (n=129)	Managing the wildfire danger is a government responsibility, not mine.	1%	2%	8%	55%	34%
STATE14 (n=130)	Homeowners' actions to reduce wildfire are not effective.	0%	2%	5%	56%	37%
STATE15 (n=130)	My property is at risk of wildfire.	15%	63%	14%	5%	3%
STATE17 (n=130)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	5%	15%	29%	46%	5%
STATE19 (n=129)	Local firefighters have sufficient resources to keep the wildfire from spreading.	1%	4%	40%	40%	16%
STATE20 (n=129)	Local firefighters have sufficient resources to protect threatened homes.	1%	9%	39%	38%	14%
STATE21 (n=131)	Firefighters should put their lives at risk to protect my home.	2%	4%	9%	41%	44%
STATE22 (n=127)	Wildfires threaten my community water supply.	6%	19%	40%	28%	8%
STATE24 (n=131)	I plan on moving out of the area in the next year because of wildfires.	0%	0%	5%	26%	70%

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

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

		No	Yes
FACTOR1 (n=128)	Financial expense/ cost	70%	30%
FACTOR2 (n=127)	Time it takes to do the work	50%	50%
FACTOR3 (n=128)	Physical difficulty of doing the work	47%	53%
FACTOR4 (n=125)	Lack of specific information on how to reduce wildfire risk on my property	73%	27%
FACTOR5 (n=126)	Lack of effectiveness of risk reduction actions	90%	10%
FACTOR6 (n=127)	Do not want to change the way my property looks	80%	20%
FACTOR7 (n=128)	Lack of information about or options for removal of materials from thinning trees and other vegetation	68%	32%
FACTOR9 (n=127)	Restrictions by homeowners' association on cutting trees	98%	2%
FACTOR10 (n=118)	I am not the owner of this property	100%	0%

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

		No	Yes
INCENTV1 (n=126)	Financial assistance	36%	64%
INCENTV2 (n=128)	Specific information about what needs to be done on my property	23%	77%
INCENTV3 (n=127)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	26%	74%
INCENTV4 (n=126)	A list of recommended contractors that could be hired to do the work	33%	68%

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=130)

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
1%	4%	13%	21%	18%	26%	5%	5%	5%	1%	2%

#### AGE (n=128)

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

AVERAGE = 64 years old

#### GENDER (n=125)

- 7.3. Are you? (*Fill in one circle*)
  - 70% Male
  - 30% Female

EDUC (n=129What is the highest grade or year of school you completed? (*Fill in one circle*)

- 0% Less than high school
- 5% High school graduate
- 10% Some college or technical school
- 2% Technical or trade school
- 31% College graduate
- 9% Some graduate work
- 43% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

**EMPLOY (n=126**Which of the following best describes your current employment situation? (*Fill in one circle*)

USDA Forest Service RMRS-RN-94. 2022

- 43% Employed full time (including self-employed)
- 7% Employed part time (including self-employed)
- 2% Unemployed or do not work outside of the home
- 48% Retired

**INCOME** (n=117Which of the following categories describes your annual household income? (*Fill in one circle*)

- 2% Less than \$15,000
- **1%** \$15,000 \$24,999
- **2%** \$25,000 \$34,999
- **5%** \$35,000 \$49,999
- 14% \$50,000 \$74,999
- **13%** \$75,000 \$99,999
- 20% \$100,000 \$149,999
- **13%** \$150,000 \$199,999
- 32% \$200,000 or more

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

## Living with Wildfire in Grand County in 2020

### Grand Lake FPD Survey Results







Prepared by The Wildfire Research Center for: Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 226n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

When choosing a response, please fill in the circle completely. Correct:  $\bigcirc$  Incorrect:  $\oslash \otimes \odot \odot$ 

#### OCCTYPE (n=226)

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

Own and occupy Own and rent out short term Own and rent out long term I am a renter

MONTHS (n=197)

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

#### FULLTIME (n=222)

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

#### YRBUILD (n=219)

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

#### RISKAWAR (n=225)

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

Very aware Somewhat aware

Not aware

Don't remember

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

#### FIRE (n=226)

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

There has been a wildfire on my property

Less than 2 miles away but not on my property

2 to 10 miles away

More than 10 miles away

Not sure

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

		No	Yes
SMOKEDAM (n=225)	My Grand County residence has had smoke damage	98%	2%
FIREDAM (n=223)	My Grand County residence has had wildfire damage	99%	1%
DESTROY (n=223)	My Grand County residence was destroyed by a wildfire	100%	0%

### 2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

				Not
		No	Yes	applicable
EVACPPL (n=226)	For people in my household	22%	75%	3%
EVACPETS (n=223)	For the pets in my household and on my property	16%	42%	42%
EVACLIVSTOC (n=218)	For livestock on my property	5%	1%	94%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=221)	How I will be notified about evacuating	5%	96%
EVACINFO9 (n=222)	When to evacuate	4%	96%
EVACINFO3 (n=220)	Safe evacuation routes	7%	93%
EVACINFO5 (n=220)	What to bring and what to leave behind	34%	66%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2(n=220)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	42%	58%
EVACUATED (n=221)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	49%	51%
ACTIVITIES9 (n=223)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	87%	13%

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

		No	Yes	Don't know
INSURE2 (n=222)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	43%	38%	19%
INSURE3 (n=221)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	85%	14%	1%
INSURE4 (n=221)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	29%	30%	41%
INSURE10 (n=222)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	65%	6%	29%
INSURE12 (n=223)	Do you think your home is adequately insured against loss from a wildfire?	4%	83%	14%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=223)	Tile, metal, or asphalt shingles	1%	99%
ROOFTYPE2 (n=223)	Wood (shake shingles)	99%	1%

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

		No	Yes
SIDETYPE1 (n=223)	Stucco, cement, brick, stone, or other noncombustible siding	85%	15%
SIDETYPE2 (n=223)	Log or heavy timbers	63%	37%
SIDETYPE3 (n=223)	Wood or vinyl siding	37%	63%

#### ATTACHMENT (n=224)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

4%	No			
96%	Yes	$\rightarrow$	ATTACHCC Is <b>any</b> part combustib	MB (n=214) of the balcony, deck, porch, or fence made of le materials? ( <i>Fill in one circle</i> )
			6%	Νο
			94%	Yes

#### DRIVEWAYW1 (n=222)

- 3.4. How wide is the driveway of your Grand County residence at the narrowest point? (*Fill in one circle*)
  - 16% More than 26 feet (more than two cars wide)
  - 29% 20 26 feet (two cars wide)
  - 55% Less than 20 feet (one car wide)

#### DRIVEWAYL (n=218)

0.2%

3.5. How long is your driveway? (*Fill in one circle*)

92%	150 feet long or less			
8%	Longer than 150 feet	$\rightarrow$	TURNA Would drivew	ARND (n=21) a fire truck be able to turn around in your ay? ( <i>Fill in one circle</i> )
			29%	No
			71%	Yes

#### HOMENUM (n=222)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (Fill in one circle)

54%	No					
46%	Yes	$\rightarrow$	Answer t	the following two questions (Fill in one cire	cle per	row)
					No	Yes
		HOMEI (n=103	NUMVIS )	Is the posted number visible from the road?	7%	93%
		REFLE	CT (n=98)	Is the posted number reflective?	44%	56%

#### CLOSEVEG (n=223)

- 3.7. What is the **closest** distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (Fill in one circle)
  - 11% More than 150 feet
  - 24% 31 – 150 feet
  - 35% 10 – 30 feet
  - 31% Less than 10 feet

#### COMBUST (n=225)

- 3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (*Fill in one circle*)
  - 50% None or more than 30 feet
  - 32% 10 – 30 feet
  - 18% Less than 10 feet

#### RIDGE(n=221)

- 3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)
  - 77% More than 150 feet
  - 9% 50 150 feet
  - 15% Less than 50 feet

#### SLOPE (n=223)

3.10. 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 your Grand County residence? (*Fill in one circle*)

5%	Gentle – Less than 20%	Steep / Greater U
27%	Moderate – 20% to 45%	Moderate / 20 – 45%
68%	Steep – Greater than 45%	Gentle / Less than 20%

#### ROADS (n=222)

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

23% No

**77%** Yes

#### DOMVEG (n=225)

- 3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)
  - 4% Grasses
  - 79% Light brush and/or isolated trees (e.g., grass with some lodgepole pine, scattered aspen, or other conifer)
  - 17% Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense aspen, and/or dense mixed conifer)

#### RISKRATE (n=223)

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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)

700/
10% Moderate ris
16% High risk
2% Very high ris
1% Extreme 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=224)

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

34%	No
67%	Yes

#### SLACKER (n=218)

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*)

65%	No			
35% Yes		$\rightarrow$	SLACKCC Do cond wildfire <i>circle</i> )	OND (n=71) itions on those properties increase the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			8%	No
			92%	Yes

#### NACTION1 (n=210)

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*)

29%	No			
71%	Yes	$\rightarrow$	NACTCO Do cond wildfire <i>circle</i> )	ND1 (n=145) itions on those properties change the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			26%	No
			69% 5%	Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of wildfire spreading to my property

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

		No	Yes
ACTIVITIES1 (n=224)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	5%	95%
ACTIVITIES7 (n=207)	Regularly cleared my roof and gutters of leaves and pine needles	34%	66%
ACTIVITIES8 (n=216)	Regularly mowed and raked around my Grand County residence	32%	69%
ACTIVITIES2 (n=218)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	60%	40%
ACTIVITIES3 (n=220)	Helped neighbor(s) reduce vegetation on their properties	72%	28%
ACTIVITIES4 (n=222)	Helped reduce vegetation on community property	79%	21%
ACTIVITIES5 (n=222)	Helped reduce vegetation on nearby public lands	96%	5%
ACTIVITIES6 (n=223)	Participated in a community wildfire activity (ex. meeting, chipper day)	57%	44%

4.5. 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	FROM nearby public/large undeveloped land TO:									
FIRESPREAD1 (n=220)	-> My neighborhood	22%	35%	34%	8%	1%					
FIRESPREAD2 (n=207)	-> My Grand County property	15%	29%	39%	15%	3%					
	-ROM my neighborhood TO:										
FIRESPREAD3 (n=219)	-> Nearby public/large undeveloped land	17%	30%	32%	17%	4%					
FIRESPREAD4 (n=214)	-> My Grand County property	14%	32%	32%	18%	4%					
	FROM my Grand Co	ounty property	y TO:								
FIRESPREAD5 (n=219)	-> My neighborhood	15%	33%	28%	20%	4%					
FIRESPREAD6 (n=210)	-> Nearby public/large undeveloped land	12%	22%	33%	24%	9%					

#### CHANCES1 (n=221)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	1%	1%	3%	13%	4%	13%	22%	38%	5%

#### CHANCES2 (n=220)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
9%	6%	15%	15%	7%	15%	4%	7%	10%	9%	3%

4.8. If there is a wildfire on your Grand County 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=217)	I would put the fire out.	3%	5%	20%	31%	37%	3%
LACT2 (n=218)	The fire department would save my home.	15%	38%	32%	12%	3%	1%
LACT3 (n=218)	My home would have smoke damage.	14%	39%	31%	12%	3%	1%
LACT4 (n=220)	My home would have some physical damage.	12%	39%	33%	13%	1%	1%
LACT5 (n=219)	My home would be destroyed.	5%	21%	36%	29%	9%	1%
LACT6 (n=216)	I would lose money due to the loss of business or income on my property.	7%	13%	9%	10%	19%	43%
LACT7 (n=219)	My trees and landscape would burn.	18%	38%	31%	11%	1%	1%
LACT9 (n=218)	My neighbors' homes would be damaged or destroyed.	7%	24%	44%	18%	5%	1%
LACT12 (n=216)	Direct flame would ignite my home.	9%	28%	33%	21%	8%	1%
LACT13 (n=218)	Embers would ignite my home.	6%	19%	39%	30%	6%	1%
LACT14 (n=218)	Nearby homes would ignite my home.	7%	20%	39%	24%	9%	1%

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*)

		Usefulness of information among respondents who received information from the source (sums to ~100%) Extremely Very Moderately Slightly Not at all useful useful useful useful useful					Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source
SOURCEUSE1 (n=220)	Local fire department	34%	47%	14%	4%	2%	60%	40%
SOURCEUSE2 (n=220)	Community group (ex., homeowners association)	25%	38%	25%	9%	3%	83%	17%
SOURCEUSE5 (n=220)	Firewise USA	13%	36%	23%	18%	10%	18%	82%
SOURCEUSE27 (n=219)	Grand County Wildfire Council	20%	52%	20%	6%	2%	49%	51%
SOURCEUSE6 (n=217)	Colorado State Forest Service	11%	50%	25%	13%	2%	26%	74%
SOURCEUSE14 (n=220)	U.S. Forest Service	18%	42%	28%	10%	1%	30%	70%
SOURCEUSE15 (n=222)	Bureau of Land Management	12%	31%	36%	17%	5%	19%	81%
SOURCEUSE4 (n=220)	Media (newspaper, TV, radio, internet)	5%	20%	33%	32%	10%	59%	41%

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 info how to reduce wildfire risk on from?	Would you like to receive information about how to reduce wildfire risk on your property from?				
		No	Yes		No	Yes
Email/e-newsletter	RECEIVEINFO1 (n=198)	18%	82%	WANTINFO1 (n=205)	45%	55%
Mailed newsletter	RECEIVEINFO2 (n=197)	36%	64%	WANTINFO2 (n=198)	<b>58%</b>	42%
Community meetings	RECEIVEINFO3 (n=182)	42%	58%	WANTINFO3 (n=201)	52%	<b>48%</b>
In-person interactions	RECEIVEINFO4 (n=184)	50%	51%	WANTINFO4 (n=200)	<b>65%</b>	35%
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=187)	79%	21%	WANTINFO5 (n=200)	84%	17%
Internet (non-social media)	RECEIVEINFO6 (n=190)	47%	53%	WANTINFO6 (n=202)	71%	29%
TV news	RECEIVEINFO7 (n=188)	58%	42%	WANTINFO7 (n=205)	61%	39%
Newspaper	RECEIVEINFO8 (n=190)	66%	34%	WANTINFO8 (n=198)	74%	<mark>26</mark> %
Radio	RECEIVEINFO9 (n=187)	71%	29%	WANTINFO9 (n=199)	81%	19%

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=210)	Removing trees and reducing other vegetation (thinning/fuel breaks)	45%	32%	17%	5%	1%
ACCEPT2 (n=212)	Burning piles of vegetation (slash piles)	42%	32%	13%	6%	7%
ACCEPT3 (n=210)	Conducting a prescribed fire ignited by fire managers	30%	27%	22%	8%	13%
ACCEPT4 (n=212)	Managing a naturally ignited fire (such as lightning)	39%	34%	13%	7%	8%
ACCEPT1 _WR012 (n=178)	Creating Sheep Mountain wildfire fuel break	30%	38%	16%	8%	8%
ACCEPT2 _WR012 (n=181)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	28%	33%	20%	9%	9%
ACCEPT5 (n=208)	Addressing wildfire issues with land use and building codes	30%	35%	20%	10%	6%

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

		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=212)	With proper technology, we can control most wildfires.	6%	35%	34%	21%	4%
STATE3 (n=219)	We should put out wildfires that threaten human life.	69%	27%	3%	1%	0%
STATE4 (n=216)	We should put out wildfires that threaten property.	43%	49%	8%	1%	0%
STATE5 (n=217)	During a wildfire, saving homes should be a priority over saving forests.	34%	34%	26%	5%	1%
STATE6 (n=218)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	38%	53%	7%	1%	1%
STATE11 (n=220)	I live here for the trees and will not remove any of them to reduce wildfire risk.	1%	5%	15%	48%	32%
STATE13 (n=220)	Managing the wildfire danger is a government responsibility, not mine.	0%	4%	17%	50%	30%
STATE14 (n=220)	Homeowners' actions to reduce wildfire are not effective.	2%	2%	10%	56%	30%
STATE15 (n=217)	My property is at risk of wildfire.	10%	55%	23%	9%	3%
STATE17 (n=217)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	2%	15%	31%	45%	6%
STATE19 (n=219)	Local firefighters have sufficient resources to keep the wildfire from spreading.	1%	16%	37%	36%	10%
STATE20 (n=218)	Local firefighters have sufficient resources to protect threatened homes.	1%	19%	42%	29%	9%
STATE21 (n=218)	Firefighters should put their lives at risk to protect my home.	0%	4%	12%	39%	45%
STATE22 (n=217)	Wildfires threaten my community water supply.	4%	29%	45%	18%	5%
STATE24 (n=219)	I plan on moving out of the area in the next year because of wildfires.	0%	1%	4%	30%	66%

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

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

		No	Yes
FACTOR1 (n=215)	Financial expense/ cost	75%	25%
FACTOR2 (n=217)	Time it takes to do the work	<b>69%</b>	31%
FACTOR3 (n=216)	Physical difficulty of doing the work	54%	46%
FACTOR4 (n=213)	Lack of specific information on how to reduce wildfire risk on my property	66%	34%
FACTOR5 (n=210)	Lack of effectiveness of risk reduction actions	87%	13%
FACTOR6 (n=214)	Do not want to change the way my property looks	73%	27%
FACTOR7 (n=215)	Lack of information about or options for removal of materials from thinning trees and other vegetation	64%	36%
FACTOR9 (n=215)	Restrictions by homeowners' association on cutting trees	92%	8%
FACTOR10 (n=202)	I am not the owner of this property	97%	4%

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

		No	Yes
INCENTV1 (n=215)	Financial assistance	45%	55%
INCENTV2 (n=218)	Specific information about what needs to be done on my property	20%	80%
INCENTV3 (n=218)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	27%	73%
INCENTV4 (n=215)	A list of recommended contractors that could be hired to do the work	27%	73%

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=216)

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%	11%	19%	16%	26%	9%	7%	3%	1%	2%

#### AGE (n=217)

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

GENDER (n=214)

- 7.3. Are you? (*Fill in one circle*)
  - 63% Male
  - 37% Female

EDUC (n=218What is the highest grade or year of school you completed? (*Fill in one circle*)

- 1% Less than high school
- 2% High school graduate
- 14% Some college or technical school
- 2% Technical or trade school
- **30%** College graduate
- 13% Some graduate work
- 38% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

**EMPLOY (n=218**Which of the following best describes your current employment situation? (*Fill in one circle*)

- **36%** Employed full time (including self-employed)
- 7% Employed part time (including self-employed)
- 3% Unemployed or do not work outside of the home
- 54% Retired

**INCOME** (n=187Which of the following categories describes your annual household income? (*Fill in one circle*)

- 0% Less than \$15,000
- **2%** \$15,000 \$24,999
- 0% \$25,000 \$34,999
- **5%** \$35,000 \$49,999
- 9% \$50,000 \$74,999
- 13% \$75,000 \$99,999
- **21%** \$100,000 \$149,999
- **19%** \$150,000 \$199,999
- 31% \$200,000 or more

Thank you for your help. Please use the space below to write any additional comments.
## Living with Wildfire in Grand County in 2020

## Hot Sulphur Springs FPD Survey Results







Prepared by The Wildfire Research Center for: Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 27n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

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

Incorrect: Ø © •

### OCCTYPE (n=26)

- 1.1. Do you own or rent your Grand County residence? (Fill in one circle)
  - Own and occupy

Own and rent out short term

Own and rent out long term

I am a renter

#### MONTHS (n=25)

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

#### FULLTIME (n=25)

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

#### YRBUILD (n=26)

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

#### RISKAWAR (n=26)

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

Very aware Somewhat aware

- Not aware
- Don't remember

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

#### FIRE (n=26)

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

There has been a wildfire on my property

Less than 2 miles away but not on my property

2 to 10 miles away

More than 10 miles away

Not sure

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

		No	Yes
SMOKEDAM (n=26)	My Grand County residence has had smoke damage	96%	4%
FIREDAM (n=26)	My Grand County residence has had wildfire damage	96%	4%
DESTROY (n=26)	My Grand County residence was destroyed by a wildfire	96%	4%

### 2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

		No	Yes	Not applicable
EVACPPL (n=25)	For people in my household	24%	72%	4%
EVACPETS (n=25)	For the pets in my household and on my property	12%	44%	44%
EVACLIVSTOC (n=25)	For livestock on my property	8%	8%	84%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=26)	How I will be notified about evacuating	8%	92%
EVACINFO9 (n=26)	When to evacuate	0%	100%
EVACINFO3 (n=26)	Safe evacuation routes	8%	92%
EVACINFO5 (n=26)	What to bring and what to leave behind	31%	69%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2(n=24)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	58%	42%
EVACUATED (n=26)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	89%	12%
ACTIVITIES9 (n=26)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	85%	15%

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

		No	Yes	Don't know
INSURE2 (n=25)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	60%	28%	12%
INSURE3 (n=25)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	80%	16%	4%
INSURE4 (n=25)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	20%	52%	28%
INSURE10 (n=25)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	76%	0%	24%
INSURE12 (n=25)	Do you think your home is adequately insured against loss from a wildfire?	12%	68%	20%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=26)	Tile, metal, or asphalt shingles	0%	100%
ROOFTYPE2 (n=26)	Wood (shake shingles)	100%	0%

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

		No	Yes
SIDETYPE1 (n=26)	Stucco, cement, brick, stone, or other noncombustible siding	69%	31%
SIDETYPE2 (n=26)	Log or heavy timbers	<b>58%</b>	42%
SIDETYPE3 (n=26)	Wood or vinyl siding	50%	50%

#### ATTACHMENT (n=26)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

12%	No			
89%	Yes	$\rightarrow$	ATTACHCC Is <b>any</b> part combustib	DMB (n=22) of the balcony, deck, porch, or fence made of le materials? ( <i>Fill in one circle</i> )
			9%	No
			91%	Yes

#### DRIVEWAYW1 (n=26)

- 3.4. How wide is the driveway of your Grand County residence at the narrowest point? (*Fill in one circle*)
  - 8% More than 26 feet (more than two cars wide)
  - 31% 20 26 feet (two cars wide)
  - 62% Less than 20 feet (one car wide)

#### DRIVEWAYL (n=23)

0%

3.5. How long is your driveway? (*Fill in one circle*)

9%	150 feet long or less			
91%	Longer than 150 feet	$\rightarrow$	TURNA Would drivew	ARND (n=20) a fire truck be able to turn around in your vay? ( <i>Fill in one circle</i> )
			20%	No
			80%	Yes

#### HOMENUM (n=24)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (Fill in one circle)

17%	No					
83%	Yes	$\rightarrow$	Answer	the following two questions (Fill in one ci	rcle pe	r row)
					No	Yes
		HOMEN (n=20)	NUMVIS	Is the posted number visible from the road?	0%	100%
		REFLE	CT (n=19)	Is the posted number reflective?	53%	47%

#### CLOSEVEG (n=23)

- 3.7. What is the **closest** distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (Fill in one circle)
  - 4% More than 150 feet
  - 22% 31 – 150 feet
  - 35% 10 – 30 feet
  - 39% Less than 10 feet

#### COMBUST (n=23)

- 3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (*Fill in one circle*)
  - 57% None or more than 30 feet
  - 35% 10 – 30 feet
  - 9% Less than 10 feet

#### RIDGE(n=23)

- 3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)
  - 61% More than 150 feet
  - 17% 50 150 feet
  - 22% Less than 50 feet

#### SLOPE (n=24)

3.10. 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 your Grand County residence? (*Fill in one circle*)

29%	Gentle – Less than 20%	Steep / Greater Than
29%	Moderate – 20% to 45%	Moderate / 20 – 45%
42%	Steep – Greater than 45%	Gentle / Less than 20%

#### ROADS (n=25)

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

76% No 24% Yes

### DOMVEG (n=23)

- 3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)
  - 9% Grasses
  - 70% Light brush and/or isolated trees (e.g., grass with some lodgepole pine, scattered aspen, or other conifer)
  - 22% Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense aspen, and/or dense mixed conifer)

#### RISKRATE (n=23)

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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)

9%	Low risk
70%	Moderate risk
17%	High risk
0%	Very high risk
4%	Extreme 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=26)

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

23% No 77% Yes

#### SLACKER (n=25)

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*)

48%	No			
52%	Yes	$\rightarrow$	SLACKCO Do condi wildfire s <i>circle</i> )	ND (n=13) tions on those properties increase the likelihood of preading to your Grand County property? ( <i>Fill in one</i>
			0%	No
			100%	Yes

#### NACTION1 (n=24)

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*)

17%	No								
83%	Yes	<b>&gt;</b>	NACTCOND1 (n=20) Do conditions on those properties change the likelihoo wildfire spreading to your Grand County property? ( <i>Fill</i> <i>circle</i> )						
			30%	No					
			65% 5%	Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of wildfire spreading to my property					

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

		No	Yes
ACTIVITIES1 (n=24)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	4%	96%
ACTIVITIES7 (n=23)	Regularly cleared my roof and gutters of leaves and pine needles	13%	87%
ACTIVITIES8 (n=25)	Regularly mowed and raked around my Grand County residence	12%	88%
ACTIVITIES2 (n=25)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	64%	36%
ACTIVITIES3 (n=25)	Helped neighbor(s) reduce vegetation on their properties	84%	16%
ACTIVITIES4 (n=25)	Helped reduce vegetation on community property	92%	8%
ACTIVITIES5 (n=25)	Helped reduce vegetation on nearby public lands	92%	8%
ACTIVITIES6 (n=25)	Participated in a community wildfire activity (ex. meeting, chipper day)	76%	24%

4.5. 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:								
FIRESPREAD1 (n=25)	-> My neighborhood	24%	36%	28%	12%	0%			
FIRESPREAD2 (n=24)	-> My Grand County property	21%	29%	38%	0%	13%			
	FROM my neighborhood TO:								
FIRESPREAD3 (n=25)	-> Nearby public/large undeveloped land	16%	48%	32%	4%	0%			
FIRESPREAD4 (n=24)	-> My Grand County property	17%	42%	38%	4%	0%			
	FROM my Grand Co	ounty property	y TO:						
FIRESPREAD5 (n=25)	-> My neighborhood	20%	32%	36%	4%	8%			
FIRESPREAD6 (n=25)	-> Nearby public/large undeveloped land	8%	44%	32%	4%	12%			

#### CHANCES1 (n=25)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	0%	12%	0%	20%	0%	24%	12%	28%	4%

#### CHANCES2 (n=25)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
12%	8%	8%	16%	4%	24%	4%	8%	4%	8%	4%

## 4.8. If there is a wildfire on your Grand County 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=25)	I would put the fire out.	0%	12%	20%	36%	32%	0%
LACT2 (n=25)	The fire department would save my home.	0%	16%	28%	16%	40%	0%
LACT3 (n=25)	My home would have smoke damage.	20%	36%	24%	12%	8%	0%
LACT4 (n=25)	My home would have some physical damage.	16%	28%	36%	16%	4%	0%
LACT5 (n=25)	My home would be destroyed.	12%	28%	36%	12%	12%	0%
LACT6 (n=23)	I would lose money due to the loss of business or income on my property.	17%	0%	13%	4%	9%	57%
LACT7 (n=24)	My trees and landscape would burn.	33%	38%	17%	4%	4%	4%
LACT9 (n=25)	My neighbors' homes would be damaged or destroyed.	16%	28%	32%	16%	8%	0%
LACT12 (n=25)	Direct flame would ignite my home.	20%	16%	36%	12%	16%	0%
LACT13 (n=25)	Embers would ignite my home.	12%	28%	28%	24%	8%	0%
LACT14 (n=25)	Nearby homes would ignite my home.	8%	12%	24%	12%	44%	0%

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*)

		Use respo fro Extremely useful	efulness ndents m the so Very useful	of informat who received ource (sums Moderately useful	Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source		
SOURCEUSE1 (n=25)	Local fire department	8%	50%	8%	17%	17%	48%	52%
SOURCEUSE2 (n=25)	Community group (ex., homeowners association)	10%	20%	20%	20%	30%	40%	60%
SOURCEUSE5 (n=25)	Firewise USA	0%	60%	0%	0%	40%	20%	80%
SOURCEUSE27 (n=25)	Grand County Wildfire Council	11%	44%	11%	11%	22%	36%	64%
SOURCEUSE6 (n=25)	Colorado State Forest Service	17%	33%	17%	17%	17%	24%	76%
SOURCEUSE14 (n=25)	U.S. Forest Service	14%	29%	14%	29%	14%	28%	72%
SOURCEUSE15 (n=25)	Bureau of Land Management	0%	0%	25%	25%	50%	16%	84%
SOURCEUSE4 (n=25)	Media (newspaper, TV, radio, internet)	0%	10%	10%	50%	30%	40%	60%

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 info how to reduce wildfire risk or from?	ormation al	Would you like to receive information about how to reduce wildfire risk on your property from?			
		No	Yes		No	Yes
Email/e-newsletter	RECEIVEINFO1 (n=23)	35%	65%	WANTINFO1 (n=24)	96%	4%
Mailed newsletter	RECEIVEINFO2 (n=23)	35%	65%	WANTINFO2 (n=24)	75%	25%
Community meetings	RECEIVEINFO3 (n=21)	38%	62%	WANTINFO3 (n=23)	87%	13%
In-person interactions	RECEIVEINFO4 (n=22)	36%	64%	WANTINFO4 (n=24)	<b>63%</b>	<mark>38</mark> %
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=22)	77%	23%	WANTINFO5 (n=24)	92%	8%
Internet (non-social media)	RECEIVEINFO6 (n=22)	59%	41%	WANTINFO6 (n=24)	88%	13%
TV news	RECEIVEINFO7 (n=22)	64%	36%	WANTINFO7 (n=24)	71%	29%
Newspaper	RECEIVEINFO8 (n=22)	68%	32%	WANTINFO8 (n=24)	67%	33%
Radio	RECEIVEINFO9 (n=23)	70%	30%	WANTINFO9 (n=24)	79%	21%

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=25)	Removing trees and reducing other vegetation (thinning/fuel breaks)	52%	36%	8%	4%	0%
ACCEPT2 (n=25)	Burning piles of vegetation (slash piles)	52%	36%	4%	4%	4%
ACCEPT3 (n=25)	Conducting a prescribed fire ignited by fire managers	32%	32%	20%	8%	8%
ACCEPT4 (n=24)	Managing a naturally ignited fire (such as lightning)	50%	29%	13%	4%	4%
ACCEPT1 _WR012 (n=25)	Creating Sheep Mountain wildfire fuel break	48%	28%	8%	8%	8%
ACCEPT2 _WR012 (n=25)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	32%	28%	20%	12%	8%
ACCEPT5 (n=24)	Addressing wildfire issues with land use and building codes	33%	25%	25%	8%	8%

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

			Neither			
		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=25)	With proper technology, we can control most wildfires.	4%	44%	36%	12%	4%
STATE3 (n=25)	We should put out wildfires that threaten human life.	64%	32%	4%	0%	0%
STATE4 (n=25)	We should put out wildfires that threaten property.	36%	52%	8%	4%	0%
STATE5 (n=25)	During a wildfire, saving homes should be a priority over saving forests.	44%	52%	4%	0%	0%
STATE6 (n=25)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	32%	60%	8%	0%	0%
STATE11 (n=25)	I live here for the trees and will not remove any of them to reduce wildfire risk.	8%	0%	16%	52%	24%
STATE13 (n=25)	Managing the wildfire danger is a government responsibility, not mine.	0%	4%	16%	60%	20%
STATE14 (n=25)	Homeowners' actions to reduce wildfire are not effective.	4%	8%	16%	56%	16%
STATE15 (n=25)	My property is at risk of wildfire.	12%	68%	12%	8%	0%
STATE17 (n=25)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	16%	8%	36%	36%	4%
STATE19 (n=25)	Local firefighters have sufficient resources to keep the wildfire from spreading.	4%	0%	36%	32%	28%
STATE20 (n=25)	Local firefighters have sufficient resources to protect threatened homes.	4%	4%	36%	24%	32%
STATE21 (n=25)	Firefighters should put their lives at risk to protect my home.	4%	0%	16%	44%	36%
STATE22 (n=25)	Wildfires threaten my community water supply.	8%	16%	32%	28%	16%
STATE24 (n=25)	I plan on moving out of the area in the next year because of wildfires.	0%	0%	0%	28%	72%

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

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

		No	Yes
FACTOR1 (n=25)	Financial expense/ cost	64%	36%
FACTOR2 (n=24)	Time it takes to do the work	<b>63%</b>	38%
FACTOR3 (n=25)	Physical difficulty of doing the work	64%	36%
FACTOR4 (n=23)	Lack of specific information on how to reduce wildfire risk on my property	83%	17%
FACTOR5 (n=24)	Lack of effectiveness of risk reduction actions	88%	13%
FACTOR6 (n=24)	Do not want to change the way my property looks	92%	8%
FACTOR7 (n=25)	Lack of information about or options for removal of materials from thinning trees and other vegetation	56%	44%
FACTOR9 (n=24)	Restrictions by homeowners' association on cutting trees	96%	4%
FACTOR10 (n=23)	I am not the owner of this property	100%	0%

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

		No	Yes
INCENTV1 (n=24)	Financial assistance	13%	88%
INCENTV2 (n=25)	Specific information about what needs to be done on my property	24%	76%
INCENTV3 (n=25)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	24%	76%
INCENTV4 (n=25)	A list of recommended contractors that could be hired to do the work	52%	48%

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=25)

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
0%	8%	24%	16%	16%	16%	4%	8%	4%	0%	4%

#### AGE (n=26)

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

GENDER (n=26)

- 7.3. Are you? (*Fill in one circle*)
  - 73% Male
  - 27% Female

EDUC (n=26What is the highest grade or year of school you completed? (*Fill in one circle*)

- 0% Less than high school
- 4% High school graduate
- 15% Some college or technical school
- 15% Technical or trade school
- 50% College graduate
- 8% Some graduate work
- 8% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

**EMPLOY** (n=26Which of the following best describes your current employment situation? (*Fill in one circle*)

- 35% Employed full time (including self-employed)
- 15% Employed part time (including self-employed)
- 0% Unemployed or do not work outside of the home
- 50% Retired

**INCOME** (n=24Which of the following categories describes your annual household income? (*Fill in one circle*)

- 4% Less than \$15,000
- **13%** \$15,000 \$24,999
- **4%** \$25,000 \$34,999
- 8% \$35,000 \$49,999
- **4%** \$50,000 \$74,999
- **33%** \$75,000 \$99,999
- **13%** \$100,000 \$149,999
- **8%** \$150,000 \$199,999
- 13% \$200,000 or more

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

## Living with Wildfire in Grand County in 2020

## **Kremmling FPD Survey Results**







Prepared by The Wildfire Research Center for: Grand County Wildfire Council PO Box 338, Granby, CO 80446 bewildfireready.org

This project was supported with funding from USDA Forest Service, Washington Office Fire and Aviation Management.

Entered survey responses: 31n = number of observations 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, research, and/or publication 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 Grand County. Please answer the following questions with respect to your *Grand County residence*.

When choosing a response, please fill in the circle completely. Correct:  $\bigcirc$  Incorrect:  $\oslash \otimes \odot \odot$ 

### OCCTYPE (n=31)

- 1.1. Do you own or rent your Grand County residence? (Fill in one circle)
  - Own and occupy
  - Own and rent out short term
  - Own and rent out long term

I am a renter

#### MONTHS (n=28)

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

#### FULLTIME (n=30)

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

#### YRBUILD (n=29)

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

#### RISKAWAR (n=31)

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

Very aware Somewhat aware Not aware Don't remember

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

#### FIRE (n=31)

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

There has been a wildfire on my property

Less than 2 miles away but not on my property

2 to 10 miles away

More than 10 miles away

Not sure

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

		No	Yes
SMOKEDAM (n=31)	My Grand County residence has had smoke damage	100%	0%
FIREDAM (n=30)	My Grand County residence has had wildfire damage	100%	0%
DESTROY (n=30)	My Grand County residence was destroyed by a wildfire	100%	0%

### 2.3. Do you currently have an evacuation plan in the event a wildfire threatens your Grand County residence? (*Fill in one circle per row*)

		No	Yes	Not applicable
EVACPPL (n=31)	For people in my household	<mark>6%</mark>	94%	0%
EVACPETS (n=30)	For the pets in my household and on my property	7%	73%	20%
EVACLIVSTOC (n=30)	For livestock on my property	7%	7%	87%

2.4. Would the following information help you develop or further develop your evacuation plan? (*Fill in one circle per row*)

		No	Yes
EVACINFO1 (n=30)	How I will be notified about evacuating	10%	90%
EVACINFO9 (n=30)	When to evacuate	17%	83%
EVACINFO3 (n=31)	Safe evacuation routes	26%	74%
EVACINFO5 (n=30)	What to bring and what to leave behind	50%	50%

2.5. Have you done any of the following? (Fill in one circle per row)

		No	Yes
EVACACT2(n=31)	Signed up for the CodeRED emergency notification service that calls residents to evacuate or prepare to evacuate in the event of a wildfire?	68%	32%
EVACUATED (n=31)	Evacuated from your Grand County residence due to a wildfire or threat of a wildfire?	100%	0%
ACTIVITIES9 (n=31)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk?	90%	10%

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

		No	Yes	Don't know
INSURE2 (n=31)	Has your current or a previous homeowners insurance company ever provided information on reducing the risk of wildfire?	55%	39%	6%
INSURE3 (n=31)	Did an insurance company ever cancel or refuse to renew your homeowners insurance because of the risk of wildfire?	84%	16%	0%
INSURE4 (n=31)	Do you pay a higher premium for your homeowners insurance due to wildfire risk?	48%	39%	13%
INSURE10 (n=31)	Do you receive a discount on your homeowners insurance premium because you have reduced wildfire risk on your property?	68%	10%	23%
INSURE12 (n=31)	Do you think your home is adequately insured against loss from a wildfire?	13%	74%	13%

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

3.1. Does your Grand County residence have any of the following roofing materials? (*Fill in all that apply*)

		No	Yes
ROOFTYPE1 (n=30)	Tile, metal, or asphalt shingles	0%	100%
ROOFTYPE2 (n=30)	Wood (shake shingles)	100%	0%

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

		No	Yes
SIDETYPE1 (n=31)	Stucco, cement, brick, stone, or other noncombustible siding	77%	23%
SIDETYPE2 (n=31)	Log or heavy timbers	81%	19%
SIDETYPE3 (n=31)	Wood or vinyl siding	39%	61%

#### ATTACHMENT (n=31)

3.3. Does your Grand County residence have a balcony, deck, porch, or fence attached to the structure? (*Fill in one circle*)

3%	No					
97%	Yes	es $\rightarrow$	ATTACHCOMB (n=29) Is any part of the balcony, deck, porch, or fence made of combustible materials? ( <i>Fill in one circle</i> )			
			3%	Νο		
			97%	Yes		

#### DRIVEWAYW1 (n=31)

- 3.4. How wide is the driveway of your Grand County residence at the narrowest point? (*Fill in one circle*)
  - 10% More than 26 feet (more than two cars wide)
  - 16% 20 26 feet (two cars wide)
  - 74% Less than 20 feet (one car wide)

#### DRIVEWAYL (n=31)

3.5. How long is your driveway? (Fill in one circle)

42%	150 feet long or less			
58%	Longer than 150 feet	$\rightarrow$	TURNA Would drivew	ARND (n=18) a fire truck be able to turn around in your vay? ( <i>Fill in one circle</i> )
			28%	No
			72%	Yes

#### HOMENUM (n=31)

3.6. Is the house number of your Grand County residence posted at the end of your driveway? (*Fill in one circle*)

23%	No					
77%	Yes	$\rightarrow$	Answer	the following two questions (Fill in one ci	rcle pe	r row)
					No	Yes
		HOMEN (n=23)	NUMVIS	Is the posted number visible from the road?	0%	100%
		REFLE	CT (n=23)	Is the posted number reflective?	65%	35%

#### CLOSEVEG (n=31)

- 3.7. What is the **closest** distance from your Grand County residence to dense, overgrown, or unmaintained vegetation? (*Fill in one circle*)
  - 3% More than 150 feet
  - **39%** 31 150 feet
  - **26%** 10 30 feet
  - 32% Less than 10 feet

#### COMBUST (n=31)

- 3.8. What is the **closest** distance from your Grand County residence to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite? (*Fill in one circle*)
  - 58% None or more than 30 feet
  - **29%** 10 30 feet
  - 13% Less than 10 feet

#### RIDGE(n=31)

- 3.9. What is the **closest** distance from your Grand County residence to a ridge, steep drainage, or narrow canyon? (*Fill in one circle*)
  - 52% More than 150 feet
  - 23% 50 150 feet
  - 26% Less than 50 feet

#### SLOPE (n=31)

3.10. 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 your Grand County residence? (*Fill in one circle*)

32%	Gentle – Less than 20%	Steep / Greater than
52%	Moderate – 20% to 45%	Moderate / 20 – 45% ↓
16%	Steep – Greater than 45%	Gentle / Less than 20%

#### ROADS (n=31)

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

84% No 16% Yes

#### DOMVEG (n=31)

- 3.12. Which of the following best describes the dominant vegetation on your Grand County property and those properties immediately surrounding you? (*Fill in one circle*)
  - 16% Grasses
  - 65% Light brush and/or isolated trees (e.g., grass with some lodgepole pine, scattered aspen, or other conifer)
  - 19% Dense brush and/or dense trees (e.g., continuous lodgepole pine, dense aspen, and/or dense mixed conifer)

#### RISKRATE (n=31)

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 Grand County residence's current overall wildfire risk rating? (*Fill in one circle*)

13%	Low risk
<b>65%</b>	Moderate risk
1 <mark>6</mark> %	High risk
6%	Very high risk

- 0% Extreme risk
- Extreme hisk

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=31)

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

39%	No
61%	Yes

### SLACKER (n=31)

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*)

42%	No			
58%	Yes	$\rightarrow$	SLACKCC Do cond wildfire <i>circle</i> )	OND (n=18) itions on those properties increase the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			17%	No
			83%	Yes

#### NACTION1 (n=31)

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*)

26%	No			
74%	Yes	$\rightarrow$	NACTCO Do cond wildfire <i>circle</i> )	ND1 (n=23) itions on those properties change the likelihood of spreading to your Grand County property? ( <i>Fill in one</i>
			17%	No
			83% 0%	Yes, the conditions decrease the likelihood of wildfire spreading to my property Yes, the conditions increase the likelihood of wildfire spreading to my property

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

		No	Yes
ACTIVITIES1 (n=31)	Reduced vegetation on my Grand County property (ex. cleared/pruned weeds, brush, and trees)	10%	90%
ACTIVITIES7 (n=31)	Regularly cleared my roof and gutters of leaves and pine needles	26%	74%
ACTIVITIES8 (n=31)	Regularly mowed and raked around my Grand County residence	19%	81%
ACTIVITIES2 (n=30)	Made my Grand County residence more fire resistant (ex. replaced roofing, siding, added hardscaping)	50%	50%
ACTIVITIES3 (n=30)	Helped neighbor(s) reduce vegetation on their properties	<b>63%</b>	37%
ACTIVITIES4 (n=31)	Helped reduce vegetation on community property	77%	23%
ACTIVITIES5 (n=31)	Helped reduce vegetation on nearby public lands	90%	10%
ACTIVITIES6 (n=31)	Participated in a community wildfire activity (ex. meeting, chipper day)	87%	13%

4.5. 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	FROM nearby public/large undeveloped land TO:									
FIRESPREAD1 (n=31)	-> My neighborhood	19%	42%	16%	19%	3%					
FIRESPREAD2 (n=31)	-> My Grand County property	16%	29%	36%	16%	3%					
	FROM my neighborh	nood TO:									
FIRESPREAD3 (n=31)	-> Nearby public/large undeveloped land	23%	36%	16%	23%	3%					
FIRESPREAD4 (n=31)	-> My Grand County property	16%	29%	26%	19%	10%					
	FROM my Grand Co	ounty property	y TO:								
FIRESPREAD5 (n=31)	-> My neighborhood	13%	26%	19%	32%	10%					
FIRESPREAD6 (n=31)	-> Nearby public/large undeveloped land	13%	23%	16%	36%	13%					

#### CHANCES1 (n=31)

4.6. 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
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	0%	0%	3%	13%	10%	16%	29%	23%	6%

#### CHANCES2 (n=31)

4.7. 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 Grand County residence? (*Fill in one circle*)

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
3%	13%	16%	3%	3%	19%	0%	16%	10%	10%	6%

## 4.8. If there is a wildfire on your Grand County 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=30)	I would put the fire out.	20%	7%	10%	17%	40%	7%
LACT2 (n=30)	The fire department would save my home.	3%	3%	23%	30%	37%	3%
LACT3 (n=30)	My home would have smoke damage.	10%	20%	30%	33%	3%	3%
LACT4 (n=31)	My home would have some physical damage.	13%	19%	26%	32%	6%	3%
LACT5 (n=31)	My home would be destroyed.	13%	16%	26%	26%	16%	3%
LACT6 (n=31)	I would lose money due to the loss of business or income on my property.	10%	3%	16%	10%	29%	32%
LACT7 (n=30)	My trees and landscape would burn.	17%	30%	30%	7%	17%	0%
LACT9 (n=31)	My neighbors' homes would be damaged or destroyed.	13%	23%	26%	32%	6%	0%
LACT12 (n=30)	Direct flame would ignite my home.	13%	27%	23%	20%	17%	0%
LACT13 (n=31)	Embers would ignite my home.	10%	19%	36%	19%	16%	0%
LACT14 (n=31)	Nearby homes would ignite my home.	6%	3%	10%	48%	23%	10%

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*)

		Use respo fro Extremely useful	efulness ndents m the s Very useful	s of informat who receive ource (sums Moderately useful	ion amo d inform to ~100 Slightly useful	ng ation %) Not at all useful	Calculated portion who have received information	Fill in this circle if you have <b>NOT</b> received information from this source
SOURCEUSE1 (n=31)	Local fire department	0%	30%	20%	40%	10%	32%	68%
SOURCEUSE2 (n=31)	Community group (ex., homeowners association)	7%	14%	43%	29%	7%	45%	55%
SOURCEUSE5 (n=31)	Firewise USA	0%	33%	0%	50%	17%	19%	81%
SOURCEUSE27 (n=31)	Grand County Wildfire Council	0%	45%	0%	36%	18%	35%	65%
SOURCEUSE6 (n=31)	Colorado State Forest Service	0%	33%	44%	11%	11%	29%	71%
SOURCEUSE14 (n=31)	U.S. Forest Service	0%	29%	43%	14%	14%	23%	77%
SOURCEUSE15 (n=30)	Bureau of Land Management	14%	29%	29%	14%	14%	23%	77%
SOURCEUSE4 (n=31)	Media (newspaper, TV, radio, internet)	0%	17%	17%	25%	42%	39%	61%

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 info how to reduce wildfire risk or from?	ormation al	Would you like to receive information about how to reduce wildfire risk on your property from?			
		No	Yes		No	Yes
Email/e-newsletter	RECEIVEINFO1 (n=30)	17%	83%	WANTINFO1 (n=28)	86%	14%
Mailed newsletter	RECEIVEINFO2 (n=29)	21%	79%	WANTINFO2 (n=30)	83%	17%
Community meetings	RECEIVEINFO3 (n=30)	43%	57%	WANTINFO3 (n=31)	<mark>68%</mark>	32%
In-person interactions	RECEIVEINFO4 (n=29)	41%	59%	WANTINFO4 (n=30)	70%	30%
Social media (Facebook, Twitter)	RECEIVEINFO5 (n=29)	86%	14%	WANTINFO5 (n=29)	93%	7%
Internet (non-social media)	RECEIVEINFO6 (n=29)	66%	35%	WANTINFO6 (n=29)	90%	10%
TV news	RECEIVEINFO7 (n=29)	55%	45%	WANTINFO7 (n=29)	69%	31%
Newspaper	RECEIVEINFO8 (n=29)	<mark>66</mark> %	35%	WANTINFO8 (n=29)	83%	17%
Radio	RECEIVEINFO9 (n=28)	61%	39%	WANTINFO9 (n=30)	73%	27%

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 acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
ACCEPT1 (n=31)	Removing trees and reducing other vegetation (thinning/fuel breaks)	58%	32%	3%	3%	3%
ACCEPT2 (n=31)	Burning piles of vegetation (slash piles)	55%	36%	3%	3%	3%
ACCEPT3 (n=31)	Conducting a prescribed fire ignited by fire managers	45%	29%	16%	3%	6%
ACCEPT4 (n=31)	Managing a naturally ignited fire (such as lightning)	45%	26%	19%	0%	10%
ACCEPT1 _WR012 (n=30)	Creating Sheep Mountain wildfire fuel break	57%	13%	20%	7%	3%
ACCEPT2 _WR012 (n=30)	Conducting Blue Ridge Prescribed Burn near Cottonwood Pass	50%	13%	23%	3%	10%
ACCEPT5 (n=31)	Addressing wildfire issues with land use and building codes	29%	26%	29%	10%	6%

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

			Neither			
		Strongly		agree nor		Strongly
		agree	Agree	disagree	Disagree	disagree
STATE2 (n=31)	With proper technology, we can control most wildfires.	6%	36%	32%	23%	3%
STATE3 (n=31)	We should put out wildfires that threaten human life.	45%	48%	6%	0%	0%
STATE4 (n=31)	We should put out wildfires that threaten property.	26%	48%	23%	3%	0%
STATE5 (n=31)	During a wildfire, saving homes should be a priority over saving forests.	36%	52%	13%	0%	0%
STATE6 (n=31)	Wildfires are a natural part of the balance of a healthy forest/ecosystem.	32%	55%	13%	0%	0%
STATE11 (n=31)	I live here for the trees and will not remove any of them to reduce wildfire risk.	0%	3%	29%	29%	39%
STATE13 (n=31)	Managing the wildfire danger is a government responsibility, not mine.	0%	3%	23%	52%	23%
STATE14 (n=31)	Homeowners' actions to reduce wildfire are not effective.	0%	3%	13%	42%	42%
STATE15 (n=31)	My property is at risk of wildfire.	10%	42%	26%	16%	6%
STATE17 (n=31)	My effort to reduce wildfire risk on my property is ineffective because of the heavy vegetation on my neighbors' properties.	3%	29%	23%	36%	10%
STATE19 (n=30)	Local firefighters have sufficient resources to keep the wildfire from spreading.	0%	7%	47%	27%	20%
STATE20 (n=31)	Local firefighters have sufficient resources to protect threatened homes.	0%	10%	52%	23%	16%
STATE21 (n=31)	Firefighters should put their lives at risk to protect my home.	0%	0%	13%	29%	58%
STATE22 (n=30)	Wildfires threaten my community water supply.	0%	7%	37%	33%	23%
STATE24 (n=31)	I plan on moving out of the area in the next year because of wildfires.	0%	0%	10%	19%	71%

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

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

		No	Yes
FACTOR1 (n=31)	Financial expense/ cost	<mark>61%</mark>	39%
FACTOR2 (n=31)	Time it takes to do the work	61%	39%
FACTOR3 (n=31)	Physical difficulty of doing the work	<b>58%</b>	42%
FACTOR4 (n=31)	Lack of specific information on how to reduce wildfire risk on my property	65%	36%
FACTOR5 (n=29)	Lack of effectiveness of risk reduction actions	83%	17%
FACTOR6 (n=31)	Do not want to change the way my property looks	87%	13%
FACTOR7 (n=31)	Lack of information about or options for removal of materials from thinning trees and other vegetation	55%	45%
FACTOR9 (n=31)	Restrictions by homeowners' association on cutting trees	87%	13%
FACTOR10 (n=30)	I am not the owner of this property	97%	3%

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

		No	Yes
INCENTV1 (n=31)	Financial assistance	23%	77%
INCENTV2 (n=31)	Specific information about what needs to be done on my property	26%	74%
INCENTV3 (n=31)	Help doing the work (ex. thinning trees and vegetation and/or removal of debris)	26%	74%
INCENTV4 (n=31)	A list of recommended contractors that could be hired to do the work	52%	48%

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=31)

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
<b>6%</b>	6%	13%	10%	19%	16%	3%	13%	3%	<mark>6%</mark>	3%

#### AGE (n=31)

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

GENDER (n=31)

- 7.3. Are you? (*Fill in one circle*)
  - 84% Male
  - 16% Female

EDUC (n=31What is the highest grade or year of school you completed? (*Fill in one circle*)

- 0% Less than high school
- 13% High school graduate
- 29% Some college or technical school
- 23% Technical or trade school
- 19% College graduate
- 10% Some graduate work
- 6% Advanced Degree (M.D., M.A., M.S., Ph.D., etc.)

EMPLOY (n=31Which of the following best describes your current employment situation? (*Fill in one circle*)

- **39%** Employed full time (including self-employed)
- 6% Employed part time (including self-employed)
- 0% Unemployed or do not work outside of the home
- 55% Retired

**INCOME** (n=28Which of the following categories describes your annual household income? (*Fill in one circle*)

- 0% Less than \$15,000
- **4%** \$15,000 \$24,999
- 7% \$25,000 \$34,999
- **18%** \$35,000 \$49,999
- 21% \$50,000 \$74,999
- **18%** \$75,000 \$99,999
- **18%** \$100,000 \$149,999
- **4%** \$150,000 \$199,999
- 11% \$200,000 or more

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

WiRē

### **Appendix F: Infographic-Style Outreach Pamphlet**

### In 2020, we mailed out 1,112 surveys on wildfire risk.





Survey results vary by fire district (report forthcoming).

### Have you signed up for CodeRED?

Go to this link to sign up. **Registration is not automatic!** bewildfireready.org/code-red/



Download the

for tips on planning,

emergency supplies, and

family communication:

bewildfireready.org/ready-

set-go/

### In each community, we found a gap in evacuation planning: emergency alert sign-ups.

Our mission:

Grand County Wildfire

"Through education and

prevention, preparedness,

are dedicated to building a

Fire Adapted Community!

Council's (GCWC) mission is,

action, promote wildland fire

mitigation, and survival." We

73% have an evacuation plan, but only

46% have signed up for CodeRED



The Grand County Sheriff's Office uses CodeRED to tell you when to evacuate during a wildfire.

Sign-up tips:

- Do not enter a landline
- Enter your address to get location-specific alerts
- Download the CodeRED app if you have a smartphone

### Now you've signed up for CodeRED, what's next?



### department:

East Grand Fire (Fraser/WP): 970-726-5284 Grand Lake Fire: 970-627-8428 Grand Fire (Granby): 970-887-3380 Hot Sulphur Springs/Parshall Fire: 970-725-3414 Kremmling Fire: 970-724-3795

When you evacuate, leave your home in fighting shape  $\rightarrow$ 

#### Before a wildfire: □ Evacuation kit prepared & in car (May –

and safely stored

Pack valuables in car

□ Leave as early as possible!

During a wildfire:

### **Evacuation Checklist** Ready, Set, Go! Action Guide

November; pg. 10 of the action guide)

□ Out-of-town emergency contact chosen

□ Annual insurance coverage review done

□ Stay aware of the latest news/updates

□ Close all windows/doors and leave out

ladder and hoses for firefighters

contact each other during an emergency

• Everyone in the house knows how to

Important documents photographed

USDA Forest Service RMRS-RN-94, 2022



please contact us!

970-627-7121 BeWildfireReady@gmail.com

If you have any questions,

### Or contact your local fire

# How safe is your house?

80% of respondents said they want information on how to reduce wildfire risk on their property.

## Check off the mitigation actions as you accomplish them this month:

- □ Moved wood piles 30 feet from the home
- Mowed weeds/grasses to a height of 4 inches or less, in a 30-foot radius around all structures
- Created a fuel-free boundary immediately surrounding the home and any other structures (about 5 feet). Often this simply means pulling weeds or raking pine needles away, to get down to bare mineral soil. Fill with rocks or other non-combustibles.
- □ Cleaned gutters of flammable debris
- Removed debris from under decks
- Removed miscellaneous combustibles from around the home (e.g., leftover construction materials)
- Maintained paint/stain on wood decks and wood sided homes
- Made a schedule for when to repeat these tasks
- Set up a home ignition zone assessment with your local fire department for a personalized to-do list
- Talked with neighbors about wildfire mitigation activities

### Have you talked to your neighbors about wildfire mitigation yet?

Folks who talk to their neighbors about wildfire are more likely to take mitigation action, according to the survey. That means your voice matters!

Your risk is connected to your neighbor's—if their house catches on fire, it's more likely yours will. Work with your neighbors to reduce risk!

# Solutions to top mitigation barriers reported on the survey

It's physically difficult

You can <u>hire a contractor</u> to do the work for you. Check out our list of contractors, under "Tree Contractors List" (link below).

### Unaware of vegetation removal options

FREE Community Chipping Days You trim the limbs & trees and bring the slash to us for chipping. Five locations and dates throughout Grand County TBD. 10am – 3pm

#### It takes time

Community Chipping Days can save time. Your local fire department can also make you a **personalized to-do list** so that you can plan it all out.

### It's expensive

Check out our <u>Cost Share Reimbursement</u> <u>Program</u> for hazardous fuels reduction projects (link below).

#### Don't know how to reduce wildfire risk?

Call your local fire department for a <u>free site</u> <u>visit on your property</u> (contact info on front

page). They will go in-depth, marking specific trees for removal, recommending actions for the home itself, etc.

bewildfireready.org/info-for-residents/





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