



Living With Wildfire in Genesee Fire Protection District, Jefferson County, Colorado: 2022 Data Report

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Abstract: Genesee Fire Protection District (GFPD) and members of the Board contacted the Wildfire Research Center (WiRē) early in 2021. GFPD serves a community of approximately 1,500 homes and 3,600 residents. The community borders the south side of I-70 and runs south up varied topography with varied vegetation to approximately 8,000 feet of elevation and is considered to be at extremely high risk of wildfire. In 2020, GFPD worked with the Forest Stewards Guild to update their Community Wildfire Protection Plan (CWPP). GFPD and WiRē collaborated to collect household-level data in an effort that is complementary to the insights provided by the CWPP. A series of scoping meetings that included the GFR Fire Board helped to build a shared understanding of GFPD's goals, the setting, and the community.

Keywords: WiRē (wildfire research), partner, rapid risk assessment, survey data, wildland urban interface, social science, mitigation, wildfire risk, community, homeowner, social science

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EXECUTIVE SUMMARY

Genesee Fire Protection District (GFPD) and members of the Board contacted the Wildfire Research Center (WiRē) early in 2021. GFPD serves a community of approximately 1,500 homes and 3,600 residents. The community borders the south side of I-70 and runs south up varied topography with varied vegetation to approximately 8,000 feet of elevation and is considered to be at extremely high risk of wildfire.

In 2020, GFPD worked with the Forest Stewards Guild to update their Community Wildfire Protection Plan (CWPP). In addition to this broad planning effort, the community had recently passed a Mill Levy in support of mitigation and GFPD had recently hired an engineer to explore possibilities of building a new road for one of GFPD's greatest concerns: evacuation of the 1,500 households during an emergency. Considering these efforts, the operational arm of GFPD, Genesee Fire Rescue (GFR), sought additional support to improve and inform the efficacy of their community engagement efforts, particularly for those who are not already regular participants in community processes.

In this project, GFR and WiRē collaborated to collect household-level data in an effort that is complementary to the insights provided by the CWPP. A series of scoping meetings that included the GFR Fire Board helped to build a shared understanding of GFR's goals, the setting, and the community.

The results of this study demonstrate that most residents had very little direct experience with wildfire, and that evacuation is at top of mind for study respondents. Most respondents (71%) have an evacuation plan for the people in their household (fig. 22). Importantly, despite a high portion of respondents reporting having identified safe evacuation routes (78%), signed up for emergency notification (73%), and identified how they will be notified (71%), responses to evacuation actions and information needs indicate that the respondents are interested in further detail and engagement in order to help support their evacuation preparedness (fig. 32). Notably, respondents indicated a desire for more information on creating a checklist, packing a "go" bag, and having opportunities to engage with neighbors regarding evacuation. In other words, GFR's interest in galvanizing more evacuation engagement appears to be met with community interest in the same. This extends to community support for GFR's efforts to improve infrastructure as well, evidenced by 58% of respondents reporting that building a new road to provide an emergency evacuation route was extremely or very acceptable.

Respondents reported taking action to reduce risk. The largest portion of respondents reported taking lower cost actions (e.g., reducing vegetation, clearing roofs and gutters, regular mowing/raking) compared to making bigger investments (e.g., hardening home) (fig. 33). Thus, there is both mitigation activity underway and opportunities to increase and expand these activities. For example, we found a mismatch between observations made through our rapid assessments and the self-reported conditions on defensible space and combustibles near the home from the household survey (figs. 11 and 12). It is likely that benefit can be derived from engaging with landowners more deeply regarding the types of lower cost actions they are undertaking in order to ensure that their actions result in effective reductions in wildfire risk.

Finally, respondents indicated high acceptability of both traditional wildfire risk reduction through public lands management (fig. 34) and high acceptance of more contemporary efforts to reduce risk within Wildland Urban Interface (WUI) communities through regulatory measures and practices such as adopting land use regulations, building codes, and development standards (fig. 35).

WHAT IS WiRē

The Wildfire Research Center (WiRē¹ 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 before a fire, as well as supporting an effective response when fires threaten a community. It is also about allowing fire, as an important ecological process, on the landscape when it is safe and beneficial 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 and mitigation 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 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 (for more information on relative risk, see "Methods").
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.

¹ Pronounced Wy-REE

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 these discussions, wildfire practitioner partners can draw from data that reflects the entire community, not just a 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 lands and wildfire risk. Guided by the WiRē Team, the WiRē Center advances understanding of effective pathways to community wildfire adaptation.

Project Area: What Does the Community and Environment Look Like?

Community and environment

Genesee Fire Protection District, the area served by Genesee Fire Rescue, is located in Jefferson County, west of Denver, Colorado (fig. 1). Situated within the Bear Creek Watershed, elevation ranges from 6,600 to 8,040 feet. Most of the land within this area is privately owned, but portions border four public parks that are either managed by Jefferson County Open Space or Denver Mountain Parks. The ecology of the area is mostly made up of ponderosa pine and mixed-conifer forests, with patches of grassland and shrubland. Fuel loadings across the district are variable, with areas that could support multiple types of fire: active crown fires, surface fires with occasional passive crown fires, and fast-moving surface fires. Additionally, the built environment within the district could support an urban conflagration (house to house ignition) event.

Covering 4 square miles, this area comprises 1,500 single and multi-family homes (most of which are within one of three homeowner associations [HOAs]), 28 commercial buildings, and 3,600 residents. Additional values at risk include water treatment infrastructure, three communications towers, two reservoirs, the GFR fire station, and the Flatirons Church. Most residents live in their home full-time and own single-family homes. The median age of residents is 51 years old, and 17% of residents are over 65 years old.

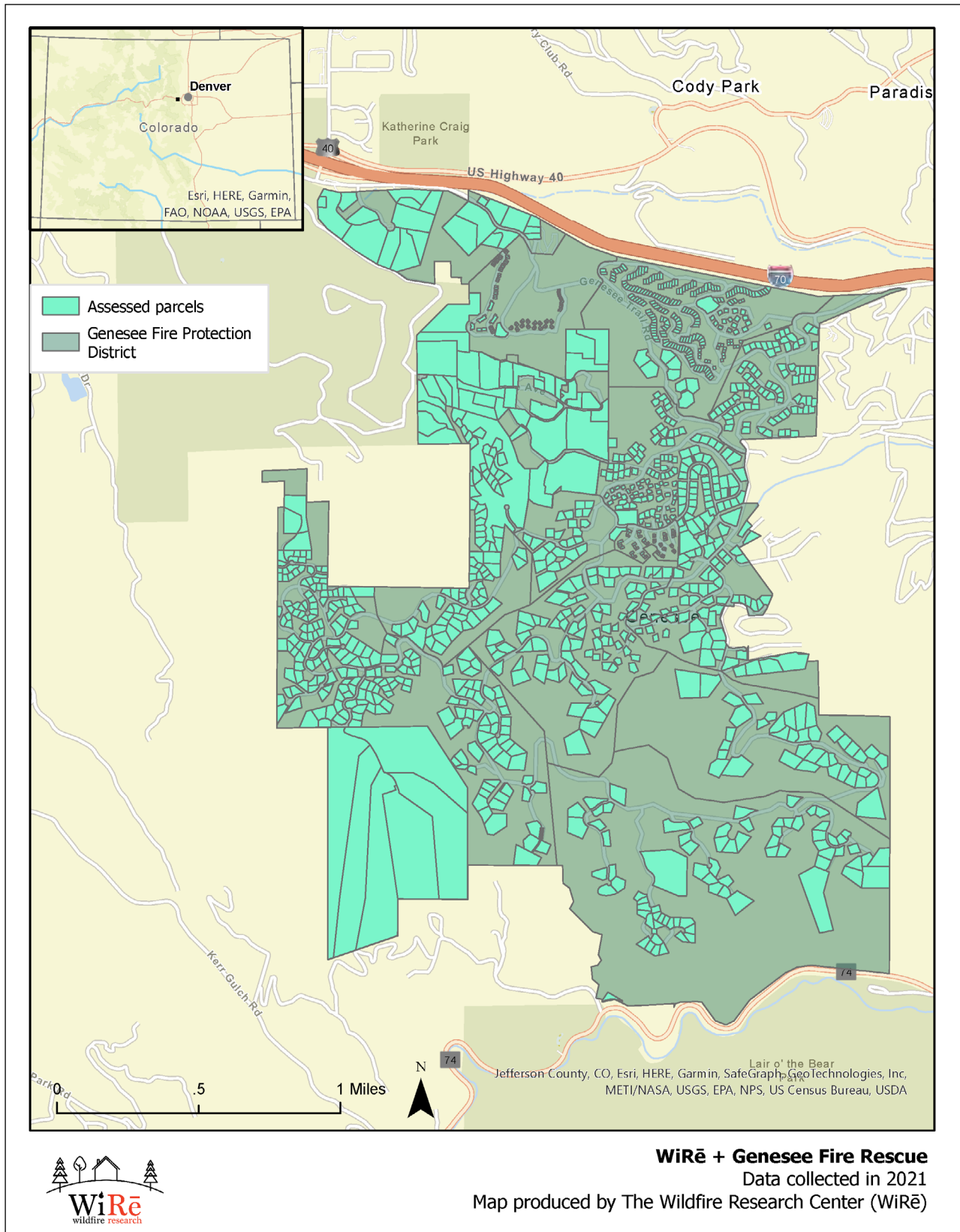


Figure 1—Map of community areas included in the study in Genesee Fire Protection District, Jefferson County, CO. Inset shows the location of Genesee Fire Protection District, CO. Map image is the intellectual property of Esri and is used herein under license. Copyright © 2020 Esri and its licensors. All rights reserved.

WiRē Partner: Genesee Fire Protection District

GFPD includes the communities of Genesee, Genesee Village, and Chimney Creek, and the Genesee Business District and Genesee Town Center. Genesee Fire Rescue (GFR), the operational arm of GFPD provides service to approximately 4 square miles in Jefferson County, Colorado. Founded in 1973, GFR is a combination (paid/volunteer) organization providing fire protection services and emergency medical services to residents 24 hours a day, 7 days a week. GFR has approximately 35 volunteer firefighters and 3 full-time firefighters. GFR operates an Engine Company, Truck Company, Wildland Urban Interface (WUI) Engine Company, and a brush truck. In addition, GFR provides basic life support in conjunction with the Highland Rescue Team Ambulance District. Genesee Fire Rescue is a Colorado Special District and is governed by the elected Board of the Genesee Fire Protection District.

CWPP Background

In 2020, GFPD worked with the Forest Stewards Guild to update their Community Wildfire Protection Plan (CWPP)². This 2021 CWPP is a complete update of the 2008 CWPP, including incorporation of landscape changes and advances in fire science. The process also included input from HOA community managers and Board presidents, business property managers, community leaders, and Genesee residents collected via multiple surveys. Other agencies and organizations including Xcel Energy, Genesee Water and Sanitation District, Jefferson County Road and Bridge Division, Colorado Division of Fire and Control, Colorado State Forest Service, Denver Mountain Parks, Jefferson Conservation District, Jefferson County Open Space, and the Jefferson County Sherriff's Office were also consulted. The CWPP includes fire hazard and risk analyses, priorities for mitigation work, pathways for community engagement, preparedness planning, and tactical/operational maps. Together, these elements provide an actionable and strategic path forward that can be used as a tool by GFR, land managers, residents, and HOAs to improve community wildfire resilience.

² <https://geneseefpd.colorado.gov/community-wildfire-protection-plan>.

METHODS: WHAT DID WE DO?

In the study area, GFPD and WiRē implemented the WiRē Approach, a systematic approach to data collection that includes a parcel-level rapid assessment and household survey data collection. 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 summer 2021 to inform residents of the upcoming activities (see Appendix A for correspondence materials).

Rapid Wildfire Risk Assessments

Rapid assessment data collection was conducted by GFPD mitigation specialists as a census of all residential properties with a structure in the study area. The rapid wildfire risk assessments were conducted for 1,340 residential properties in summer 2021 using the standard WiRē Rapid Wildfire Risk Assessment (WiRē RA). Forty-seven nonresidential properties were also assessed during this effort. The WiRē RA is composed of a set of 13 attributes that includes access to the property, background fuels and topography, vegetation near the home, and building materials.

To calculate a parcel's overall "risk score" (continuous number on a 1,000-point scale), each WiRē RA attribute is weighted, reflecting its relative contribution to parcel-level wildfire risk. For example, because roofing materials can present a more significant risk than address posting, these attributes are weighted differently, constituting 30% and 1% of the overall risk score, respectively. See Appendix B for specific RA attribute weightings.

To support comparison of risk across properties, the overall risk scores for each parcel are placed into five categorical "risk ratings" (low, moderate, high, very high, and extreme). These risk ratings are defined by the distribution of risk scores in WiRē's compiled dataset, which includes all applicable WiRē projects to date. Specifically, the cut-offs between each risk rating are the 10th, 25th, 75th, and 90th percentile of the full distribution across WiRē projects. This resulted in the following overall risk ratings: low (20–240), moderate (241–305), high (306–435), very high (436–505), and extreme (506–1,000).

Importantly, a parcel-level risk rating does not account for all components of risk, including variable or extreme weather conditions and some factors that can only be captured during a comprehensive on-site consultation (e.g., vent screen size, windows, fire-resistant flashing). Thus, WiRē risk scores are not an absolute measure of risk but are estimates of risk using a standardized suite of variables observed by a particular person at one point in time.

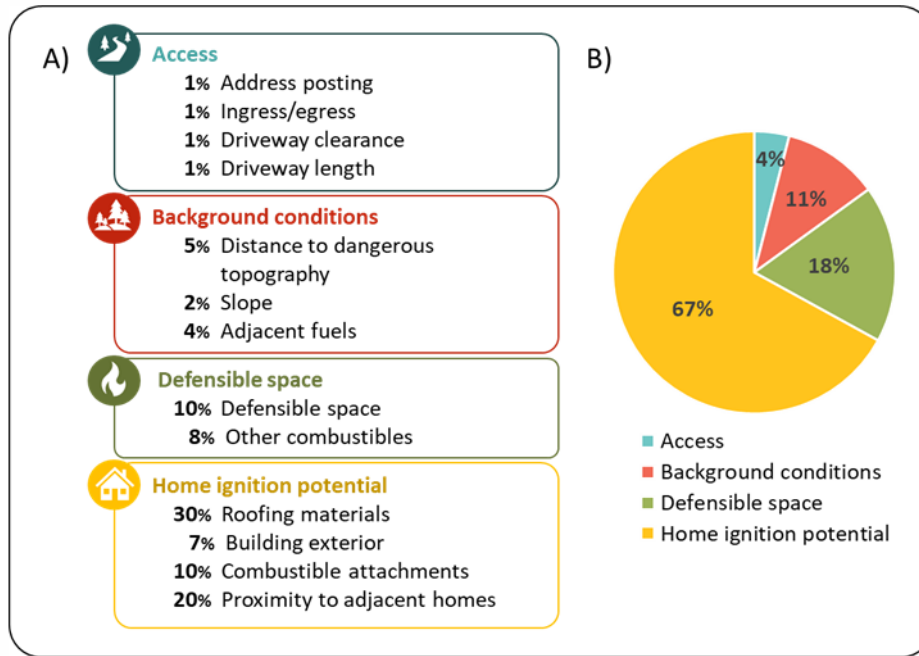


Figure 2—Wildfire Research Center (WiRē) Risk Assessment. (A) Relative weight of each risk attribute within the overall risk score. (B) Relative weight of each risk category within the overall risk score.

To ensure consistent, high quality data collection, WiRē wildfire practitioners conducted a training that included a virtual orientation followed by an in-person training day for those who would conduct the rapid assessments. Additionally, data were collected using ArcGIS Field Maps. A standardized reference sheet for data collectors was available for use in the field (see Appendix B for the Assessor Reference Guide).

All parcel-level assessments were conducted on the property being assessed unless access was blocked by a gated driveway or posted with no trespassing signage. The multi-family dwellings, primarily duplex or triplex configurations, share the same addresses and the rapid assessment treated the structure holistically, observing the entire structure for the assessment process. While environmental and situational variables may occasionally affect the rapid assessment data collection process, GFPD is confident that the rapid assessments collected for this project provide an accurate representation of relative wildfire risk to the parcels in Genesee. In instances when the mitigation specialist could not observe a risk attribute, the specialist selected “unknown/not observed.” During data processing, these responses were assigned the highest risk score.

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 to gain specific information of local interest are modified through iterative processes between WiRē and our practitioner partners. In this case, WiRē and GFPD met virtually to step through the household survey, and then subsequently iterated drafts until we settled on a final version.

The household survey was mailed to the owners of all the properties for which the WiRē RA was conducted³. Household survey data were collected using a modified Dillman approach⁴ that includes three mailings after the initial letter announcing project activities 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 one month after the reminder postcard.

The household survey administration process resulted in 581 completed surveys for a 45 percent response rate.

Table 1—Timing of the household survey administered to residents of Genesee, CO, by Genesee Fire Protection District and the Wildfire Research Center (WiRē) to collect information related to wildfire risk.

Mailing	Date of mailing
Initial letter	5/21/2021
First survey package	8/11/2021
Postcard reminder	8/30/2021
Second survey package	9/30/2021

Paired Rapid Assessment and Household Survey Data

The data from the 1,340 WiRē RAs (Appendix C) and 581 household surveys were compiled into a dataset containing three types of data: properties for which we have both WiRē RAs and household surveys (581 records), properties for which we have only a WiRē RA (759 records), and properties for which we have only a household survey (3 records). The paired RA and household survey data were analyzed, producing the results presented below⁵.

³ As part of the WiRē Approach, one survey is sent to each individual homeowner in the study area. If an individual owns multiple properties, they receive only one survey with a prompt to select a specific property address. As a result, the number of household surveys mailed out is different from the total number of rapid assessments conducted.

⁴ For details, see Dillman, Don A. 2000. *Internet and mail surveys: the tailored design method*. 2000. New York: John Wiley. 480 p.

⁵ Any differences between the numbers reported here and the Household Survey Codebook (Appendix D) should be minor and the result of rounding.

RESULTS: PAIRED WiRē RAPID ASSESSMENT AND HOUSEHOLD SURVEY

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

A total of 1,340 parcels were assessed by Genesee Fire Rescue using a rapid assessment (WiRē RA). Of these, less than 1% of parcels were characterized as low or moderate risk (Appendix D, table 2.1). All parcels were assessed as either high risk (14%), very high risk (38%) or extreme risk (48%).

Rapid Assessment Attributes: Observed in WiRē Rapid Assessment Vs. Self-Assessed by Household Survey Respondents

The results presented below are based on the paired rapid assessment and household survey data (N = 581) (Appendix D). The rapid assessment (WiRē RA) and household survey data are compared by looking at the overall wildfire risk rating and the results for each attribute. The household survey includes a section asking residents to evaluate their property using the same attributes as the WiRē RA, which allows for this comparison. The WiRē RA data used in this section only represent properties for which a household survey was completed. The sections are organized by overall risk and then risk categories of access, home ignition potential, defensible space, and background conditions.

Overall wildfire risk

In order to better understand the perspective of study area owners, household survey respondents were asked to provide an overall assessment of their property's risk, after having self-assessed their property based on the 13 risk attributes described in the following sections. The survey question provided a five-point scale: low, moderate, high, very high, or extreme risk. The survey's overall rating scale matches the rapid assessment overall rating scale; however, unlike the survey overall ratings, the rapid assessment overall ratings were calculated as the sum of each individual risk attribute score.

Respondents to the household survey generally rated their parcels as lower risk compared to the data collected by professionals during the WiRē RA. The discrepancy between respondents' perceptions and the assessments of wildfire practitioners was especially prevalent as the level of risk increased. At the lower end of the risk spectrum, 7% of respondents rated their parcels as low risk, while the WiRē RA data show no parcels in this category. Over half (55%) of respondents rated their parcels as moderate risk, while only 0.2% were categorized as such during the WiRē RA. Twenty-eight percent of respondents rated their parcels as high risk, while the WiRē RA data characterize 17% of parcels as high risk. While only 8% of survey respondents reported that their parcels were very high risk and another 2% reported their parcels were at extreme risk, the majority of the parcels were characterized as very high and extreme risk (41% each) during the WiRē RA (see fig. 3).

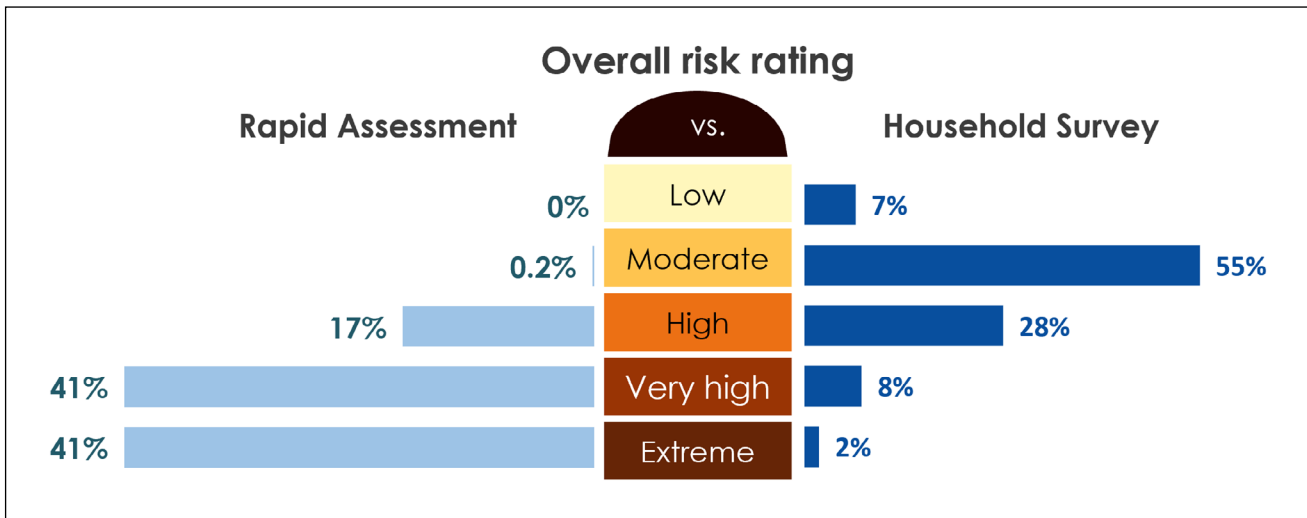


Figure 3—Distribution of overall risk ratings for Genesee study area. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research (WiRē) Rapid Assessment. Represents 574 paired survey responses and risk assessments.

Access

During a wildfire, residents must have evacuation route options and emergency responders must be able to safely identify and access properties. The following four attributes describe access for both residents and emergency responders in terms of home identification, evacuation routes, and parcel accessibility by way of a driveway.

Risk attribute: address posting

The visibility of home addresses in various conditions of smoke and daylight is critical for swift and safe response. Properties’ addressing conditions are assessed based on local standards of signage that is posted, visible from the road, and reflective.

Half (49%) of respondents reported that their address was not posted or visible from the road, and another 37% reported that their address was visibly posted but did not meet all standards for visibility in smoky or dark conditions. The WiRē RA data show that the majority (91%) of parcels had addresses that were visibly posted but did not meet all standards (see fig. 4).

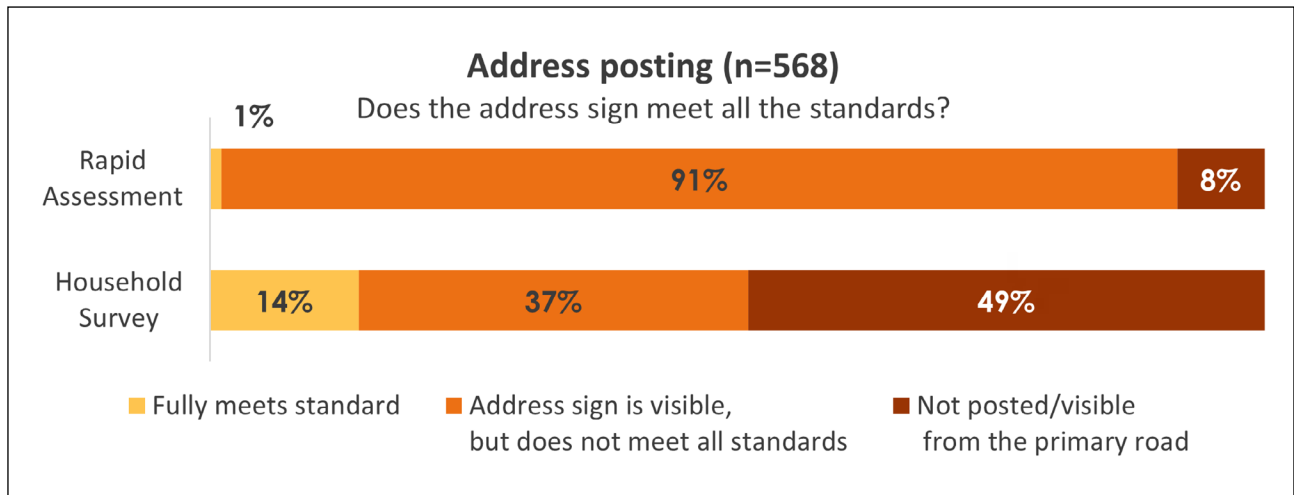


Figure 4—Visibility of property address. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 568 respondents to this survey question.

Risk attribute: evacuation routes for ingress/egress

Resident evacuation options and safe routes for emergency responders to access properties are critical. This access is dictated by existing road systems within communities. Wildfire conditions may block evacuation routes, limiting residents’ ability to safely evacuate. Thus, properties are evaluated based on having two (or more) roads in and out.

While 40% of survey respondents reported at least two roads leading in and out of their communities, only 18% of parcels were identified by the WiRē RA to have two or more roads to facilitate evacuation (see fig. 5).

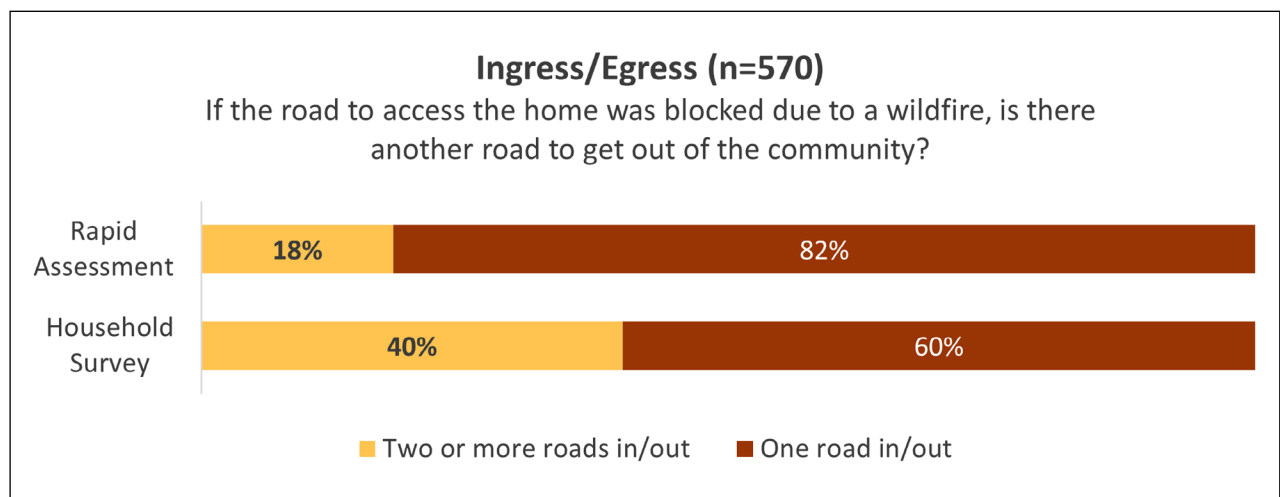


Figure 5—Number of evacuation routes in or out of community. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 570 respondents to this survey question.

Risk attribute: driveway clearance

Emergency vehicles must be able to easily access and quickly exit a property. This ability can be affected by a driveway’s width, length, and presence or lack of a turnaround, as well as narrow gates or low hanging tree branches. Driveway clearance is assessed based on width and is categorized as wide enough for two vehicles to pass each other (more than 26 feet wide), two cars wide (20 feet to 26), or one car wide (less than 20 feet).

Household survey respondents were more likely to rate their driveway’s clearance as fully meeting standards (57%) or meeting one but not both standards (36%). In contrast, the WiRē RA assessment categorized only 12% of parcels as meeting all clearance standards, with most parcels (71%) meeting one but not both (see fig. 6).

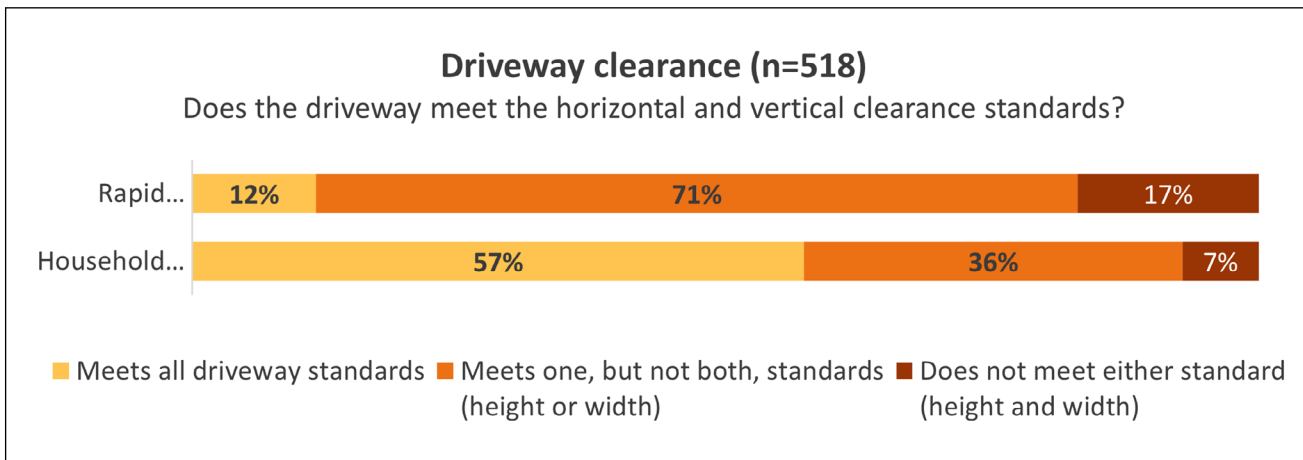


Figure 6—Width of residence driveway at its narrowest point. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 518 respondents to this survey question.

Risk attribute: driveway length

Similar to driveway clearance, the length of a driveway also affects the ability of fire engines to turn around and safely respond to a wildfire. The WiRē RA distinguishes between properties with driveways that are shorter than 150 feet, driveways that are longer than 150 feet but with a turnaround suitable for a Type 1 engine, and driveways longer than 150 feet and without adequate turnaround space.

Most (81%) respondents reported that their driveway was less than 150 feet in length, and the WiRē RA data found slightly more parcels (94%) met this criterion. The assessment found only 4% of parcels had driveways that were both longer than 150 feet and without adequate turnaround (see fig. 7).

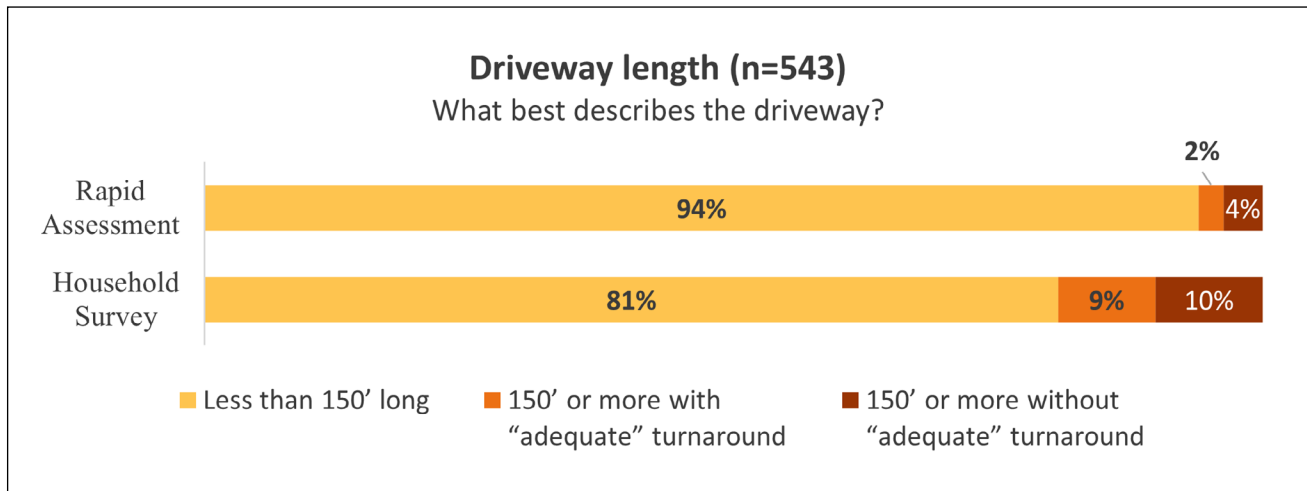


Figure 7—Driveway length and presence of turnaround. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 543 respondents to this survey question.

Background conditions

Background conditions may vary from parcel to parcel within communities, creating unique levels of risk for each home. Such conditions include dangerous topography, overall slope of the property, and the type and density of surrounding vegetation. These are further described below.

Risk attribute: distance to dangerous topography

Wildfire behavior is influenced by topography. Features that can facilitate increased fire behavior (rate of spread, intensity, etc.) such as drainages, narrow canyons, and chimneys are considered when assessing topography. Properties are assessed into categories that measure the distance of the home to steep or dangerous topography at distances of less than 50 feet, 50 feet to 150 feet, and more than 150 feet.

Sixty-five percent of survey respondents reported that their homes were more than 150 feet from dangerous topography, and another 23% reported their homes were situated at a distance between 50 feet and 150 feet away from dangerous topography. The WiRē RA data show that half (49%) of homes were located less than 50 feet from dangerous topography, with 28% with a distance between 50 feet and 150 feet and the remaining 23% greater than 150 feet away (see fig. 8).

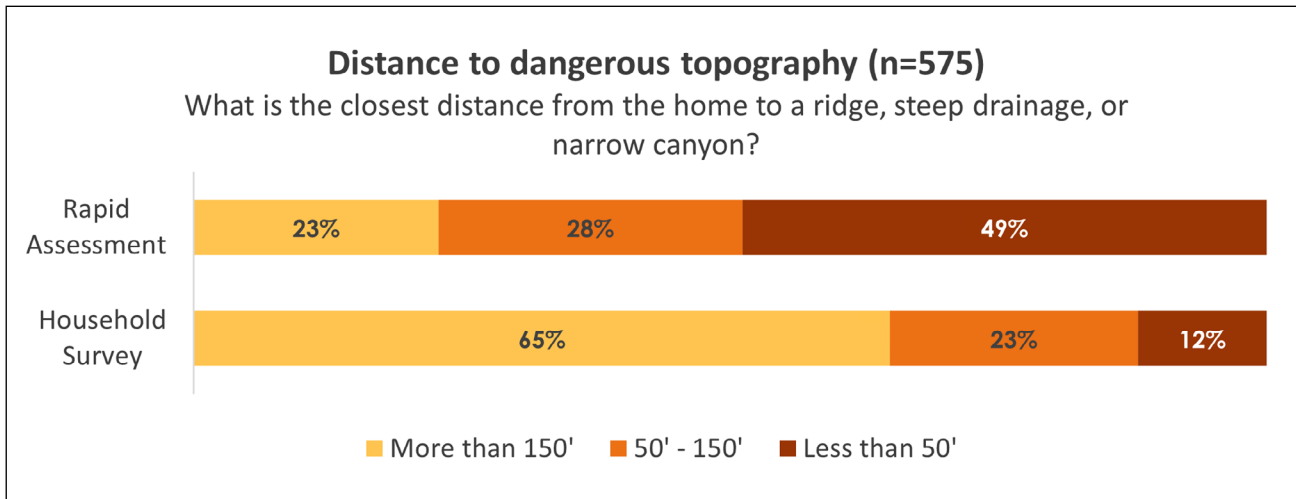


Figure 8—Closest distance from the home to dangerous topography (e.g., a ridge, steep drainage, or narrow canyon). Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 575 respondents to this survey question.

Risk attribute: slope

Slope is an additional factor that influences wildfire behavior and response. For example, steep terrain can increase the rate of wildfire spread. Additionally, firefighters and their equipment may be hindered by uneven topography.

A little more than half (53%) of survey respondents reported the slope of their properties as moderate. Another third (33%) reported that their property’s slope was gentle. The WiRē RA data categorized a similar number of parcels as moderate (57%) but classified 40% of properties as possessing steep slopes and only 3% of properties as having a gentle slope (see fig. 9).

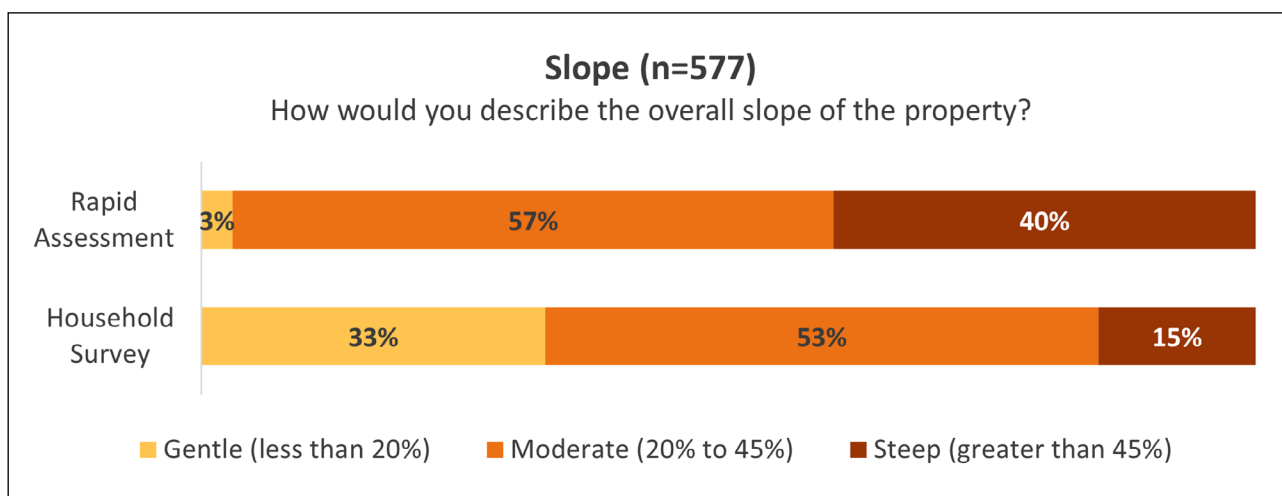


Figure 9—Overall slope of property. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 577 respondents to this survey question.

Risk attribute: adjacent fuels

Vegetation surrounding the home beyond the defensible space zone is another factor in determining wildfire behavior. Properties are assessed on the dominant vegetation type present between 100 feet and 150 feet from the home, regardless of whether this falls within the property boundary. Three categories of vegetation are used: light (grasses), moderate (light brush and/or isolated trees), and dense (dense brush and/or dense trees).

Nineteen percent of respondents reported light fuels around their homes, the majority (67%) reported moderate fuels, and the remaining 15% reported heavy fuels. The WiRē RA showed fewer parcels with light fuels (1%), a similar number with moderate fuels (61%), and more parcels with dense fuels (39%) when compared with survey respondents (see fig. 10).

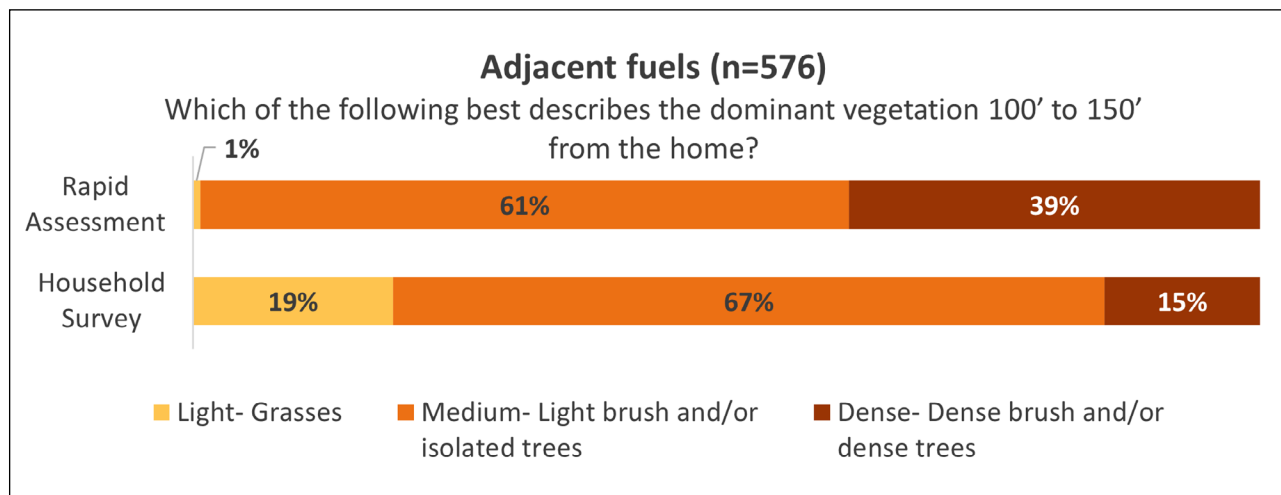


Figure 10—Adjacent fuels, categorized by closest distance from home to overgrown, dense, or unmaintained vegetation. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 576 respondents to this survey question.

Defensible space

Home ignition is affected by the presence of or direct contact with vegetation and other combustible materials that can ignite and transfer flames to the home itself. Additionally, vegetation and combustible materials around the home influence fire behavior and firefighters' ability to access and defend the home (e.g., a canopy fire in a densely treed area around the home is more difficult to suppress than a fire on the ground).

Risk attribute: defensible space

The presence of fuels within 100 feet of the home increases risk of wildfire damage to the home. Particularly flammable or abundant vegetation near the home may ignite and spread fire to the home. Defensible space was assessed by the proximity of the home to vegetation categorized as overgrown, dense, or unmaintained.

The parcels of survey respondents fell into four categories of distance between the home and the nearest area of dense or overgrown vegetation. Twenty-eight percent of respondents

reported more than 100 feet of defensible space, 42% reported 100 feet to 30 feet, 26% reported 29 feet to 5 feet, and 4% reported less than 5 feet of defensible space. In contrast, almost all parcels were categorized during the WiRē RA as having 5 feet or less of defensible space (97%), with the remaining 3% characterized as having 5 feet to 29 feet of defensible space (see fig. 11).

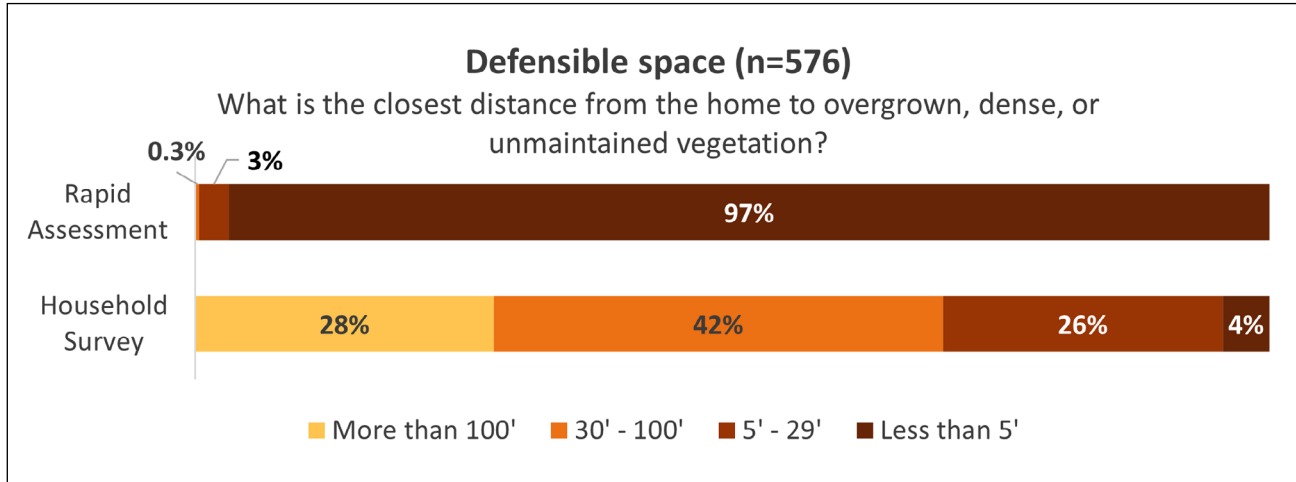


Figure 11—Defensible space, categorized by distance between the home and dense vegetation. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 576 respondents to this survey question.

Risk attribute: other combustibles

In addition to vegetation, defensible space includes the presence of other combustible materials within 30 feet of the home such as lumber, firewood, hay bales, propane tanks, storage sheds, and other flammable materials.

This attribute also showed differences in the perceptions of survey respondents and wildfire professionals carrying out the WiRē RA. More than half (56%) of respondents reported more than 30 feet or no combustible items other than vegetation near their homes, and another third (30%) reported combustible items between 30 feet and 5 feet from their homes. Data from the WiRē RA show that 99% of parcels had combustible items other than vegetation less than 5 feet from the home (see fig. 12).

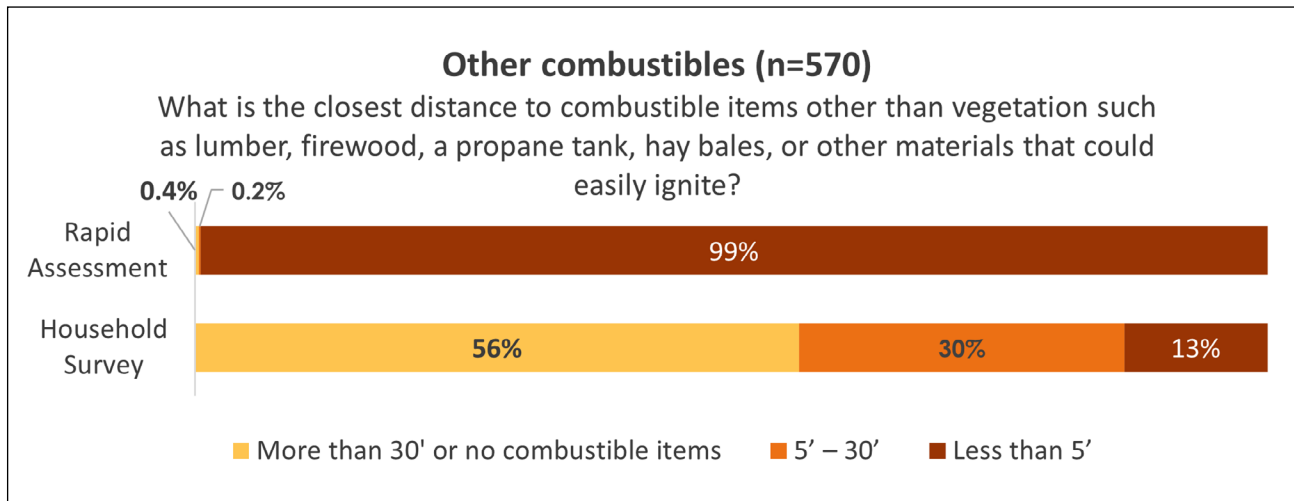


Figure 12—Other combustible materials, categorized by closest distance from home to combustible items other than vegetation. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 570 respondents to this survey question.

Home ignition potential

Wildfire conditions can impose long periods of convective and radiant heat on structures. These conditions test the limits of the materials used in construction. Both the design and building materials play a role in the ignitability of a structure.

Risk attribute: roof

The roofing material of a structure is a critical component in determining ignitability. Roofs were assessed by the material they were made from. These were either fire-resistant (noncombustible) materials such as metal, tile, and asphalt, or fire-receiving (combustible) materials such as wood shingles.

Both the household survey respondents and the WiRē RA data show that the vast majority of roofs were made of noncombustible materials at 99% and 99.8% respectively (see fig. 13).

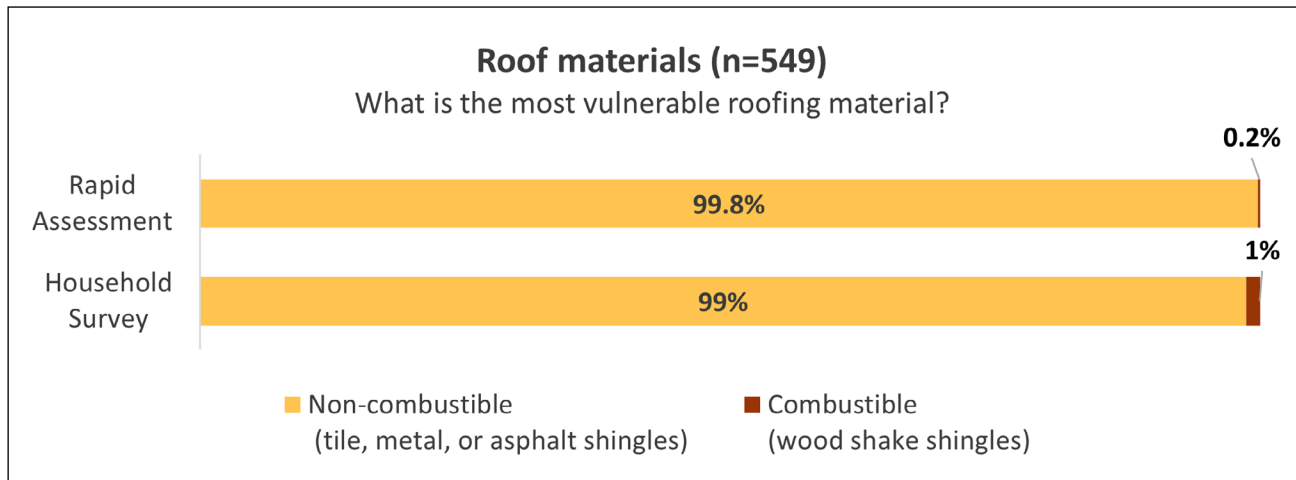


Figure 13—Combustibility of residential roof type. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 549 respondents to this survey question.

Risk attribute: siding

A structure’s exterior walls, including the materials used and the design and construction, contribute to the overall ignitability of a home in a wildfire event. Smooth, noncombustible materials such as stucco and metal have less chance of collecting blowing embers than unmaintained wood siding, which may have more spaces for embers to land. The siding of homes was assessed into three categories: low risk, noncombustible materials (e.g., stucco, brick, stone); medium combustion risk materials (log, heavy timbers, maintained wood); or high combustion risk materials (vinyl, unmaintained wood, or other ember-receptive siding).

Just over a quarter (26%) of respondents reported that their home’s siding material was noncombustible, and almost three-quarters reported that their home’s siding was high combustion risk materials. Similarly, the WiRē RA categorized 20% of home’s siding as noncombustible and the remaining 80% of homes were characterized as having high combustion risk materials (see fig. 14).

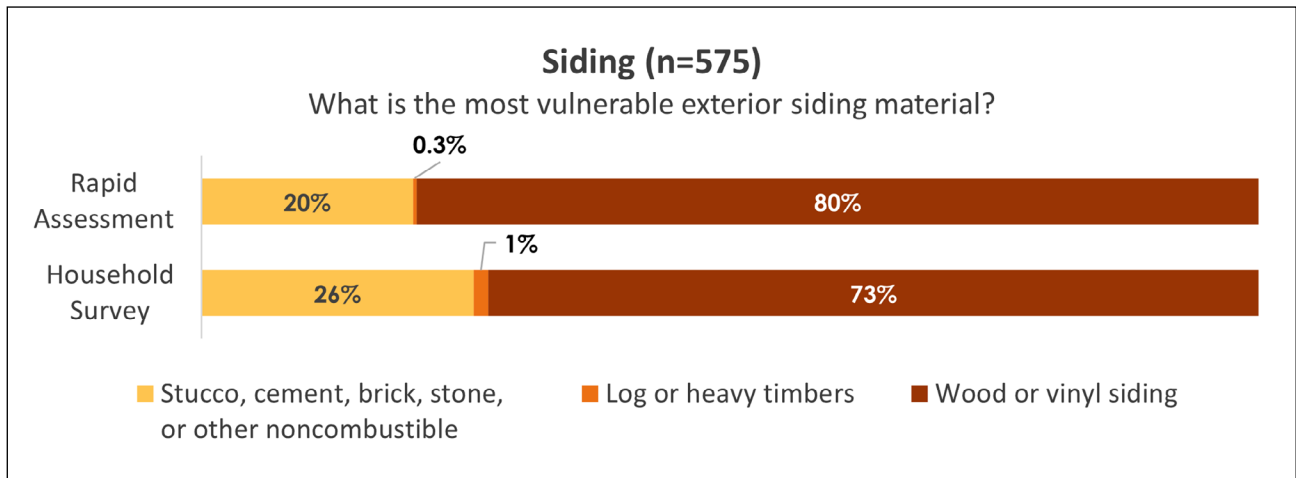


Figure 14—Siding type, categorized by material into low-, medium-, and high-risk categories. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 575 respondents to this survey question.

Risk attribute: combustible attachments (decking and fencing)

Attachments to structures (e.g., wooden decks, fences) increase the area exposed to blowing embers in a wildfire event and have the potential to increase convective and radiant heat. Parcels were assessed on the presence or absence of combustible attachments.

While 76% of respondents reported the presence of a combustible attachment to the home, the WiRē RA data showed that almost all (99%) of homes had a combustible attachment (see fig. 15).

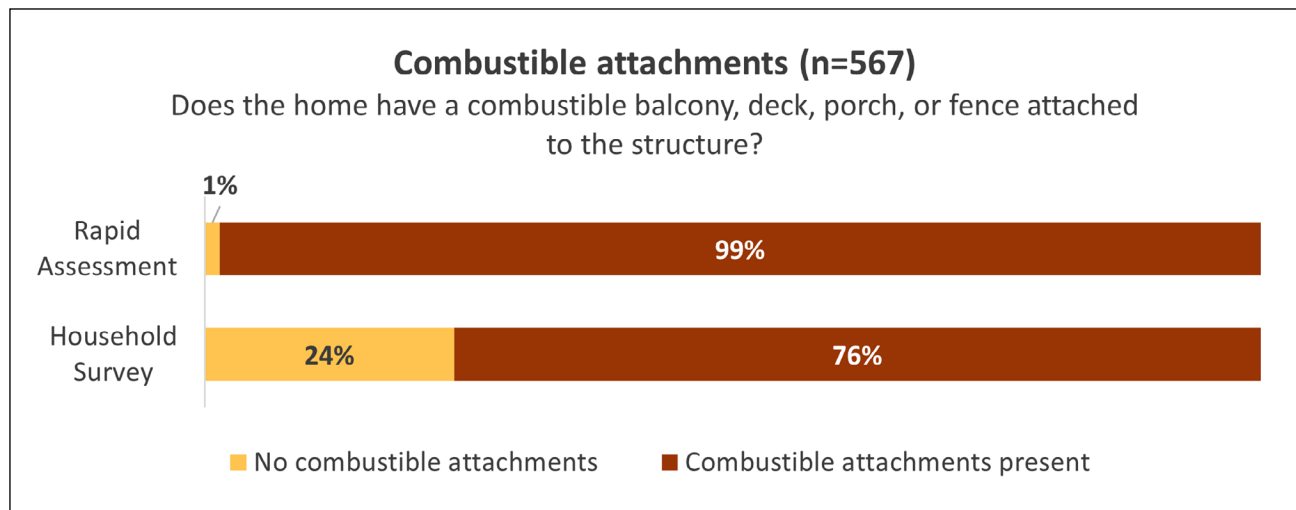


Figure 15—Combustible attachments (e.g., deck or fence). Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 576 respondents to this survey question.

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 built with combustible materials can ignite due to radiant heat. Homes located in close proximity are more likely to result in home-to-home ignition. In conflagration events like this, homes are both the recipients of fire and the drivers of fire. Parcels were assessed on the proximity of homes to nearby structures.

Respondents reported the proximity of their homes to their closest neighbor. A third (31%) reported that their home was more than 100 feet from their closest neighbor, 41% reported a distance between 100 feet and 30 feet, 18% reported a distance of 29 feet to 10 feet, and the remaining respondents (10%) reported less than 10 feet between their home and their neighbor’s home. Data from the WiRē RA show a fairly similar distribution, with 15% of homes more than 100 feet from their neighbors, 54% with between 100 feet and 30 feet of distance, 16% with between 29 feet and 10 feet of distance, and 10% with less than 10 feet of distance between homes (see fig. 16).

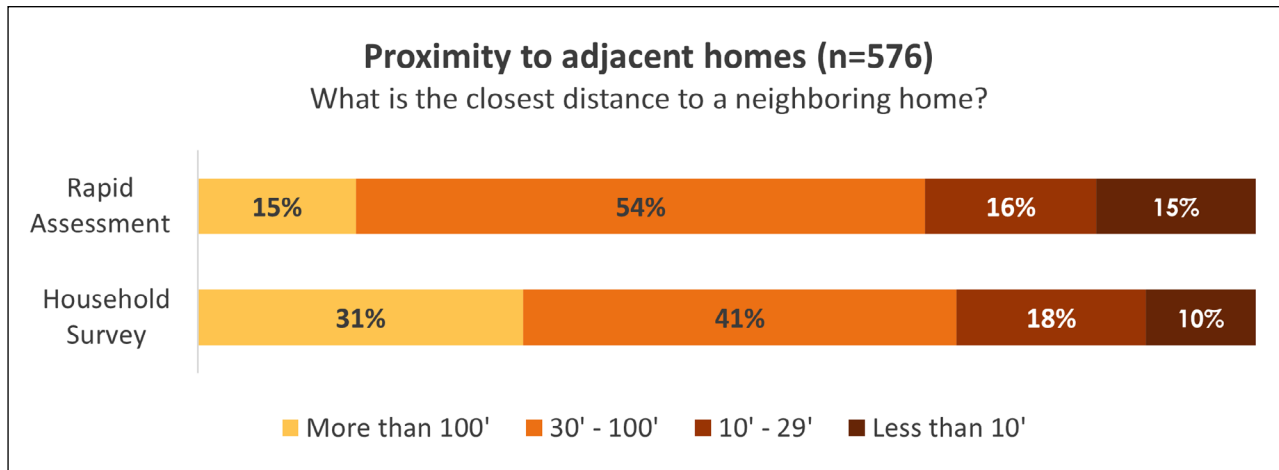


Figure 16—Proximity to adjacent homes, categorized by closest distance to neighboring home. Comparison of Genesee household survey as reported by respondents in the Genesee study area in Jefferson County, CO, and Wildfire Research Center (WiRē) Rapid Assessment (RA). N = 576 respondents to this survey question.

SOCIAL DIMENSIONS OF GENESEE: RESULTS OF THE HOUSEHOLD SURVEY

Most respondents occupy their homes in Genesee year-round (91%), while 9% occupy their residence fewer than 12 months out of the year. The average year of construction of the homes in the study area was 1985, and the average year that respondents had moved into their homes was 2006. At the time of purchasing their home in Genesee, a third of respondents reported being very aware of the wildfire risk (31%), almost half reported being somewhat aware (49%), and 18% reported being unaware of the wildfire risk when they bought or began renting their home (see fig. 17).

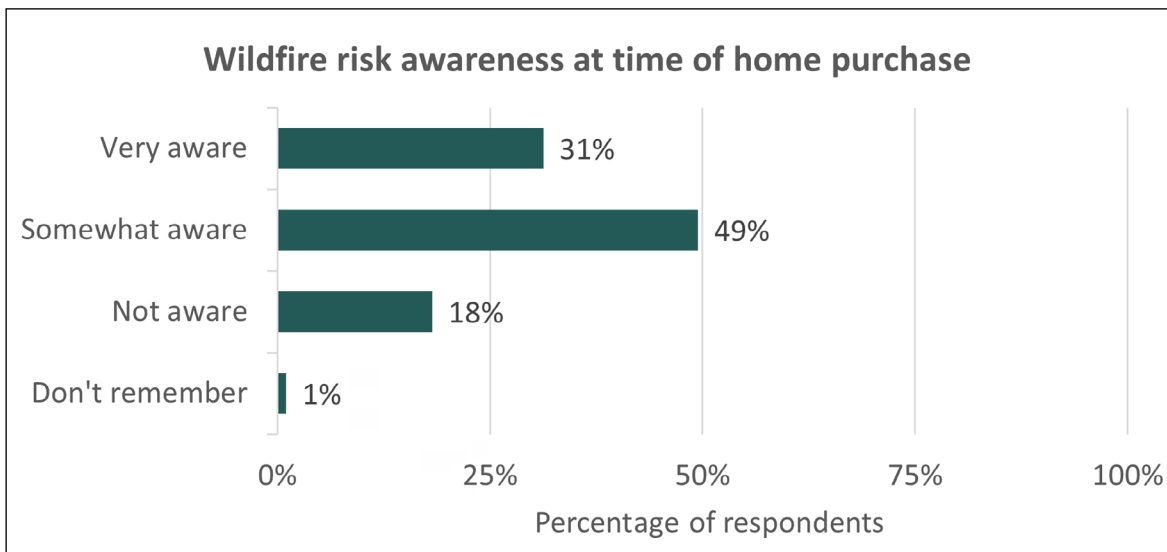


Figure 17—Respondents' awareness of wildfire risk, when they bought or began renting their home, as reported by respondents residing in the study area in Genesee, CO. N = 582 respondents to this survey question.

Study respondents were more likely to be men (59%) and the average age of respondents was 65 years old. Ninety-two percent of respondents held a bachelor's degree or higher. Fifty-four percent of respondents were retired, 34% worked full-time, and 10% worked part-time. Sixty-four percent of households reported yearly incomes greater than \$100,000.

Origins of Wildfire Perceptions and Knowledge

Wildfire experience

Most respondents to this survey did not have direct experience with wildfire or the resulting smoke damaging their properties or causing them to evacuate (see fig. 18).

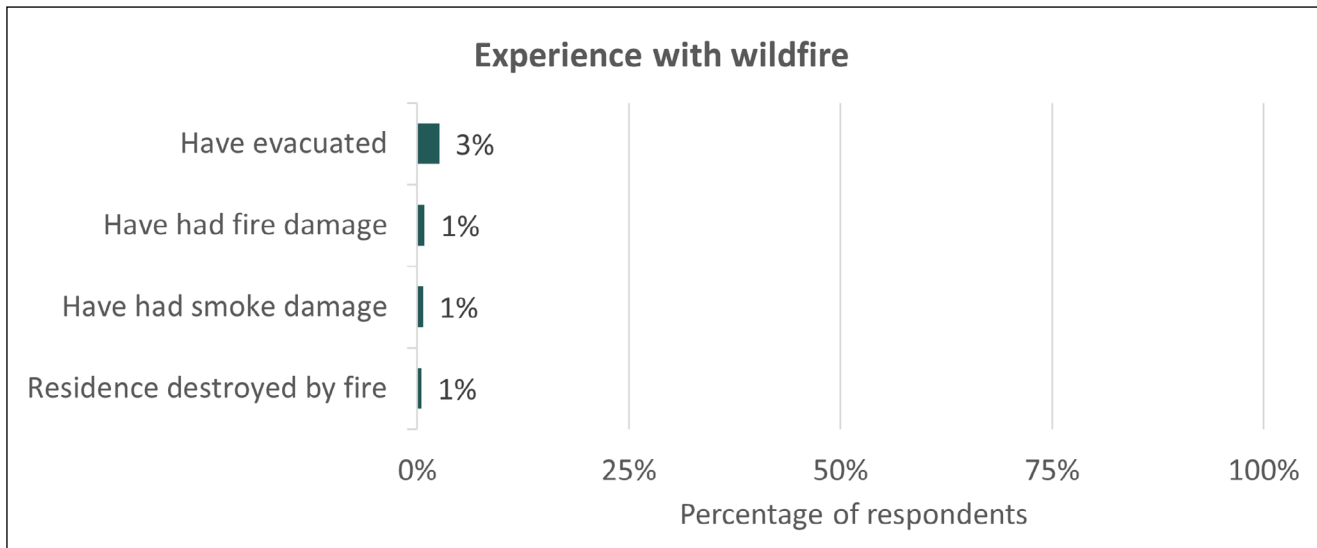


Figure 18—Respondent experience with various impacts of wildfire, as reported by respondents residing in the study area in Genesee, CO. N = 577–578 respondents to these survey questions.

Despite few respondents with direct experience of wildfire on their properties, 34% reported that a wildfire had come between 2 and 10 miles from their properties, and another 18% reported a wildfire less than 2 miles from their property (see fig. 19).

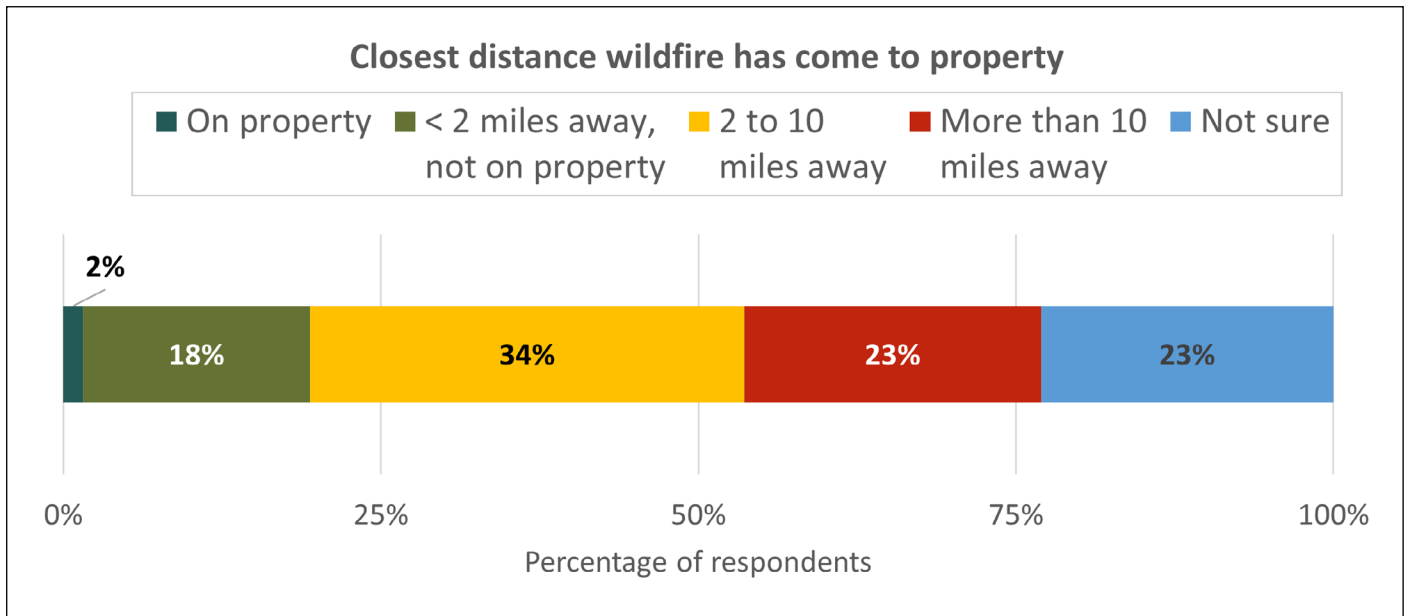


Figure 19—Respondent estimates of how close a wildfire has come to their property, as reported by respondents residing in the study area in Genesee, CO. N = 582 respondents to this survey question.

Perceptions of risk

Survey respondents were asked to consider the likelihood of the occurrence of a wildfire on their property and potential outcomes in that event. Seventy-four percent, a similar number of respondents to the number who had an evacuation plan for the people in their household, agreed or strongly agreed with the statement, “My property is at risk of wildfire” (see fig. 20).

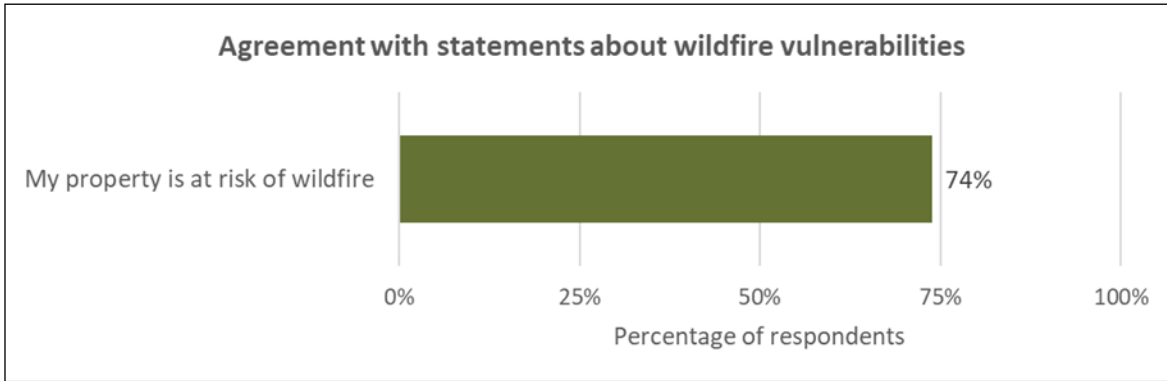


Figure 20—Agreement (“agree” or “strongly agree”) with statements about whether wildfire threatens the respondent’s property, as reported by respondents residing in the study area in Genesee, CO. N = 568 respondents to each survey statement listed.

Despite agreement from almost three-fourths of respondents that their property is at risk of wildfire, only 15% reported that they expected at least a 50% chance of a wildfire on their property. However, in the event of a wildfire on their property, almost half (49%) of respondents expected to lose their home (see fig. 21).

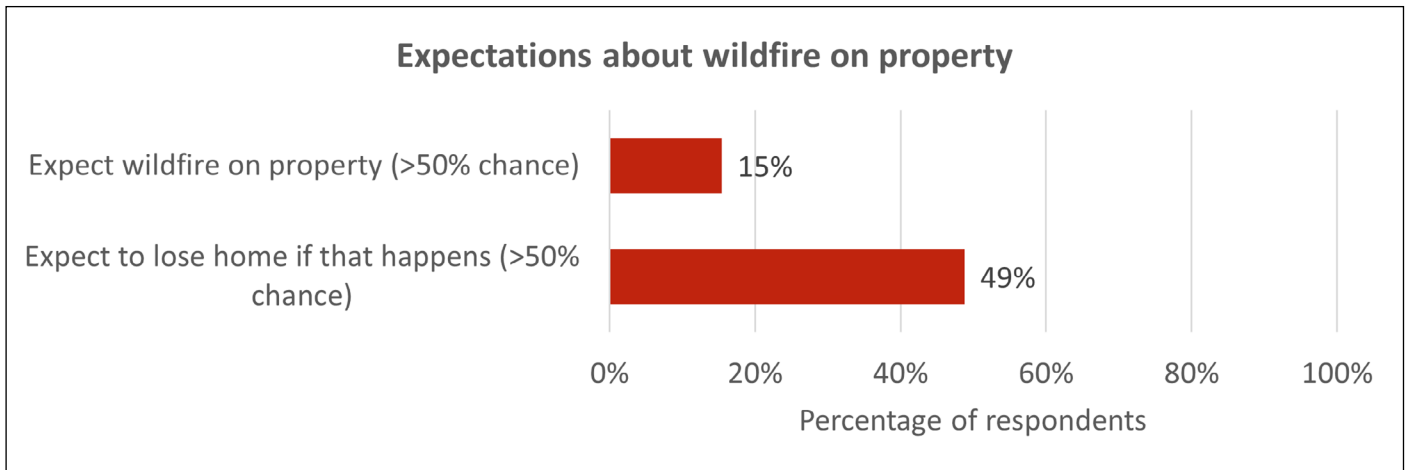


Figure 21—Estimate of the chances (> 50% chance) of a wildfire on property in the next year, and chances (> 50% chance) of losing home in that case, as reported by respondents residing in the study area in Genesee, CO. N = 572 and 568 respondents to the two survey statements listed, respectively.

Evacuation planning is an important step in wildfire preparedness. The majority of respondents (71%) reported having evacuation plans for the people in their household. Fifty-seven percent of respondents indicated that they have pets in their household or on their property, and 67% of those respondents have a plan for those pets (see fig. 22).

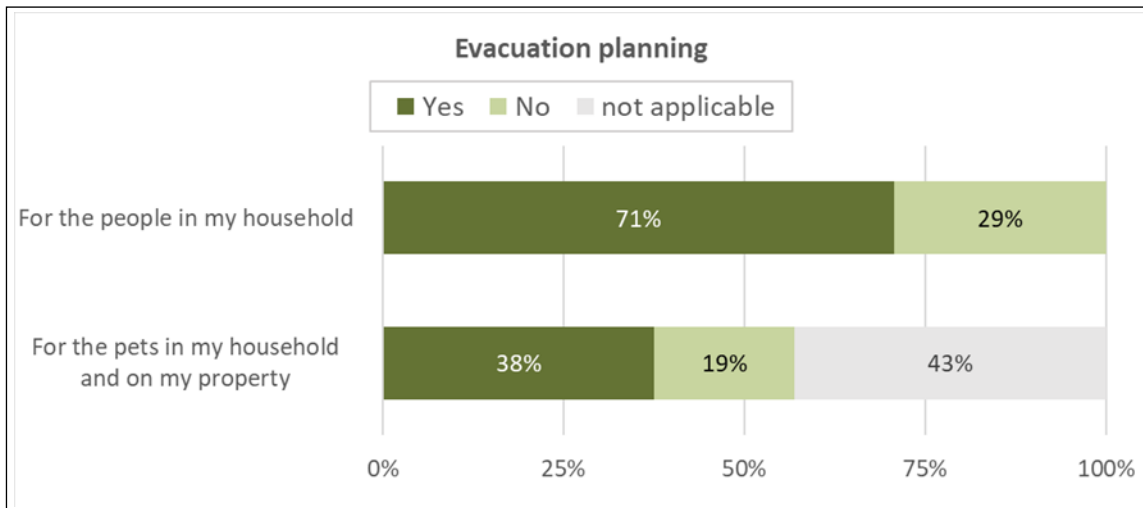


Figure 22—Percentage of respondents who have wildfire evacuation plans for people and for pets in the household, as reported by respondents residing in the study area in Genesee, CO. N = 570–571 respondents for each of the above categories.

In the occurrence of a wildfire on their property, 37% of respondents thought that it was very or extremely likely that embers would ignite their home, followed by 34% of respondents who thought ignition of their home by direct flame was very or extremely likely. Just under a third (29%) of respondents thought it very or extremely likely that nearby homes would ignite their home in the event of a wildfire (see fig. 23).

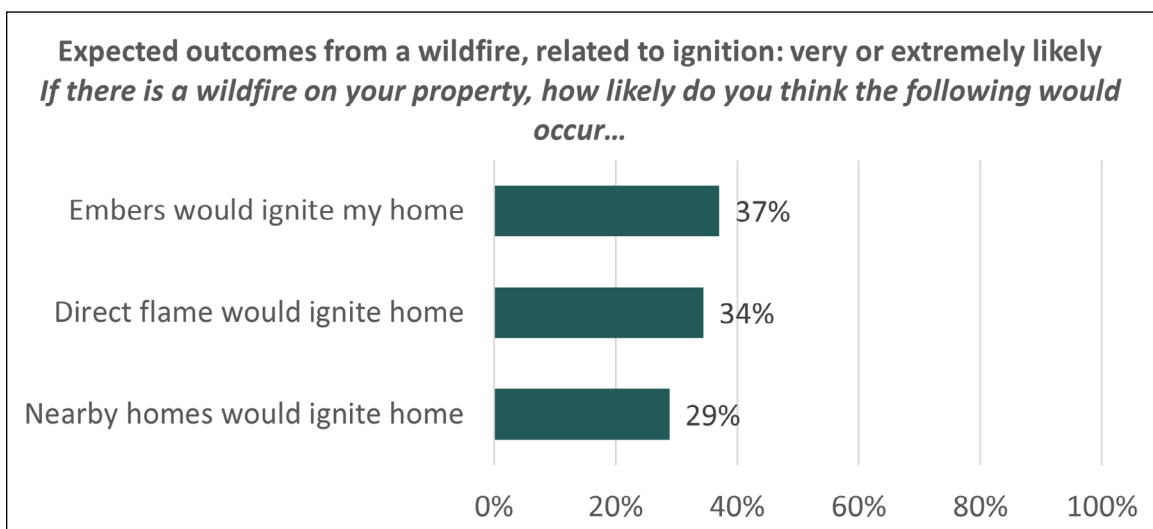


Figure 23—Percentage of respondents who thought the above sources of ignition were very or extremely likely, in the event of a wildfire on their property, as reported by respondents residing in the study area in Genesee, CO. N = 568–571 respondents to each survey statement listed.

When asked to indicate expected likelihood of possible wildfire outcomes, 36% of respondents thought it was very or extremely likely that the fire department would save their home, and 12% though it was very or extremely likely that they would put the fire out themselves (see fig. 24).

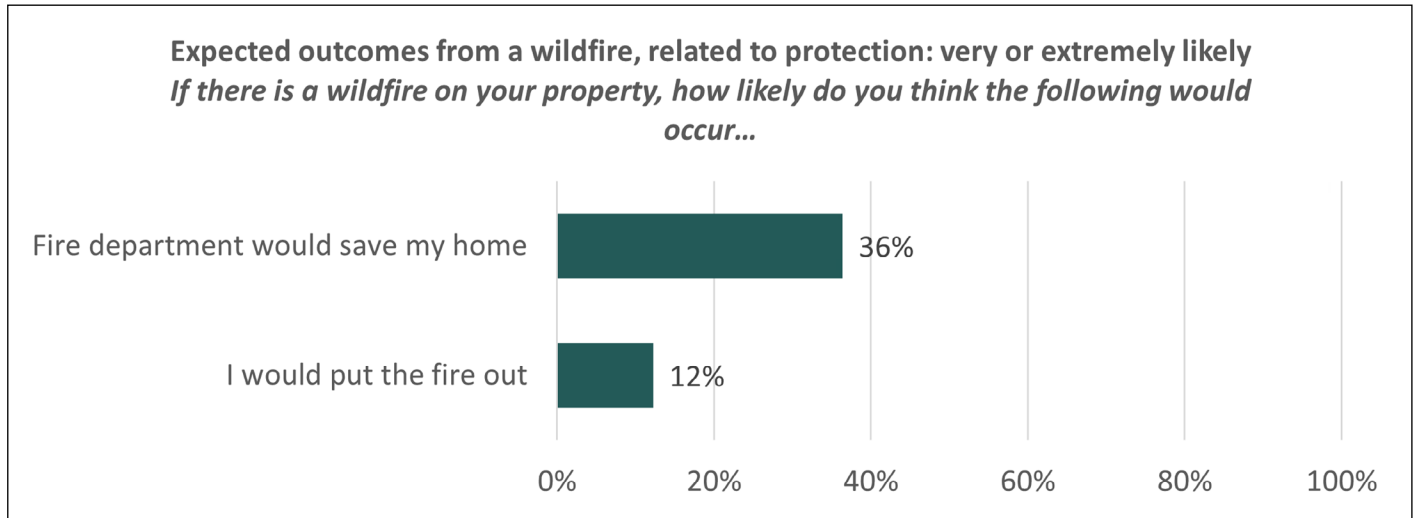


Figure 24—Percentage of respondents who thought the above source of protection to their home were very or extremely likely, in the event of a wildfire on their property, as reported by respondents residing in the study area in Genesee, CO. N = 570–572 respondents to each survey statement listed.

Sixty-two percent of respondents reported that, in the event of a wildfire on their property, it was very or extremely likely that their trees and landscape would burn and that there would be smoke damage to their homes. Fifty-four percent thought it very or extremely likely that there would be some physical damage to their homes. Notably, almost twice as many respondents thought it was very or extremely likely that their neighbors’ homes would be damaged or destroyed (39%), rather than that their own home would be destroyed (20%) (see fig. 25).

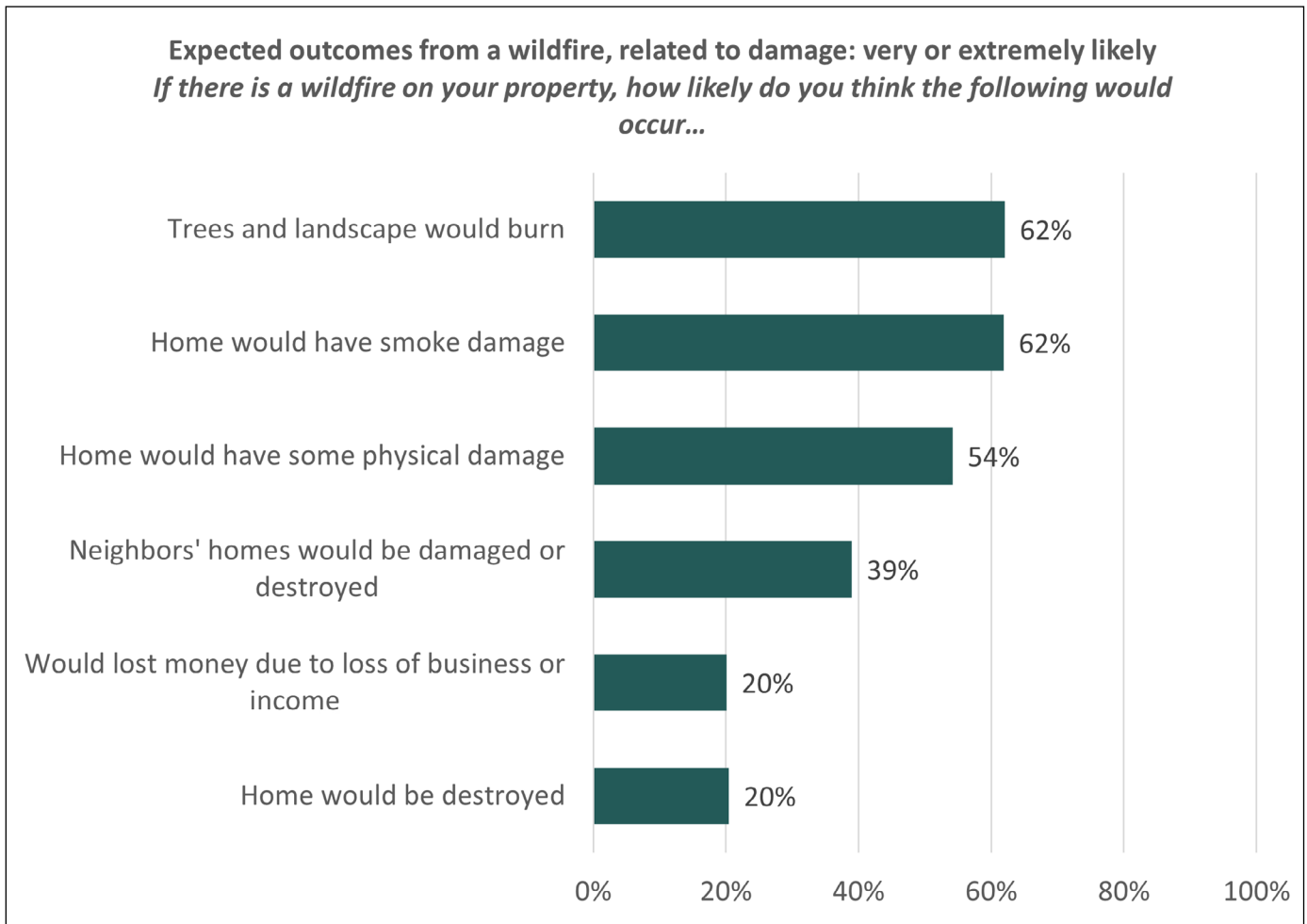


Figure 25—Percentage of respondents who thought the above forms of wildfire damage were very or extremely likely, in the event of a wildfire on their property, as reported by respondents residing in the study area in Genesee, CO. N = 565–579 respondents to each survey statement listed.

More than two-thirds (68%) of respondents reported talking to their neighbors about wildfire (see fig. 26). These interactions can serve to help spread information about localized risk of wildfire.

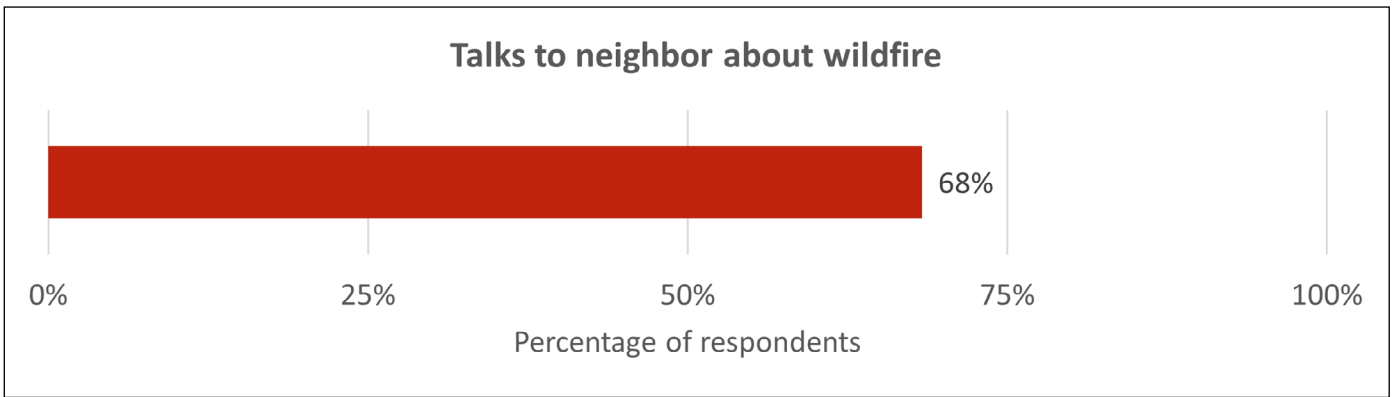


Figure 26—Percentage of respondents residing in the study area in Genesee, CO, who reported talking to their neighbor about wildfire. N = 578 respondents to this survey question.

The majority of respondents (56%) reported that some of their neighbors have taken action to mitigate wildfire risk. About a quarter (27%) reported that most of their neighbors had taken action, and 7% reported that all of their neighbors had. The remaining 10% of respondents reported that none of their neighbors had taken action to mitigate wildfire risk (see fig. 27).

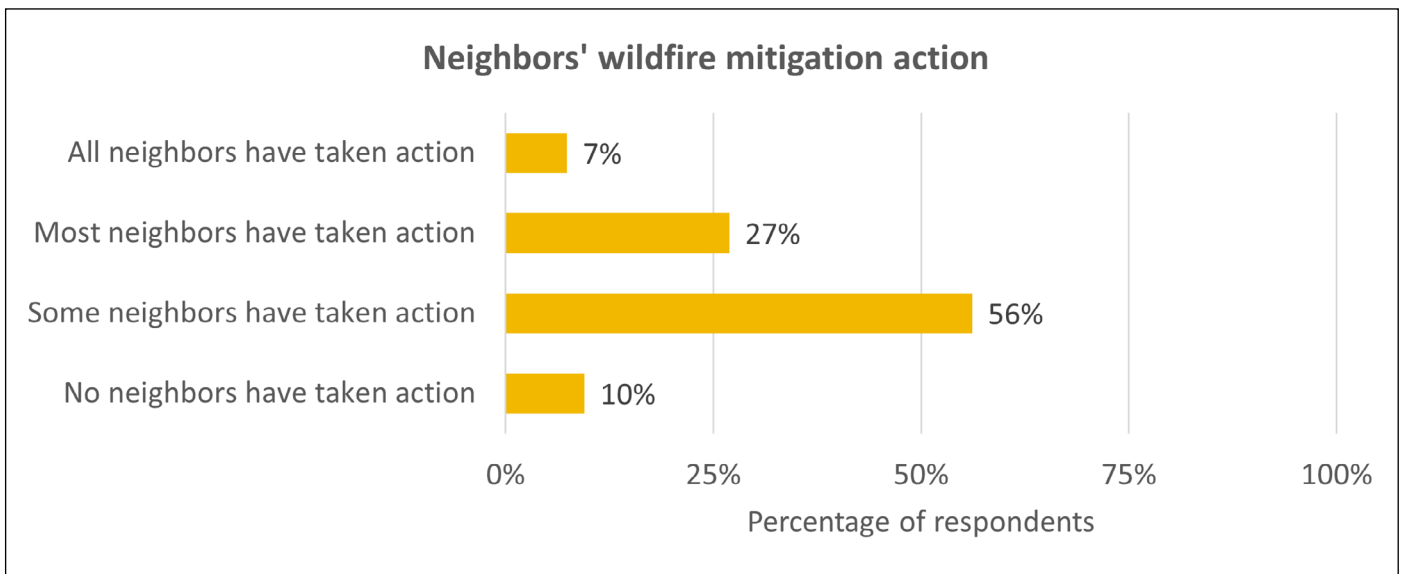


Figure 27—Respondents' estimates of how many neighbors take wildfire mitigation action, as reported by respondents residing in the study area in Genesee, CO. N = 568 respondents to these two survey questions.

Respondents identified vegetation on their property (86%), their neighbors' properties (83%), and nearby public or undeveloped land (80%) as a key contributing factor to the chance of wildfire damaging their property in the next 12 months. Seventy-seven percent of respondents thought a lack of water for fire suppression could contribute somewhat or a lot to the chances of a wildfire damaging their property. Far fewer (38%) thought that characteristics of their homes or other buildings would contribute to potential damage (see fig. 28).

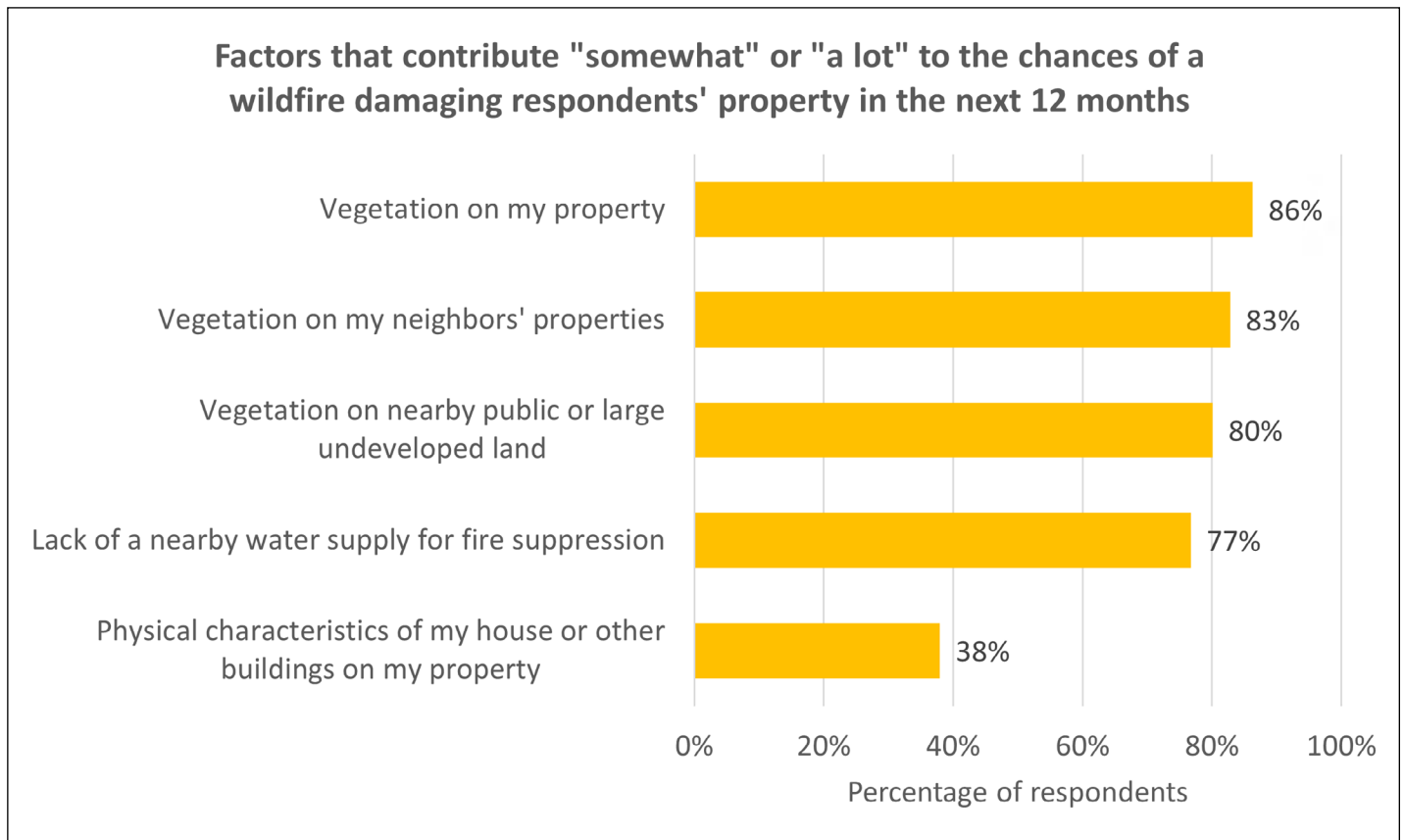


Figure 28—Percentage of respondents who thought the above factors contribute “a lot” to the chances of a wildfire damaging their property in the next 12 months, as reported by respondents residing in the study area in Genesee, CO. N = 566–574 respondents to each survey statement listed.

Insurance providers may play a role in shaping homeowner perceptions of risk and performance of mitigation activities. Seventy-one percent of respondents felt that their home was adequately insured against loss from wildfire, and 38% reported that their insurance company had provided information to reduce wildfire risk. A third (32%) of respondents reported paying higher premiums due to the wildfire risk of their property. Sixteen percent of respondents reported being refused insurance based on wildfire risk, while 15% reported receiving a discount on premiums for performing certain mitigation actions. Twelve percent of respondents had been required to take some mitigation actions by their insurance providers (see fig. 29).

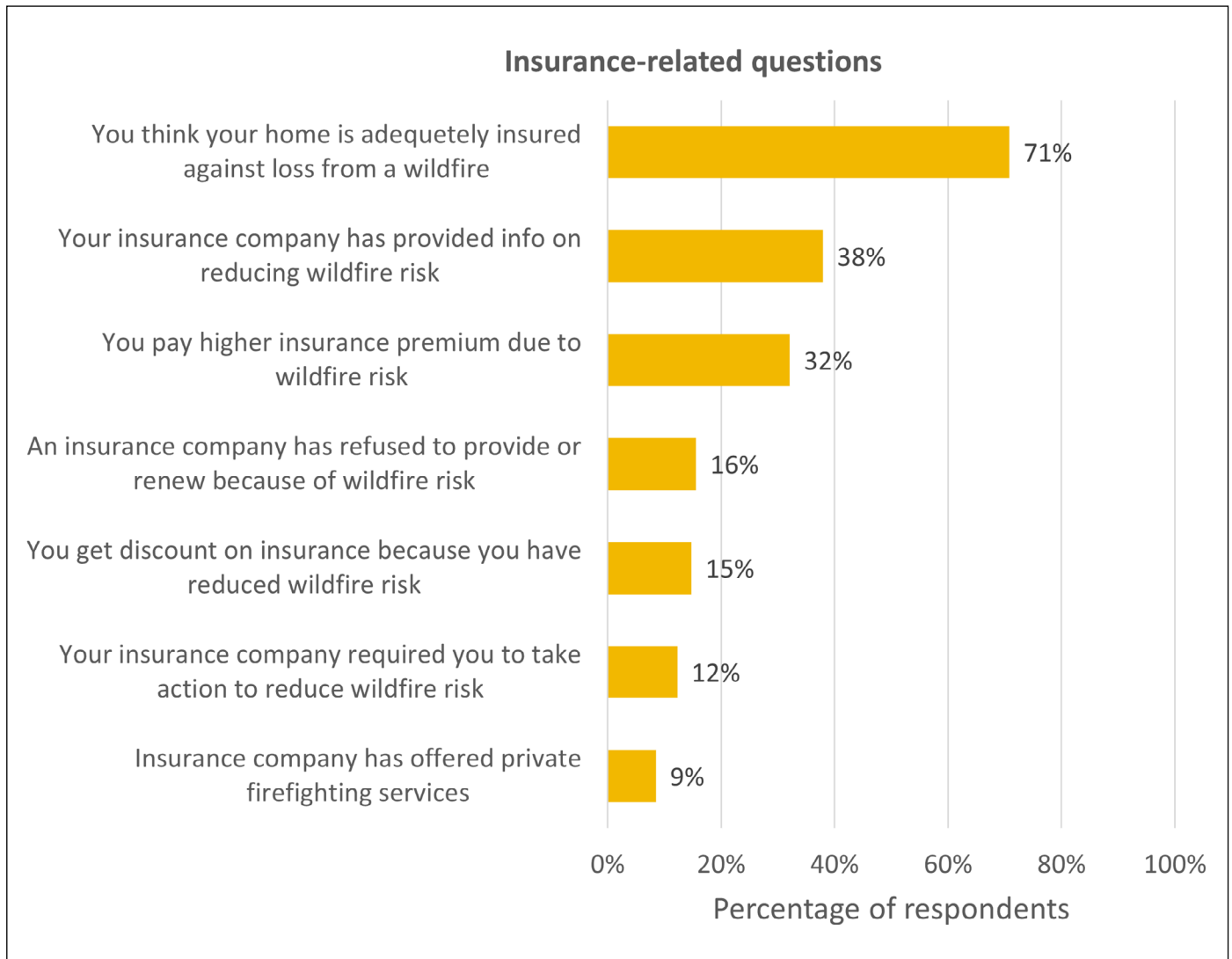


Figure 29—Respondents’ knowledge of and experience with various insurance company actions, as reported by respondents residing in the study area in Genesee, CO. N = 575–577 respondents to each statement.

Communications about wildfire

Sources of information and reported usefulness

Respondents were asked to report on whether they had received information from a variety of sources and to evaluate the usefulness of each of the sources they had used. The information source that was both the most used (88% of respondents) and reported as most useful (73% of respondents) was Genesee Fire Rescue. The second most commonly used source of information reported by respondents were community groups (82%), which were reported as very or extremely useful by 54% of those who received information from this source. Although used by fewer respondents, sources such as Firewise USA, Ready, Set, Go! Program, and the Colorado State Forest Service were found to be very or extremely useful to those who had received information from them (58%, 54%, and 42%, respectively) (see fig. 30).

Sources of wildfire risk information: Percentage of survey respondents who received information and reported usefulness of information		
Source of wildfire risk information	Received wildfire risk information	Received the information & found it very/extremely useful
Genesee Fire Rescue	88%	73%
Community group (ex. HOA)	82%	54%
Media	63%	16%
Local arborist/contractor	37%	52%
Jefferson County Open Space	30%	35%
Firewise USA	29%	58%
Colorado State Forest Service	24%	42%
Ready, Set, Go! Program	17%	54%
USDA Forest Service	14%	32%
National Park Service	10%	25%
Denver Mountain Parks	9%	31%
Bureau of Land Management	7%	33%

Legend
90% or more
80% - 89%
70% - 79%
60% - 69%
50% - 59%
40% - 49%
30% - 39%
20% - 29%
10% - 19%
Less than 10%

Figure 30—Percentage of respondents who received wildfire risk information, by source, as reported by respondents in the study area in Genesee, CO. These data are compared to the percentage of people who said they found each source’s wildfire risk information very or extremely useful (percentage of all respondents who received wildfire risk information from that source). N = 546–558 respondents to source receipt questions; N = 40–490 respondents to source usefulness questions. HOA = homeowners association; USDA = U.S. Department of Agriculture.

Current and preferred modes of communication

There are many different modes by which information about wildfire may be distributed. We asked participants about the forms in which they currently receive wildfire-related information, as well as how they would prefer to receive this information. Currently, participants reported that the three most common modes of communications they receive are mailed newsletters (70%), emailed newsletters (66%), and community meetings (52%). Participants reported that the three modes of information they most prefer are emailed newsletters (86%), in-person interactions (74%), and mailed newsletters (72%). Respondents seem open to receiving more information about wildfire in general. For seven out of the nine modes of communication, more participants reported wanting to receive information from that source than currently do receive it. In particular, many more respondents reported preferring in-person interactions (74%) than currently receive information in this way (42%) (see fig. 31).

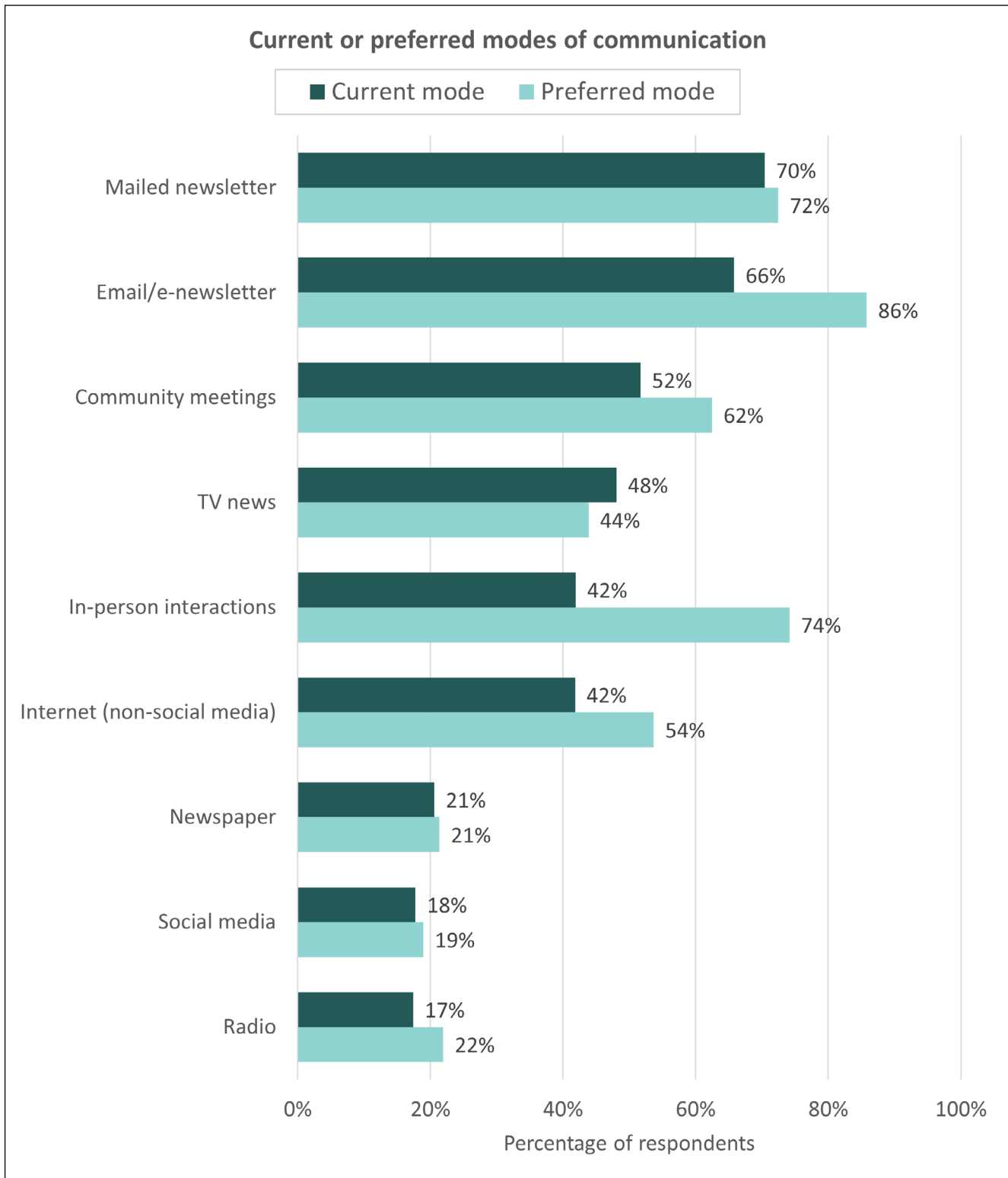


Figure 31—Comparison of current and preferred modes of communication about wildfire risk, ordered by current modes of communication, as reported by respondents residing in the study area in Genesee, CO. Survey respondents were able to select multiple options. N = 532–544 respondents to current modes; N = 507–523 respondents to preferred modes.

What are respondents doing about wildfire?

Evacuation

Respondents were asked to think through the actions regarding evacuation that they have completed, as well as to identify topics about which they would like more information. Although 71% of respondents reported having an evacuation plan, survey responses reveal that respondents would like more information pertaining to evacuation. While most respondents reported having completed six of the nine evacuation-related items listed, almost half or more respondents (ranging from 47% to 67%) also wanted more information on eight of the nine topics. The most requested topics for additional information were identifying how they will be notified and creating a checklist (67% each); packing an evacuation “go” bag (60%); identifying safe evacuation routes (58%); signing up for emergency notifications and identifying what to take and leave behind (54% each); and discussing with neighbors and identifying safe places to evacuate to (47% each) (see fig. 32).

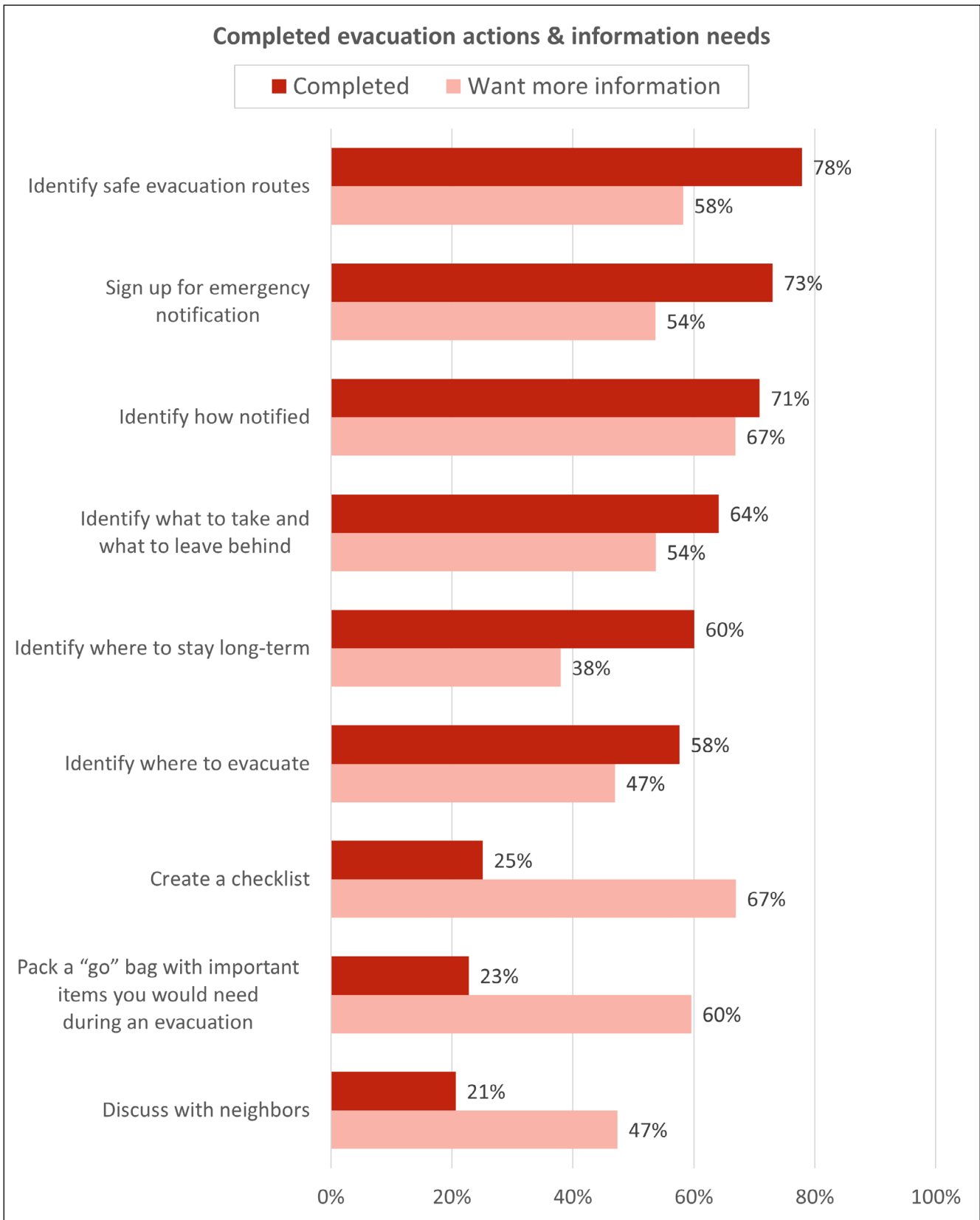


Figure 32—Evacuation preparations completed and information that would be helpful in evacuation plan development, ordered by actions completed, as reported by respondents residing in the study area in Genesee, CO. N = 536–556 respondents to completed action segment; N = 320–365 respondents to wanting more information segment.

Mitigation

There are many ways property owners can reduce their risk of wildfire. Respondents were asked to report on mitigation actions they have performed on their properties and around their communities. The three most commonly reported activities were reducing vegetation (90%), regularly clearing roof and gutters (88%), and regularly mowing and raking around the residence (88%). Over half (58%) of respondents reported hardening their homes, and 35% had met with a wildfire professional to evaluate their home’s risk. Given the demand for in-person interactions about wildfire information, there is an opportunity to increase access to this service. Less common mitigation activities in this community involved reducing vegetation in the community (28%), on neighbors’ land (23%), and on public land[s] (7%) (see fig. 33).

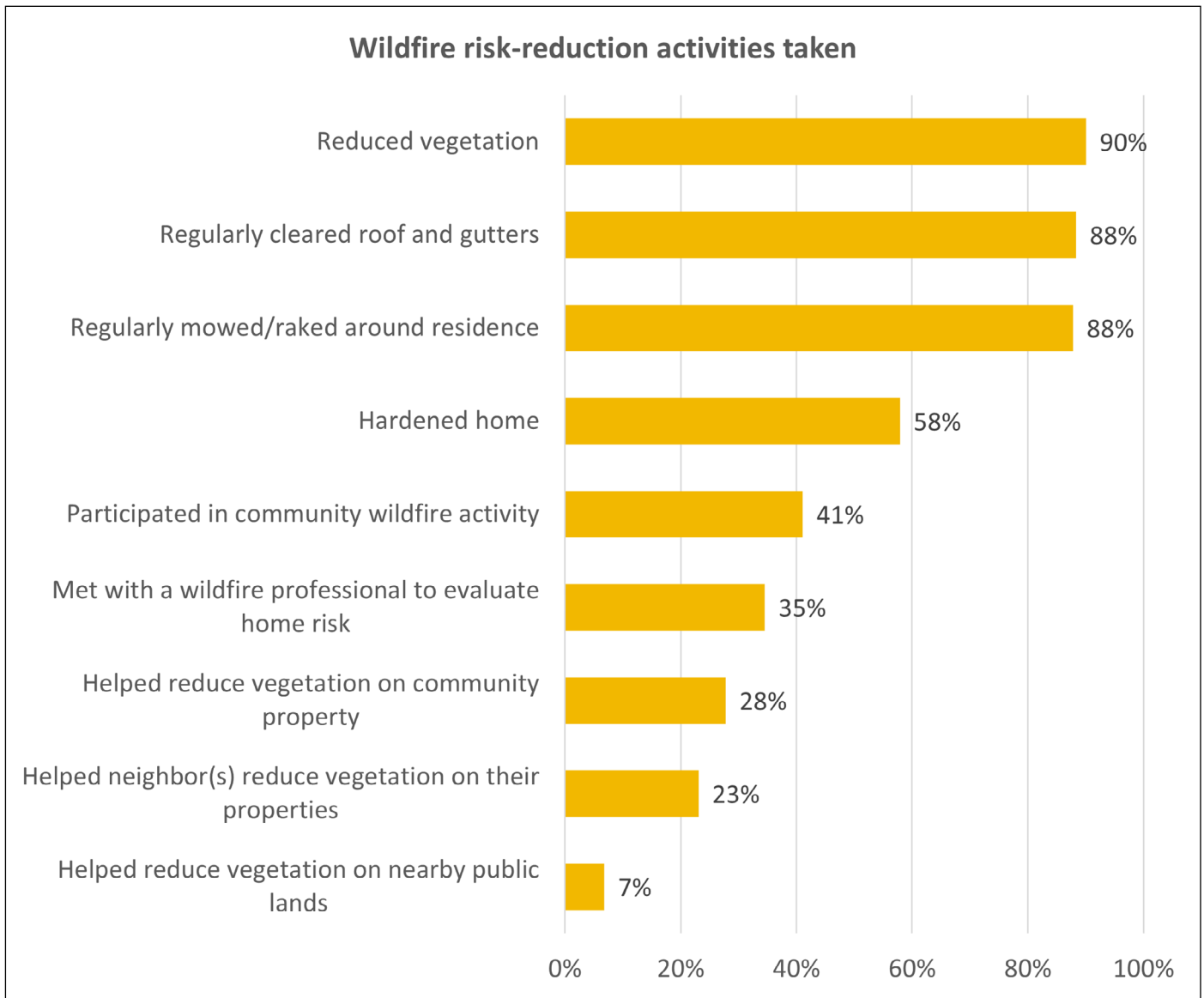


Figure 33—Percent of respondents who reported doing the above wildfire risk mitigation activities, as reported by respondents residing in the study area in Genesee, CO. N = 566–574 respondents for each of the above activity statements.

Large percentages of respondents rated a variety of fuels treatments options as very or extremely acceptable. The highest acceptability was for the removal of vegetation along roadways for safer evacuation (84%), removing trees and vegetation on public lands (78%), and creating fuel breaks by removing vegetation on HOA property (75%). Less accepted, but still very or extremely acceptable to almost half of respondents, were burning piles of vegetation on nearby public lands (49%) and conducting prescribed burns on public lands (48%) (see fig. 34).

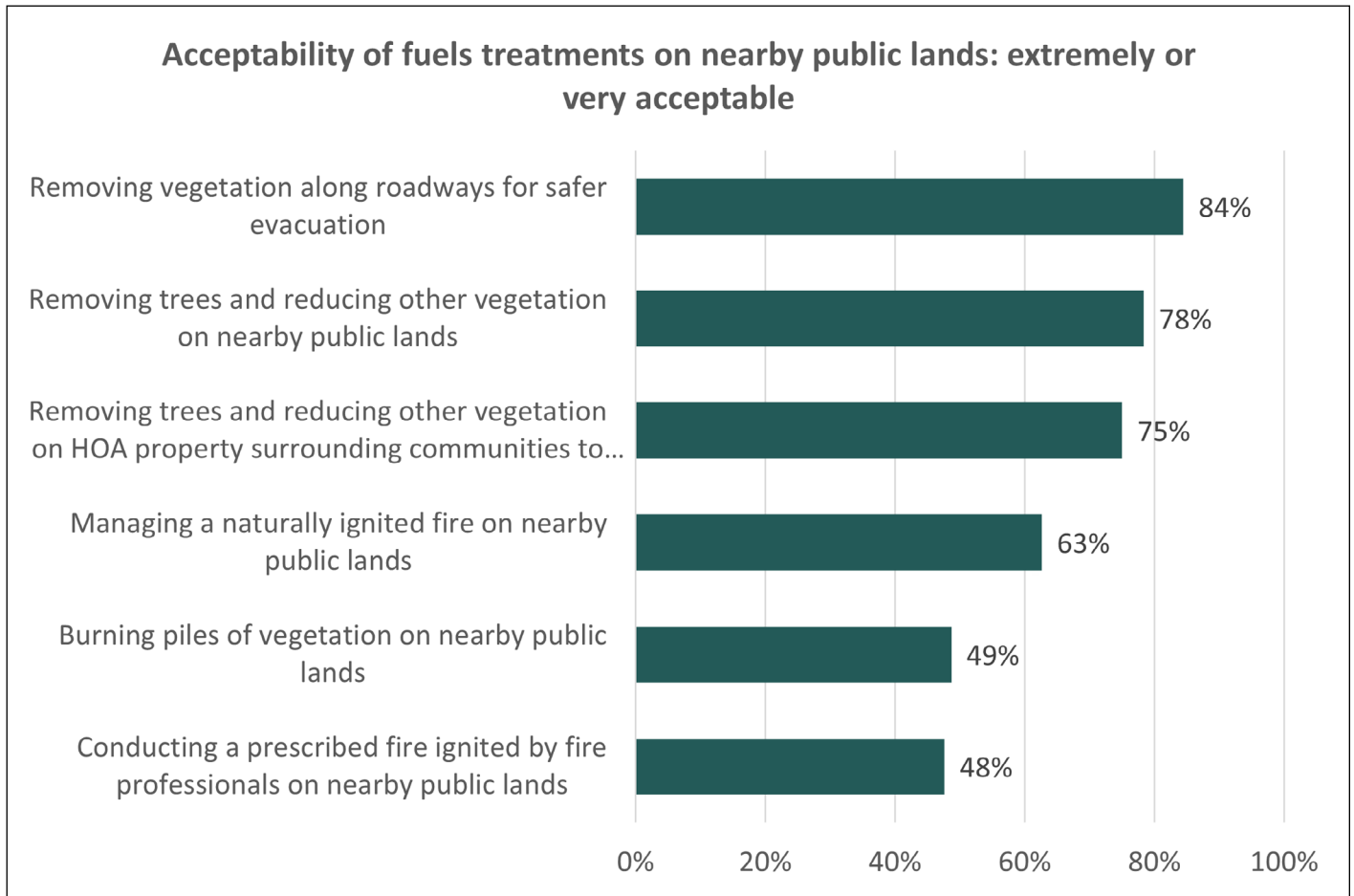


Figure 34—Percentage of respondents who found each of the above wildfire fuels management approaches very or extremely acceptable, as reported by respondents residing in the study area in Genesee, CO. N = 563–574 respondents for each of the above statements. HOA = homeowners association.

Three-fourths (75%) found growth and land use regulations for new development in fire-prone areas very or extremely acceptable, and 73% found requiring fire-resistant materials for building in fire-prone areas very or extremely acceptable. Another 70% supported the adoption of vegetation management standards in fire-prone areas, and over half (58%) reported that building a new road for emergency evacuation was very or extremely acceptable. Least popular of this set of regulations and practices was a hypothetical that is not currently a practice in Colorado: temporarily shutting off the power grid during extreme wildfire risk to help avoid ignitions, which was very or extremely acceptable to just over a third (34%) of respondents (see fig. 35).

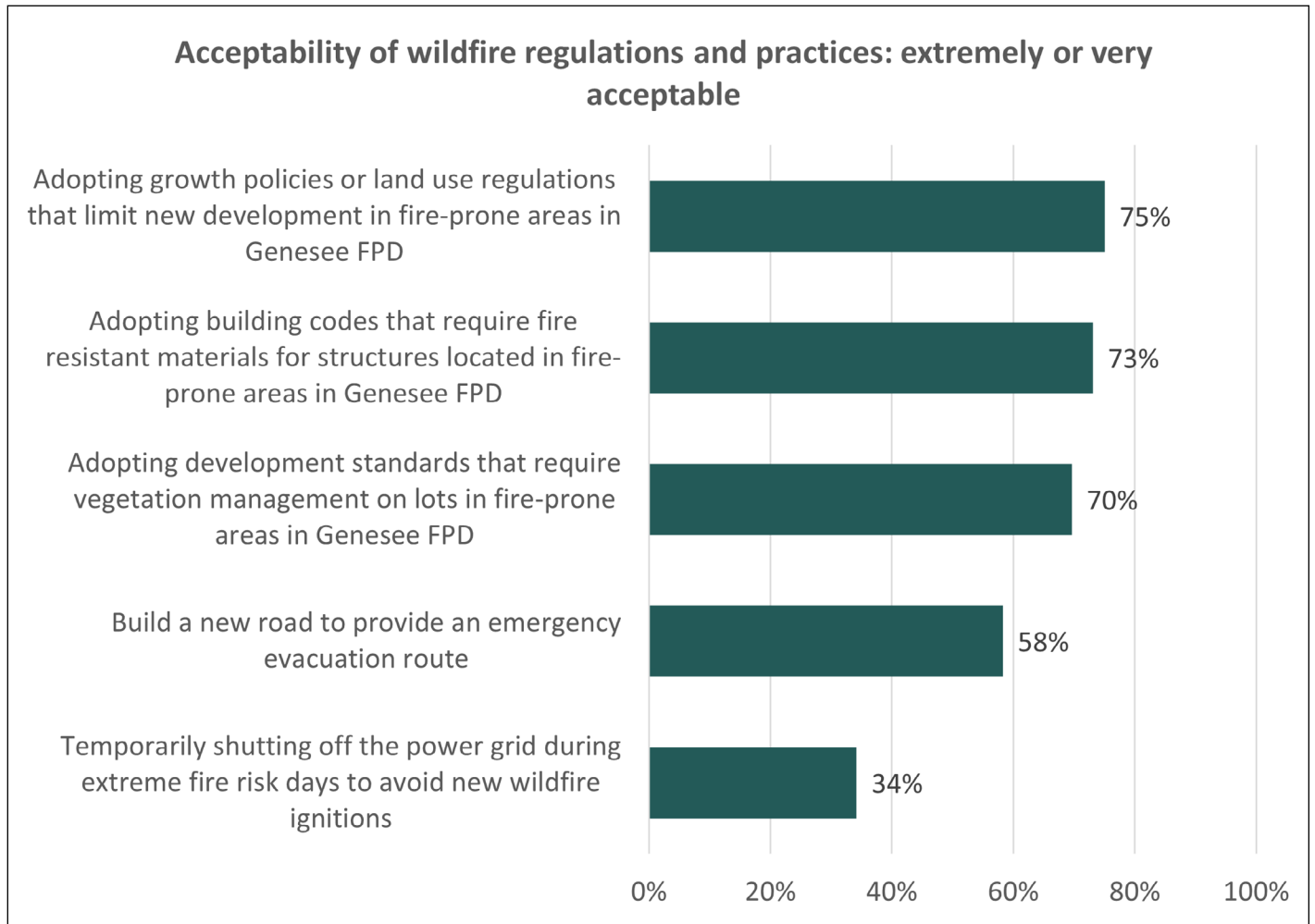


Figure 35—Percentage of respondents who found each of the above wildfire-related policies very or extremely acceptable, as reported by respondents residing in the study area in Genesee, CO. N = 567–574 respondents for each of the above statements. FPD = fire protection district.

Barriers and incentives

Respondents were asked about four categories of potential barriers to conducting wildfire mitigation. Overall, about half of respondents (52%) identified barriers that fell into the personal resources category, while the majority (64% to 68%) did not report barriers in the categories dedicated to lacking specific information, personal perspectives, and community-based barriers. Across each of the four categories, the three most-reported barriers to mitigation were the personal financial cost (33%), community restrictions about changing the look of a property (28%), and a lack of personal physical ability to do the work (27%).

Of the potential barriers included in the personal resources category, a third of respondents (33%) reported that the cost was prohibitive. This was followed by barriers posed by the physical ability (27%) and the time (20%) needed to do the work. Still, almost half (48%) of respondents did not report any of these three personal resources as barriers to mitigation (see fig. 36).

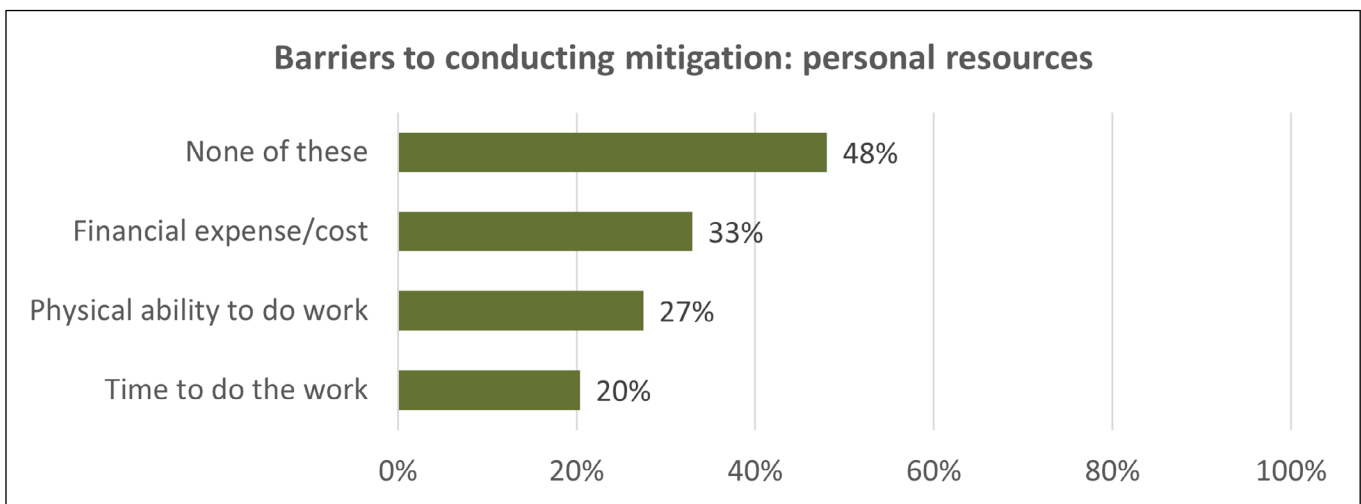


Figure 36—Personal barriers to conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 564 respondents for each of the above barriers.

Fewer respondents reported that a lack of information presented a barrier to wildfire mitigation as compared to personal resource and community barriers. Sixty-six percent reported that none of the options presented a barrier to their mitigation efforts, while 19% reported lacking information on how to reduce risk on their property, and 15% reported lacking information on where to dispose of slash and property-specific risk factors (see fig. 37).

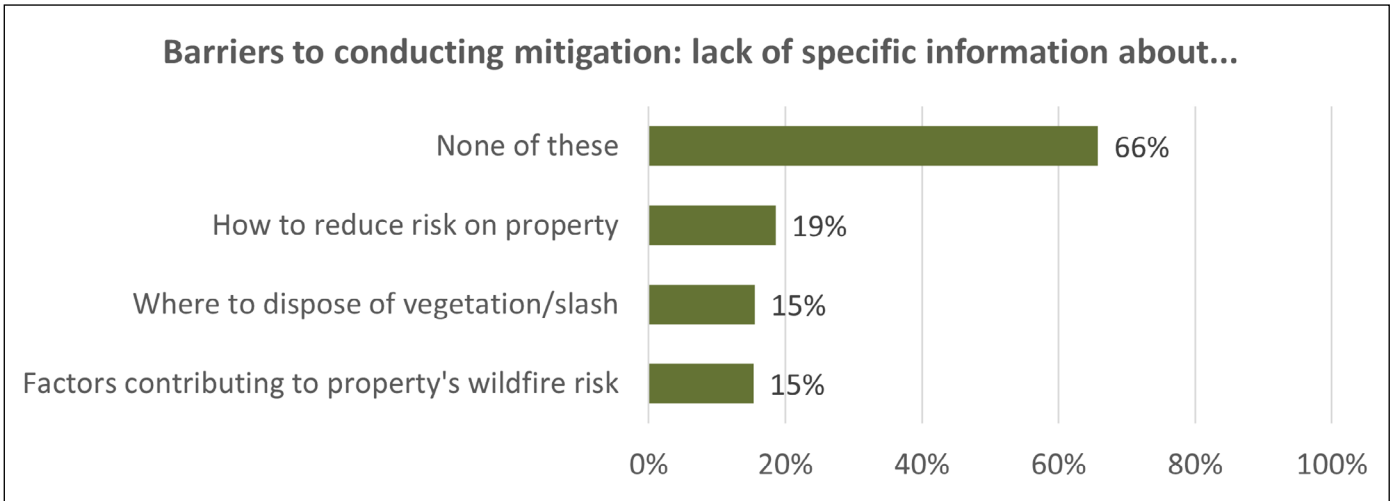


Figure 37—Information barriers to conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 555 respondents for each of the above barriers.

Similarly, fewer respondents reported barriers to mitigation rooted in personal perspectives as compared to personal resource and community barriers. Fifteen percent of respondents reported that not wanting to change the look of their property presents a barrier to mitigation, 13% reported that taking action would not reduce risk, and 8% of respondents reported that mitigation was a low priority (see fig. 38).

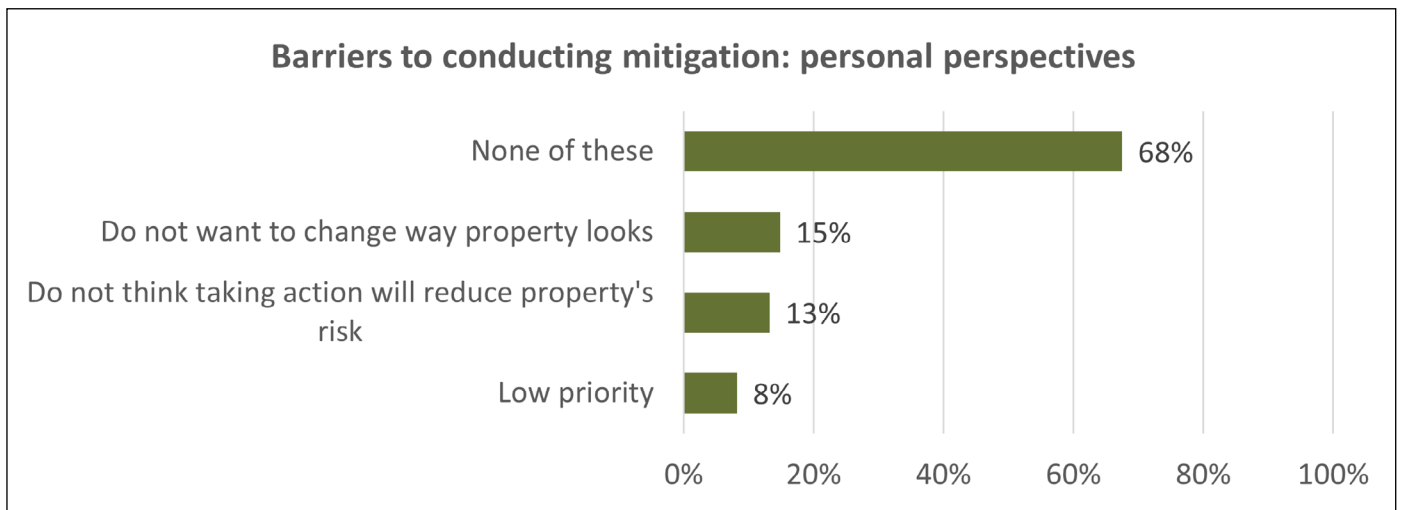


Figure 38—Personal perspectives or values that might affect wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 560 respondents for each of the above barriers.

The most common community barrier to mitigation selected by respondents among options presented was restrictions about changing the look of a property (28%). This was followed by a lack of options for disposing of slash (13%) and social pressure from neighbors (3%) (see fig. 39).

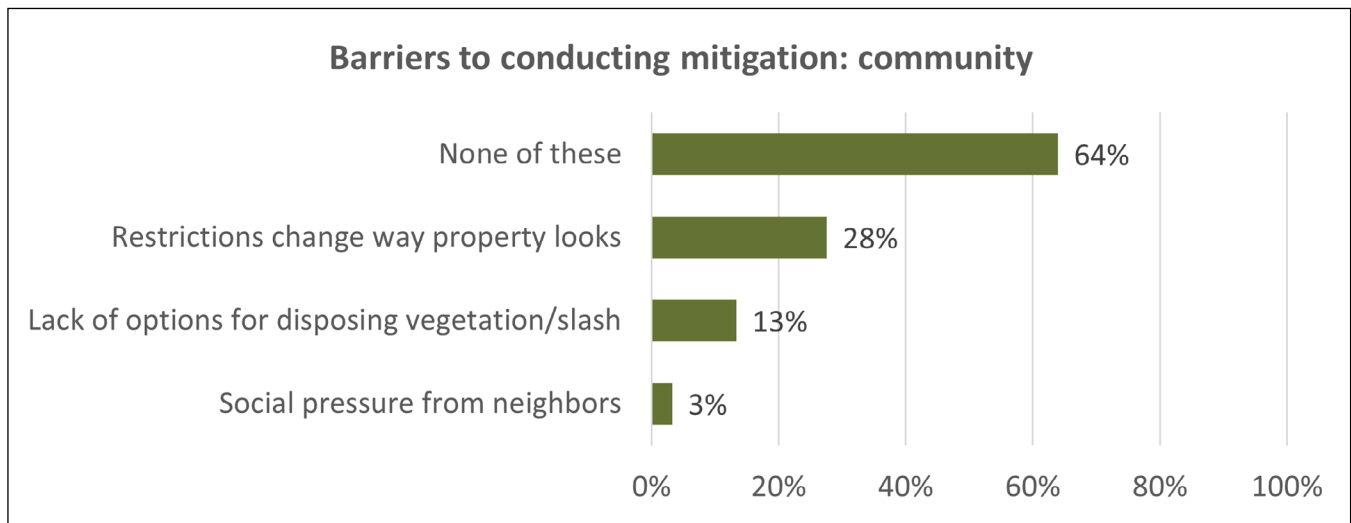


Figure 39—Community-related barriers to conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 555 respondents for each of the above barriers.

We also asked respondents to consider potential types of support that would help them complete mitigation actions. These were presented in three categories: resources, information, and social. Across these categories, the three most popular forms of support were a property-specific risk report (64%), a one-on-one visit to the property by a wildfire expert (57%), and a cost-share program or other financial assistance (49%).

The most popular category of support was information. Sixty-four percent of respondents would like a report describing their property's risk factors, and 57% would like a one-on-one visit with an expert on their property. Another quarter (26%) would like videos showing how to reduce wildfire risk on their properties. Twenty-one percent of respondents reported not having interest in any of these options (see fig. 40).

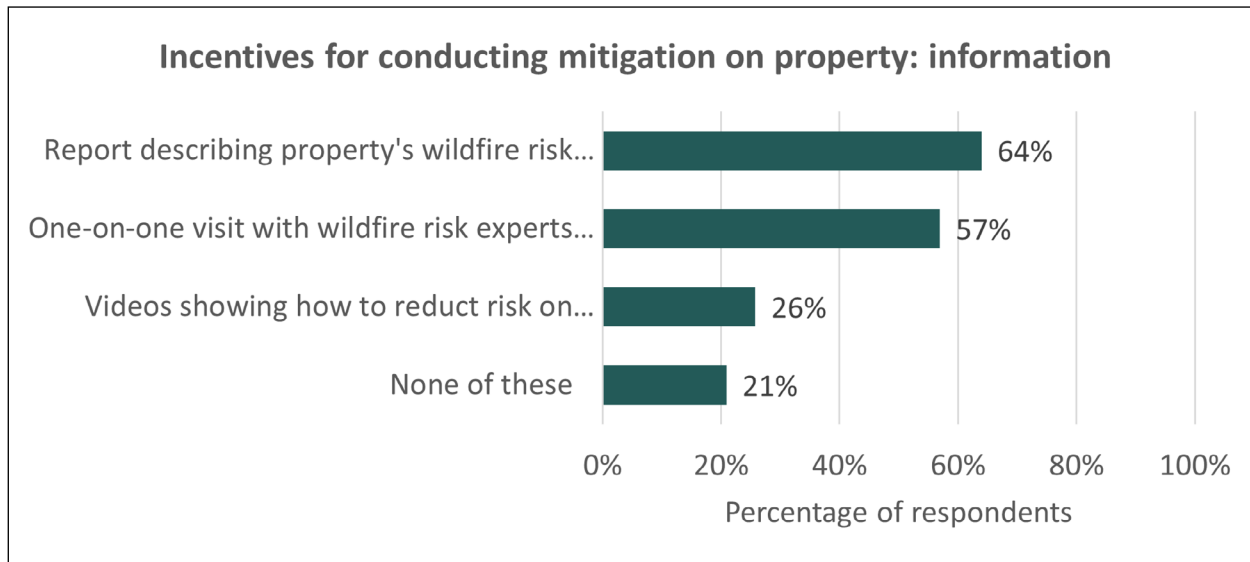


Figure 40—Information-related incentives for conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 555 respondents for each of the above incentives.

Of the options presented within the resources category, cost-share or financial assistance was the most popular (49%), followed by help doing the work (40%), and the provision of recommended contractors (37%). A third of respondents (31%) reported that none of these would help them complete mitigation (see fig. 41).

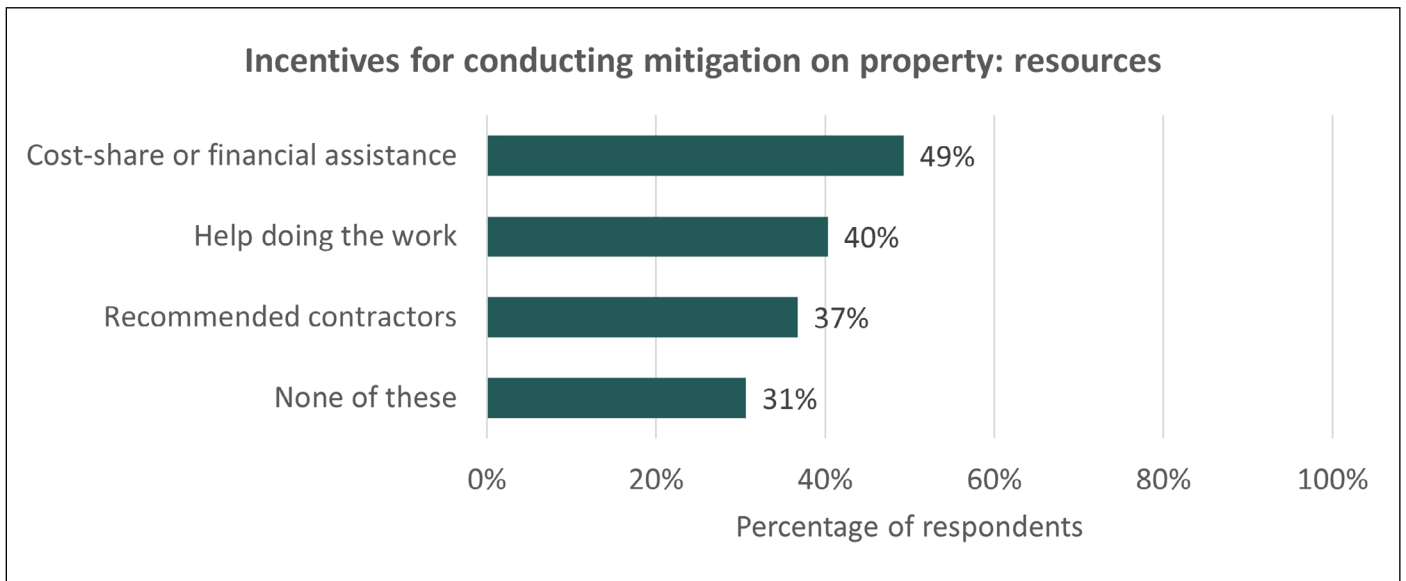


Figure 41—Resource-related incentives for conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 558 respondents for each of the above incentives.

Support in the social category was less popular among participants. Forty-three percent reported that none of the options in this category would help them with their mitigation activities. However, 38% reported that feedback on work they had done to reduce their property’s risk would be helpful, and 36% thought that a neighborhood group that organizes wildfire risk reduction activities would be helpful. Finally, 10% would be motivated to perform mitigation if they received recognition (see fig. 42).

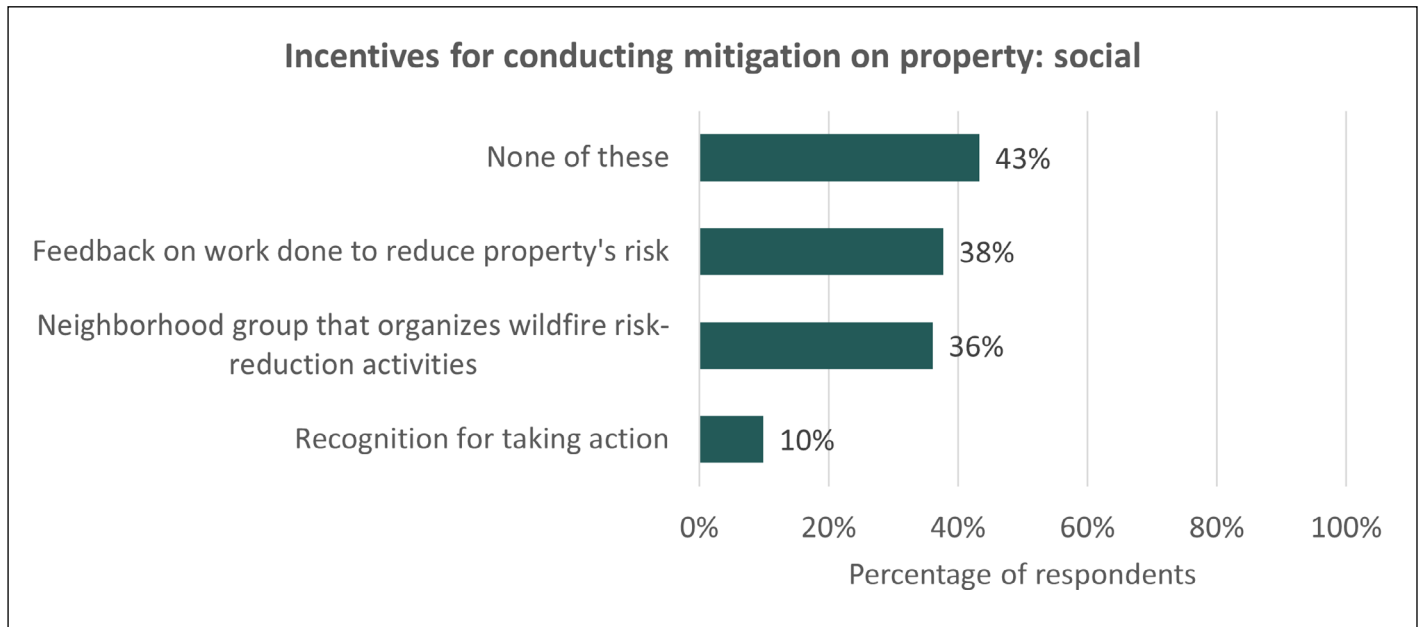


Figure 42—Other incentives for conducting wildfire mitigation activities on property, as reported by respondents residing in the study area in Genesee, CO. N = 554 respondents for each of the above incentives.

Notions of hazard and response

We asked respondents to what extent they agreed or disagreed with a wide range of statements about wildfire. The vast majority of respondents agreed or strongly agreed that wildfires that threaten human life (97%) and that threaten homes (93%) should be put out. In addition, most agreed or strongly agreed that wildfires are a natural part of a healthy forest ecosystem (88%). Almost three-fourths of respondents agreed or strongly agreed that saving homes should be prioritized over saving forests during wildfire events (see fig. 43).

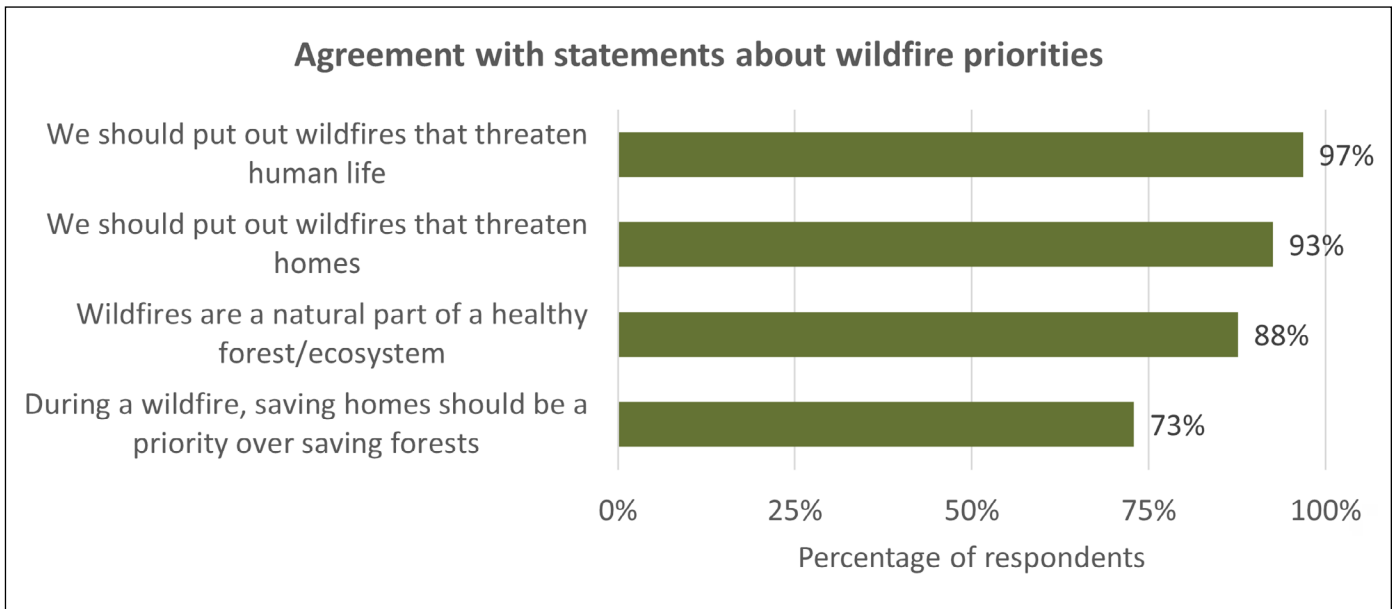


Figure 43—Agreement (“agree” or “strongly agree”) with statements about priorities between human and natural resources during a wildfire, as reported by respondents residing in the study area in Genesee, CO. N = 563–566 respondents to each survey statement listed.

Despite preferences to suppress wildfire, respondents were less confident in the technology and resources available to do so. A third (33%) agreed or strongly agreed that most wildfires can be controlled with proper technology. A small percentage agreed or strongly agreed that local firefighters have sufficient resources to protect homes from wildfire (16%), and fewer agreed or strongly agreed that local firefighters have sufficient resources to keep wildfires from spreading (10%) (see fig. 44).

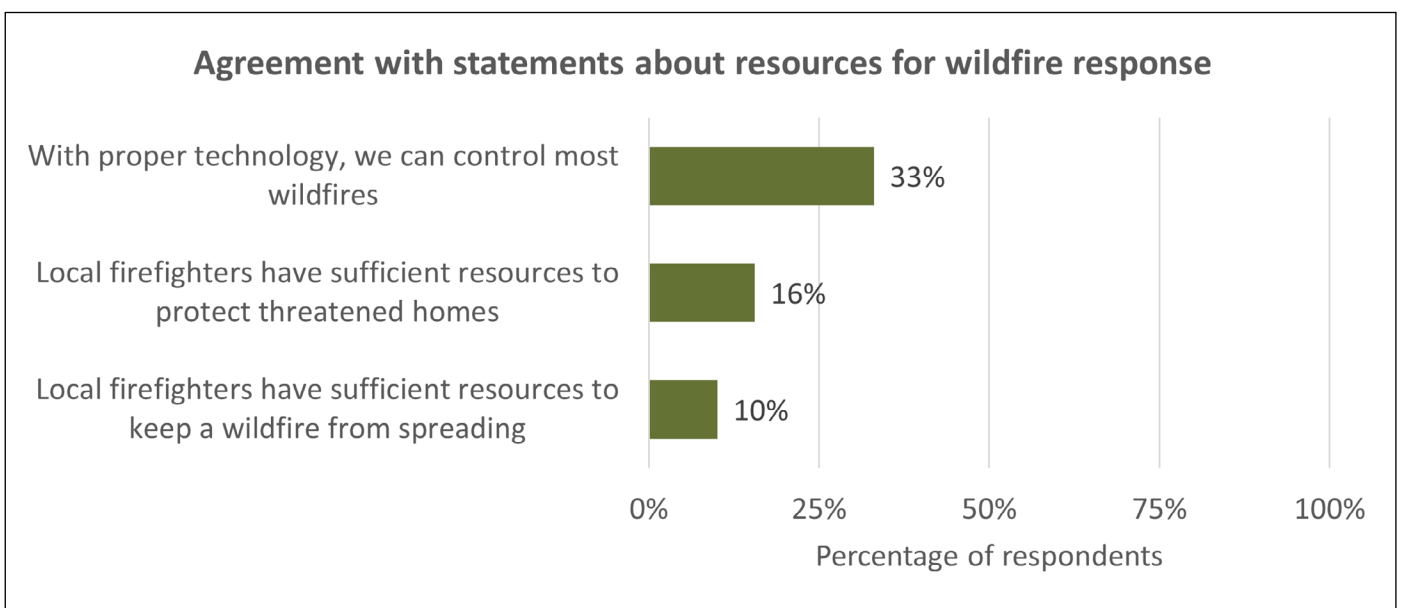


Figure 44—Agreement (“agree” or “strongly agree”) with statements about available technology and resources to prevent wildfire impacts, as reported by respondents residing in the study area in Genesee, CO. N = 565 respondents to each survey statement listed.

In general, survey responses indicate that participants feel responsibility for taking action to reduce their risk and believe in the efficacy of their actions in lowering their risk. Few respondents agreed or strongly agreed that their actions to mitigate wildfire risk on their properties were rendered ineffective by heavy vegetation on neighboring properties (15%), and 4% agreed or strongly agreed with the statement that homeowner’s actions are ineffective against wildfire. Further, few respondents agreed or strongly agreed that firefighters should risk their lives protecting homes or that managing wildfire risk is the government’s responsibility (3% each). Forty-three percent of respondents did agree or strongly agreed that local development in fire-prone areas increases the wildfire risk on their properties (see fig. 45).

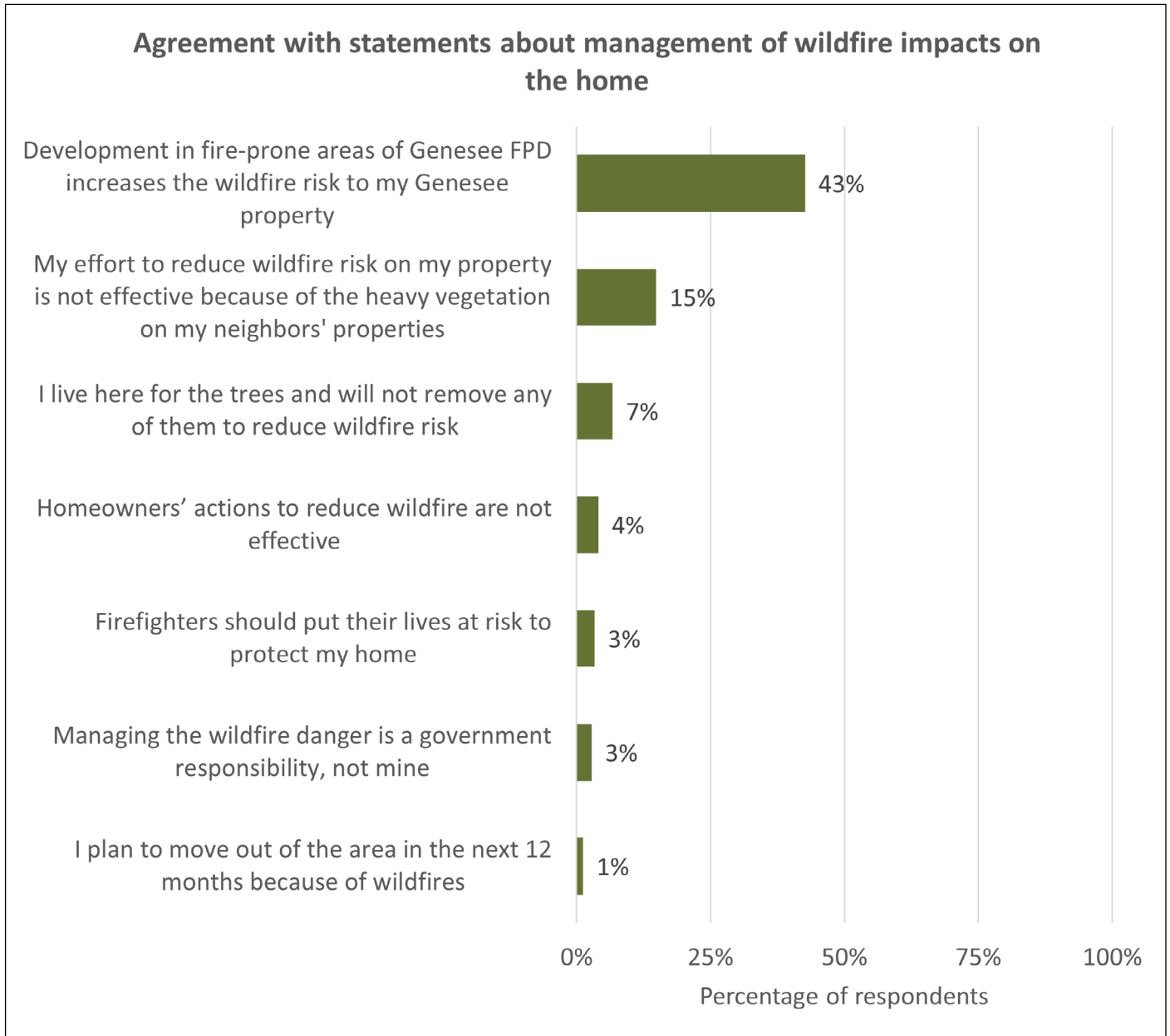


Figure 45—Agreement (“agree” or “strongly agree”) with statements about personal and community management of wildfire impacts on the respondent’s home, as reported by respondents residing in the study area in Genesee, CO. N =562–568 respondents to each survey statement listed. FPD = fire protection district.

CONCLUSION

Genesee Fire Rescue is an active and engaged wildfire practitioner organization that serves a high-risk wildland-urban interface community. Recent efforts that yielded a comprehensive CWPP provided a critical foundation for understanding the community's wildfire risk. GFR had outstanding questions about how to engage the community regarding their interest in pursuing the development of an additional road for emergency egress and with the CWPP findings. It is worth noting that the data collection for this project was undertaken prior to the catastrophic Marshall Fire (December 30, 2021), an event for which GFR provided services. The wind-driven rapid spread of the Marshall Fire, which occurred under some of the worst fire conditions possible, highlights the importance of bolstering emergency communication and evacuation and continues to shape ongoing thinking. Survey respondents indicated a relatively high level of completion of key evacuation-related tasks while also indicating wanting more information on those same tasks (fig. 32). Importantly, GFR was reported to be the most common source of wildfire risk information and the information provided by GFR was reported to be the most useful (fig. 30), indicating that GFR is a trusted and used source of wildfire risk information.

The WiRē RA parcel-level data echo the CWPP's characterization of Genesee as a high-risk community while providing a granular understanding of risk within the community. Modeling conducted as part of the CWPP process characterized the district as high risk. To help prioritize fire mitigation within the district, they also created 16 units within the community and calculated relative risk for each unit compared to the others. WiRē RA complements both district- and unit-scale efforts through a more detailed understanding of the heterogeneity of parcel-level risk. At the district scale, WiRē RA data can be compared against more quantitative measures of modeled risk. At the unit-scale, WiRē data can help facilitate targeted education and provision of needed resources in each unit as prioritization unfolds.

To most effectively and appropriately use both sources of information, it is important to understand the differences and similarities between how WiRē RA data were collected, and the models presented in the CWPP. For example, the CWPP uses modeling to predict crown fire activity, burn probability, and fire size at the landscape scale under multiple fire weather scenarios. In contrast, the WiRē RA assumes that fire has arrived at the property and includes more detailed information about home materials, defensible space, and proximity to other homes. Additionally, at the unit-scale, the CWPP's risk ratings are relative to other units within the assessment area, while the WiRē RAs are not. This reflects the different intents behind each assessment. In the CWPP, relative risk between units was characterized to support strategic planning at the district scale, while WiRē RA data support the understanding of parcel-level risk (which can also be used in strategic planning but is not the main goal of the design). Despite these differences, when rating similar indices of risk, the WiRē RA and the CWPP's "Home Ignition Zone Hazards," we see alignment in results of the rapid assessments.

Due to the paired nature of the parcel-level WiRē data, it is possible to identify important gaps in how survey respondents assessed their properties and how GFR assessed the same properties using the WiRē RA. For example, in light of GFR's concern about improving opportunities for safe access and evacuation, the gaps in assessments of address postings, ingress/egress routes, and driveway clearance are of particular interest. These findings

highlight the importance of concerted efforts to improve understanding of how these attributes are assessed, what the standards are, and the relationship between the conditions observed and relative wildfire risk.

To support outreach and education using the data collected as part of this project, we developed an outreach mailer that was sent to survey participants and presented project results at a community meeting. The mailer included an overall comparison of professional and resident risk ratings (fig. 3). In addition, the mailer highlighted findings regarding defensible space (adaptation of fig. 11) and gave a simple checklist of how to improve defensible space. Further, the mailer included links to information about defensible space, emergency communication sign-ups, evacuation planning, reflective address signs, scheduling a Wildfire Prepared home visit, an upcoming slash drop-off event, and a link to personalized wildfire risk data. Lastly, it presented the results of community support for an emergency road proposed by GFR.

As GFR charts a path forward, they can be reassured that survey respondents reported high levels of mitigation activity (fig. 33), indicating an understanding that wildfire risk management requires action at the household level. The gaps noted in this study indicate the importance of ongoing and detailed engagement in order to continue to reduce risk. Gaps between the assessments at the collective level can be used to guide programmatic decisions on which WiRē RA attributes to highlight in broader outreach and educational efforts. Gaps between the assessments at the parcel level can guide targeted engagement with property owners in order to help bring the property owner's view of their property in closer alignment with GFRs. Further, the WiRē RA data can be used to guide strategic planning of priority (i.e., highest risk) areas for outreach and direct mitigation efforts.

APPENDICES

Appendix A: Correspondence Materials

Appendix B: Wildfire Research Center (WiRē) Assessor Reference Guide: Rapid Assessment Form, Rapid Assessment Instructions, and Data Collection Tool Instructions

Appendix C: WiRē Rapid Assessment Summary

Appendix D: Comparison of WiRē Rapid Assessment and Household Survey

Appendix E: Genesee Household Survey Summary

Appendix F: Infographic-Style Outreach Mailer

Appendix A: Correspondence Materials



Genesee
FIRE PROTECTION DISTRICT

Dear Genesee Fire Protection District Resident,

Genesee Fire Rescue is dedicated to helping our community prepare for the eventuality of wildfire. Although fire is an important part of the natural ecosystem, wildfires have the potential to devastate homes and lives. Building on our recent Community Wildfire Protection Plan (CWPP) effort, Genesee Fire Rescue is continuing to be proactive in confronting wildfire before a disaster occurs.

Education is the foundation of this strategy, which started with our recently updated CWPP. The next step is understanding individual, property-level wildfire risks, both through the eyes of the firefighter and the property owner. This will help drive our communication and risk reduction prioritization. The two ground level review components we plan to implement are: parcel-level wildfire risk assessments and a community wildfire survey.

Property-Level Wildfire Risk Assessment

This spring, Genesee Fire Rescue personnel will conduct property-level wildfire risk assessments from the sidewalk or street to determine how each household can be better prepared to survive a wildfire. These will be a quick overview of the property characteristics that contribute to wildfire risk, including roof type, vegetation density, and evacuation. If you are interested in a more in-depth, on-site wildfire risk assessment of your home and property, apply online at www.geneseefire.org for a Wildfire Prepared Home Assessment.

Living with Wildfire in the Genesee Fire Protection District in 2021 Survey

The second component is a survey to help us understand your knowledge and perspectives on wildfire. In partnership with the University of Colorado, surveys will be mailed to all households later this year. 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.

If you have any questions about the property-level wildfire risk assessments or the survey, please email Dorie Dalton, GFPD Wildland Specialist, at ddalton@geneseefire.org.

Sincerely,

Jason Puffett
Fire Chief

Dorie Dalton
Wildland Specialist

23455 Curreant Drive • Golden, Colorado 80401 • (303) 526-1230



Genesee
FIRE PROTECTION DISTRICT



University of Colorado
Boulder

Dear Genesee Fire Protection District Resident,

Genesee Fire Rescue is partnering with researchers at the University of Colorado and the Wildfire Research (WiRē) Center to send the “Living with Wildfire in Genesee in 2021” survey to all residents of the fire protection district. To create the most effective programs possible, Genesee Fire Rescue needs to understand what you know about wildfire, your experiences with wildfire, as well as the characteristics of your property. The information you provide will help Genesee Fire Rescue and emergency responders better prepare for future fires as well as improve our outreach and education efforts. Results from the study will be shared with local, state, and federal groups considering wildfire risk management at the conclusion of the project.

Participation in this study is completely voluntary and will take about 20 minutes. We realize your time is valuable and we appreciate you taking the time to fill out the survey.

When you return the survey, your name will be deleted from the mailing list. Survey results will be reported in summary form and your name will not be connected to your answers in any way. After completing the survey, please fold it and put it in the postage paid return envelope. By returning the survey, you acknowledge your rights as a study participant (*please see more details on the back of this letter*).

If you have any questions about the collaborative project, please email or call Dorie Dalton, Wildland Specialist at GFPD at ddalton@genesee-fire.org or 303-526-1230. If you have any questions about the survey, please email Hannah Brenkert-Smith at hannahb@colorado.edu. Thank you for participating.

Sincerely,

Jason Puffett
Fire Chief
Genesee Fire Rescue

Dorie Dalton
Wildland Specialist
Genesee Fire Rescue

Hannah Brenkert-Smith
Institute of Behavioral Science
University of Colorado

23455 Curreant Drive • Golden, Colorado 80401 • (303) 526-1230

Your Rights as a Participant

We will make every effort to maintain the confidentiality of the study data. We will never publish information about individuals who participate in the study; we will present research results in summary form and keep all records and data secure.

There are no foreseeable risks associated with your participation in the survey.

You may withdraw from the study at any time and for any reason. If you have questions, concerns, or complaints about this research and you would like to talk to the research team, please contact Dr. Hannah Brenkert-Smith at hannahb@colorado.edu. This research has been reviewed and approved by an Institutional Review Board (IRB). You may talk to them at 303-735-3702 or irbadmin@colorado.edu if: your questions, concerns, or complaints are not being answered by the research team; you cannot reach the research team; you want to talk to someone besides the research team; you have questions about your rights as a research subject; or you want to get information or provide input about this research.



Genesee
FIRE PROTECTION DISTRICT



University of Colorado
Boulder

Dear Genesee Fire Protection District Resident,

We recently sent you the “Living with Wildfire in Genesee in 2021” survey. If you have not had a chance to complete and mail the survey, please do so today. We value your opinions. The information you provide is very important for the development of programs to reduce the risk of losses due to catastrophic wildfires.

If you have recently returned the survey, thank you for your participation!

Sincerely,

Jason Puffett
Fire Chief
Genesee Fire Rescue

Dorie Dalton
Wildland Specialist
Genesee Fire Rescue

Hannah Brenkert-Smith
Institute of Behavioral Science
University of Colorado



Genesee
FIRE PROTECTION DISTRICT



University of Colorado
Boulder

Dear Genesee Fire Protection District Resident,

We recently requested your participation in an important survey about Genesee Fire Protection District and wildfire. Many residents have completed and returned the survey. 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 “Living with Wildfire in Genesee in 2021” survey is a collaborative effort between Genesee Fire Protection District, the University of Colorado, and the Wildfire Research (WiRē) Center. We need 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.

Participation in this study is completely voluntary. The survey is intended to take roughly 20 minutes. We realize your time is valuable and we appreciate you taking the time to fill out the survey.

When you return the survey, your name will be deleted from the mailing list. Survey results will be reported in summary form and your name will not be connected to your answers in any way. After completing the survey, please fold it and put it in the postage paid return envelope. By returning the survey, you acknowledge your rights as a study participant (please see more details on the back of this letter).

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Sincerely,

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Fire Chief
Genesee Fire Rescue

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Living with Wildfire in the Genesee Fire Protection District in 2021



**GENESEE
FIRE RESCUE**

Section 1: In this first section of the survey, we ask about your home in Genesee Fire Protection District (FPD). Please answer the following questions with respect to your **Genesee FPD home**.

When choosing a response, please fill in the circle completely. Correct: ● Incorrect: ○ ⊗ ⊙ ⊕

1.1. Do you own or rent your Genesee FPD home? (*Fill in one circle*)

- Own: primary home
- Own: secondary residence
- Rent: I do not own this home

1.2. In what months do you typically spend time at your Genesee FPD home?
(*Fill in all that apply*)

- | | | | | | | | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| All 12
months | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec | No
months |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

1.3. In what year did you move to your Genesee FPD home? (*Fill in the blank*)

_____ Year moved to my Genesee FPD home

1.4. In what year was your Genesee FPD home originally built? (*Fill in the blank*)

_____ Year my Genesee FPD home was built

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

- Very aware
- Somewhat aware
- Not aware
- Don't remember

Section 2: In this section, we ask about your experience with, and preparation for, wildfire at your Genesee FPD home.

2.1. What is the closest distance (as a crow flies) a wildfire has come to your Genesee FPD 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. Have you had any of the following wildfire experiences at your Genesee FPD home? *(Fill in one circle per row)*

	No	Yes
I have evacuated from my Genesee FPD home due to a wildfire or threat of a wildfire	<input type="radio"/>	<input type="radio"/>
My Genesee FPD home has had smoke damage	<input type="radio"/>	<input type="radio"/>
My Genesee FPD home has had wildfire damage	<input type="radio"/>	<input type="radio"/>
My Genesee FPD home was destroyed by a wildfire	<input type="radio"/>	<input type="radio"/>

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

	No	Yes	Not applicable
For the people in my household	<input type="radio"/>	<input type="radio"/>	
For the pets in my household and on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For livestock on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.4. Have you completed any of the following actions to prepare for a **wildfire evacuation**, and do you want more information about how to complete any of the actions?
(Fill in two circles per row, one for each question)

	Completed action?		Want more information about action?	
	No	Yes	No	Yes
Identify how I will be notified about an evacuation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sign up for a wildfire evacuation notification system (CodeRED)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify safe evacuation routes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a location that my household will evacuate to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify what to take and what to leave behind during an evacuation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss evacuation with my neighbors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create a checklist for steps to take before evacuating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify a place to stay during a long-term evacuation (i.e., more than a few days)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pack a “go” bag with important items you would need during an evacuation (see https://simplebooklet.com/emergencygobag)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

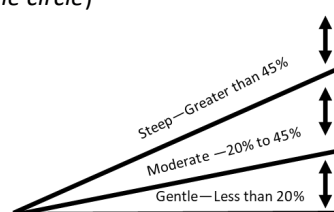
2.5. Please tell us about your experiences with your **homeowners insurance** for your Genesee FPD home. (Fill in one circle per row)

	No	Yes	Don't know
Has your current or a previous insurance company ever provided information on reducing the risk of wildfire?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did an insurance company ever refuse to provide or renew your insurance because of the risk of wildfire?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you pay a higher premium for your insurance due to wildfire risk?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you receive a discount on your insurance premium because you have reduced wildfire risk on your property?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you think your home is adequately insured against loss from a wildfire?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has your current insurance company ever required you to take action to reduce wildfire risk in order to continue coverage?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has your current insurance company offered private firefighting services?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 3: In this section, we ask about the characteristics of your Genesee FPD home and the area near your Genesee FPD home.

- 3.1. Does your Genesee FPD home have any of the following roofing materials?
(Fill in all that apply)
- Tile, metal, or asphalt shingles
 - Wood (shake shingles)
- 3.2. Does your Genesee FPD home have any of the following exterior siding materials?
(Fill in all that apply)
- Stucco, cement, brick, stone, or other noncombustible siding
 - Log or heavy timbers
 - Wood or vinyl siding
- 3.3. Does your Genesee FPD home have a **combustible** balcony, deck, porch, or fence attached to the structure? (Fill in one circle)
- No
 - Yes
- 3.4. What is the **closest** distance from your Genesee FPD home 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)
- More than 30 feet or no combustible items
 - 5 – 30 feet
 - Less than 5 feet

- 3.5. What is the **closest** distance from your Genesee FPD home to overgrown, dense, or unmaintained vegetation? *(Fill in one circle)*
- More than 100 feet
 - 30 – 100 feet
 - 5 – 29 feet
 - Less than 5 feet
- 3.6. Which of the following best describes the **majority** of vegetation on your Genesee FPD property between 100 and 150 feet from your home? That area might be outside your property boundary and include properties immediately surrounding you. *(Fill in one circle)*
- Grasses
 - Light brush and/or isolated trees (ex. grass with some ponderosa pine, scattered pinon juniper, or other conifer)
 - Dense brush and/or dense trees (ex. continuous ponderosa pine, dense aspen, and/or dense mixed conifer)
- 3.7. What is the **closest** distance from your Genesee FPD home to a neighboring home? *(Fill in one circle)*
- More than 100 feet
 - 30 – 100 feet
 - 10 – 29 feet
 - Less than 10 feet
- 3.8. 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 average slope within 150 feet of your Genesee FPD home? *(Fill in one circle)*
- Steep – Greater than 45%
 - Moderate – 20% to 45%
 - Gentle – Less than 20%



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

- More than 150 feet
- 50 – 150 feet
- Less than 50 feet

3.10. Do any of the following describe your driveway? My driveway... *(Fill in one circle per row)*

	No	Yes
has an overhead obstruction (ex. tree limbs) lower than 13.5 feet	<input type="radio"/>	<input type="radio"/>
is narrower than 20 feet wide	<input type="radio"/>	<input type="radio"/>
is longer than 150 feet	<input type="radio"/>	<input type="radio"/>
has room for a fire truck to turn around	<input type="radio"/>	<input type="radio"/>

3.11. Do any of the following describe your address number? My address number... *(Fill in one circle per row)*

	No	Yes
is posted at the end of my driveway?	<input type="radio"/>	<input type="radio"/>
is reflective?	<input type="radio"/>	<input type="radio"/>
has 4-inch numerals?	<input type="radio"/>	<input type="radio"/>
is on a contrasting background?	<input type="radio"/>	<input type="radio"/>
is made of noncombustible materials?	<input type="radio"/>	<input type="radio"/>

3.12. If the road you use to access your Genesee FPD home was blocked during a wildfire, is there another road you could use to get out of your community? *(Fill in one circle)*

- No
- Yes

3.13. Properties in your community 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 Genesee FPD property’s current overall wildfire risk rating? *(Fill in one circle)*

- Low risk
- Moderate risk
- High risk
- Very high risk
- Extreme risk

Section 4: In this section, we ask about wildfire risk reduction activities.

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

- No
- Yes

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

	No	Yes
Reduced vegetation on my Genesee FPD property (ex. cleared/pruned weeds, brush, and trees)	<input type="radio"/>	<input type="radio"/>
Regularly cleared my roof and gutters of leaves and pine needles	<input type="radio"/>	<input type="radio"/>
Regularly mowed and raked around my Genesee FPD home	<input type="radio"/>	<input type="radio"/>
Made my Genesee FPD home more fire resistant (ex. replaced roofing, siding, added hardscaping)	<input type="radio"/>	<input type="radio"/>
Helped neighbor(s) reduce vegetation on their properties	<input type="radio"/>	<input type="radio"/>
Helped reduce vegetation on community property (ex. HOA, subdivision)	<input type="radio"/>	<input type="radio"/>
Helped reduce vegetation on nearby public lands (ex. county, state, federal lands)	<input type="radio"/>	<input type="radio"/>
Participated in a community wildfire preparedness activity (ex. meeting, chipper day, etc.)	<input type="radio"/>	<input type="radio"/>
Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk	<input type="radio"/>	<input type="radio"/>

4.3. How much do you think each of the following factors increases the chances of a wildfire damaging your Genesee FPD property **in the next 12 months**? *(Fill in one circle per row)*

	A lot	Somewhat	Not at all
Vegetation on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical characteristics of my house or other buildings (ex. roofing or siding) on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetation on my neighbors' properties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vegetation on nearby public or large undeveloped land	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of nearby water supply (ex. hydrant or cistern) for fire suppression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.4. How many of your immediate neighbors do you think have taken action to reduce wildfire risk on their properties (ex. removing dense vegetation or switching to noncombustible siding) *(Fill in one circle)*

- All my neighbors have taken action
- Most of my neighbors have taken action
- Some of my neighbors have taken action
- None of my neighbors have taken action

4.5. How acceptable are the following approaches to **reducing wildfire risk** in Genesee FPD to you? *(Fill in one circle per row)*

	Extremely acceptable	Very acceptable	Moderately acceptable	Slightly acceptable	Not at all acceptable
Removing trees and reducing other vegetation on HOA property surrounding communities to slow the spread of wildfire (ex. fuel breaks)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Removing trees and reducing other vegetation (thinning/fuel breaks) on nearby public lands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burning piles of vegetation (slash piles) on nearby public lands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting a prescribed fire ignited by fire professionals on nearby public lands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing a naturally ignited fire (lightning) on nearby public lands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting growth policies or land use regulations that limit new development in fire-prone areas in Genesee FPD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting building codes that require fire resistant materials for structures located in fire-prone areas in Genesee FPD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting development standards that require vegetation management (ex. removing or thinning trees and mowing grass) on lots located in fire-prone areas in Genesee FPD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Temporarily shutting off the power grid during extreme fire risk days to avoid new wildfire ignitions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Removing vegetation along roadways for safer evacuation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build a new road to provide an emergency evacuation route	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 5: In this section, we ask about your notions, expectations, and risk perceptions related to wildfire.

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

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
With proper technology, we can control most wildfires.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We should put out wildfires that threaten human life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We should put out wildfires that threaten homes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During a wildfire, saving homes should be a priority over saving forests.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfires are a natural part of a healthy forest/ecosystem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I live here for the trees and will not remove any of them to reduce wildfire risk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing the wildfire danger is a government responsibility, not mine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homeowners' actions to reduce wildfire are not effective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My property is at risk of wildfire.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My effort to reduce wildfire risk on my property is not effective because of the heavy vegetation on my neighbors' properties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local firefighters have sufficient resources to keep a wildfire from spreading.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local firefighters have sufficient resources to protect threatened homes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Firefighters should put their lives at risk to protect my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfires threaten my community water supply.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to move out of the area in the next 12 months because of wildfires.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Development in fire-prone areas of Genesee FPD increases the wildfire risk to my Genesee FPD property.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.2. If there is a wildfire on your Genesee FPD 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
I would put the fire out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The fire department would save my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My home would have smoke damage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My home would have some physical damage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My home would be destroyed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would lose money due to the loss of business or income on my property.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My trees and landscape would burn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My neighbors' homes would be damaged or destroyed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Direct flame would ignite my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Embers would ignite my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearby homes would ignite my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.3. What do you think is the chance that a wildfire will be on your Genesee FPD property **in the next 12 months**? *(Fill in one circle)*

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.4. If there is a wildfire on your property **in the next 12 months**, what do you think is the chance that it will destroy or severely damage your Genesee FPD home? *(Fill in one circle)*

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 6: In this section, we ask where you get information about wildfire, how useful the information is, how you receive information, and how you would like to receive information.

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

	Extremely useful	Very useful	Moderately useful	Slightly useful	Not at all useful	Fill in this circle if you have NOT received information from this source
Genesee Fire Rescue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community group (ex. homeowners association)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local arborist/contractor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local government (Jefferson County, Sherriff's Office)						
Firewise USA®	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ready, Set, Go! program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Denver Mountain Parks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jefferson County Open Space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colorado State Forest Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
USDA Forest Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Park Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bureau of Land Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media (newspaper, TV, radio, internet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.2. How do you currently receive information about wildfire risk reduction, and how would you prefer to receive information? Please answer **both** questions for each row.
 (Fill in two circles per row, one for each question)

	I receive information about how to reduce wildfire risk on my property by...		I prefer to receive information about how to reduce wildfire risk by...	
	No	Yes	No	Yes
Email/e-newsletter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mailed newsletter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conversations with local wildfire specialists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media (Facebook, Twitter, Nextdoor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet (non-social media)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TV news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Newspaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 7: In this section, we would like to know why you do or do not take action to reduce the risk of wildfire to your Genesee FPD property.

7.1. Do any of the following **prevent you** from taking action to reduce the wildfire risk on your Genesee FPD property (ex. cutting trees, changing roof/siding)?
(Fill in all that apply for each row)

Personal resources	Financial cost <input type="radio"/>	Time to do the work <input type="radio"/>	Physical ability to do the work <input type="radio"/>	None of these <input type="radio"/>
Lack of specific information about...	The factors contributing to my property's wildfire risk <input type="radio"/>	How to reduce wildfire risk on my property <input type="radio"/>	Where to dispose of vegetation/slash <input type="radio"/>	None of these <input type="radio"/>
Personal perspectives	I do not want to change the way my property looks <input type="radio"/>	I do not think taking action would reduce my property's wildfire risk <input type="radio"/>	It's a low priority to me <input type="radio"/>	None of these <input type="radio"/>
Community	Lack of options for disposing vegetation/slash <input type="radio"/>	Restrictions on the changes I can make to my property <input type="radio"/>	Social pressure from neighbors <input type="radio"/>	None of these <input type="radio"/>

7.2. Would any of the following **encourage you** to take action to reduce the wildfire risk on your Genesee FPD property? *(Fill in all that apply for each row)*

Resources	Cost-share or financial assistance <input type="radio"/>	Help doing the work <input type="radio"/>	Recommended contractors <input type="radio"/>	None of these <input type="radio"/>
Information	A report describing my property's wildfire risk factors <input type="radio"/>	Videos showing how to reduce risk on a property in my area <input type="radio"/>	One-on-one visit with wildfire risk experts on my property <input type="radio"/>	None of these <input type="radio"/>
Other	Feedback on the work I've done to reduce my property's risk <input type="radio"/>	Recognition for taking action <input type="radio"/>	Neighborhood group that organizes wildfire risk-reduction activities <input type="radio"/>	None of these <input type="radio"/>

Section 8: In this section, we ask about personal and household characteristics. Your name will never be connected to your answers in any way.

8.1. In general, do you view yourself as someone who is very willing to take risks or not at all 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	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

_____ years old

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

- Male
- Female
- Other

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

- Less than high school
- High school graduate
- Some college or technical school
- Technical or trade school
- College graduate
- Some graduate work
- Advanced degree (M.D., M.A., M.S., Ph.D., etc.)

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

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

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

- Less than \$15,000
- \$15,000 - \$24,999
- \$25,000 – \$34,999
- \$35,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 or more

Thank you for your help. Please use the space below to write any additional comments. Refer to the cover letter included in your mailing for contact information if you would like to schedule an onsite visit with a wildfire professional to learn how you can reduce risk on your property.

Appendix B: Wildfire Research Center (WiRē) Assessor Reference Guide: Rapid Assessment Form, Rapid Assessment Instructions, and Data Collection Tool Instructions

Starts on next page.

WiRē Rapid Assessment Form						
	Attribute	Attribute description	Response categories	Attribute weight	Category score	Notes
Access	Address posting	Does the address sign meet all of the standards as identified in the Assessor Reference Guide?	Yes, fully meets standard	1%	0	Local standard is: •Posted at the driveway •Reflective •4-inch numerals •Contrasting background •Non-combustible
			Address sign is visible, but does not meet all standards		5	
			No, not posted/visible from the primary road		10	
	Ingress/Egress	If the road to access the home was blocked due to a wildfire, is there another road to get out of the community?	Yes, two or more roads in/out	1%	0	
			No, one road in/out		10	
			Unknown - not observed		11	
	Driveway clearance	Does the driveway meet the horizontal and vertical clearance standards as identified in the Assessor Reference Guide?	Yes, meets all driveway standards. Meets both height (at least 13.5') and width clearance (at least 20')	1%	0	
			Meets height clearance (at least 13.5')		5	
			Meets width clearance (at least 20')		5	
			Does not meet either standard (height and width)		10	
Unknown - not observed			11			
Driveway length	What best describes the driveway?	Less than 150' long	1%	0	An adequate turnaround accommodates a Type 3 engine	
		150' or more with "adequate" turnaround		5		
		150' or more without "adequate" turnaround		10		
		Unknown - not observed		11		
Background Conditions	Distance to dangerous topography	What is the closest distance from the home to a ridge, steep drainage, or narrow canyon?	More than 150'	5%	0	
			50' - 150'		25	
			Less than 50'		50	
			Unknown - not observed		51	
	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 slope within 150 feet of the home?	Gentle - Less than 20%	2%	0	
			Moderate - Between 20% and 45%		10	
			Steep - Greater than 45%		20	
			Unknown - not observed		21	
	Adjacent fuels	Which of the following best describes the majority of vegetation 100' - 150' from the home? This may be outside the property boundary.	Light - grasses	4%	10	
			Medium - Light brush and/or isolated trees (e.g., grass with some ponderosa pine, scattered pinon juniper, or other conifer)		20	
			Dense - Dense brush and/or dense trees (e.g., continuous ponderosa pine, dense aspen, and/or dense mixed conifer)		40	
			Unknown - not observed		41	

WiRē Rapid Assessment Form							
	Attribute	Attribute description	Response categories	Attribute weight	Category score	Notes	
Defensible Space	Defensible Space	What is the closest distance from the home to overgrown, dense, or unmaintained vegetation?	More than 100' 30' - 100' 5' - 29' Less than 5' Unknown - not observed	10%	0 50 75 100 101	See descriptions included in the Assessor Reference Guide	
	Other combustibles	What is the closest distance from the home to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?	More than 30' or no combustible items 5' - 30' Less than 5' Unknown - not observed	8%	0 40 80 81		
Home Ignition Potential	Roofing materials	What is the most vulnerable roofing material?	Tile, metal, or asphalt shingles Wood (shake shingles) Unknown - not observed	30%	0 300 301		
	Building exterior	What is the most vulnerable exterior siding material?	Stucco, cement, brick, stone, or other noncombustible siding Log or heavy timbers Wood or vinyl siding Unknown - not observed	7%	0 35 70 71		
	Combustible attachments	Does the home have a combustible balcony, deck, porch, or fence attached to the structure?	No Yes Unknown - not observed	10%	0 100 101		
	Proximity to adjacent homes	What is the closest distance to a neighboring home?	More than 100' 30' - 100' 10' - 29' away Less than 10' Unknown - not observed	20%	0 50 100 200 201		
	Total checks				100%	1000	Version 06.11.2020

Field Name	Description	Response categories	Rationale & Additional Considerations	Related
Assessor	Genesee Assessor Name	Jason Puffett Ryan Babcock Dorie Dalton Josh Boyles Robert Dalton Peter Greenstone Steve Masztaler Branch Russell Other	Please check the box next to your name. If you DO NOT work for "WiRe Partner Organization" please check N/A. Knowing who the "inspector" is will assist with addressing data issues on the back end. The terms "inspector" and "assessor" are synonymous within this document.	
Structure Type	Primary use of structure. Is it used as a home or living area (Residential), is it used as a business (Commercial), is it used to manufacture goods or a type of industrial site (Industrial)?	Residential Commercial Industrial Mixed use No structure/vacant lot Other		
Address Posting	Does the address sign meet all of the standards as identified in the Assessor Reference Guide?	Yes, fully meets standard. (Minimum is posted at driveway, reflective, 4-inch numerical, contrasting background and non-combustible)	Use this category if the address sign fully meets or exceeds the WiRe standard: visible from the public road and reflective, and additional local standards: posted at the driveway, 4-inch numerals, contrasting background and non-combustible.	A clearly visible address sign, that remains visible in the dark (e.g., night, smoky) is critical for safe and effective emergency response - particularly EMS. In many locations, a local jurisdiction (e.g., county, city, FPD) may have a standard for address signs. Typical standards for wildfire considerations include: The sign and post are non-combustible, the lettering is at least 4 inches tall, the sign incorporates a retroreflective 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 sign is visible at the juncture of the public road and the driveway. This assessment is not considering sign material or any other potential local standards.
		Address sign is visible, but does not meet all standards	Use this category if the address sign is visible from the road but does not meet the WiRe and local standards above. If there is a local address sign standard, use this category if the address sign is visible from the road but does not meet all of the local standards.	
		No, not posted/visible from the primary road	Use this category if the address sign either (A) does not appear to exist or (B) is not visible. Use this category regardless of the whether or not the address sign meets the WiRe or local standard or not.	
Ingress/Egress	If the road to access the home was blocked due to a wildfire, is there another road to get out of the community?	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 and evacuation. Numerous types of emergency ingress/egress situations can exist such that there may be certain 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 route. It will be up to the discretion of the assessor (should be determined prior to beginning RA what the determining factors are) to determine if a property has more than one VIABLE 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 wildfire incident. This category can also be "pre-assessed" using paper maps and/or GIS. Please talk with your WiRe designated Practitioner about this option.	Does the family have a plan for evacuation, including a meeting location A and location B in case cell phone communications are lost? Is the resident aware of the main routes for evacuating the home, and have they driven them?
		NO, one road in/out	Use this category if the driveway is less than 20 feet wide, more than 150 feet long servicing more than 1 home.	
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Driveway Clearance	Does the driveway meet the horizontal and vertical clearance standards as identified in the Assessor Reference Guide?	Yes, meets all driveway standards. Meets both height (at least 13.5') and width clearance (at least 20')	The rationale behind this question is primarily related to emergency access, and in particular, access for wildland fire engines, structure fire apparatus, and other emergency responders to access the property. Horizontal Standard: 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 road base. In other words, if a driveway road base 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 4 feet on each side (a total of 20 feet), then the assessor should mark the driveway as "More than 20 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 "Meets one, but not both, standards (height or width)" or "Does not meet either standard (height and width)" depending on an observational estimate of the width of the driveway. The takeaway for homeowners is that they may need to remove obstructions, such as vegetation or gateways, so that emergency vehicles can safely utilize their driveway during a future incident. Vertical Standard: Vertical obstructions are another consideration. Overhanging tree branches or ranch style gateways can create vertical obstructions. The vertical standard for this assessment is 13.5 feet.	
		Meets height clearance (at least 13.5')		
		Meets width clearance (at least 20')		
		Does not meet either standard (height and width)		
		Unknown - not observed		

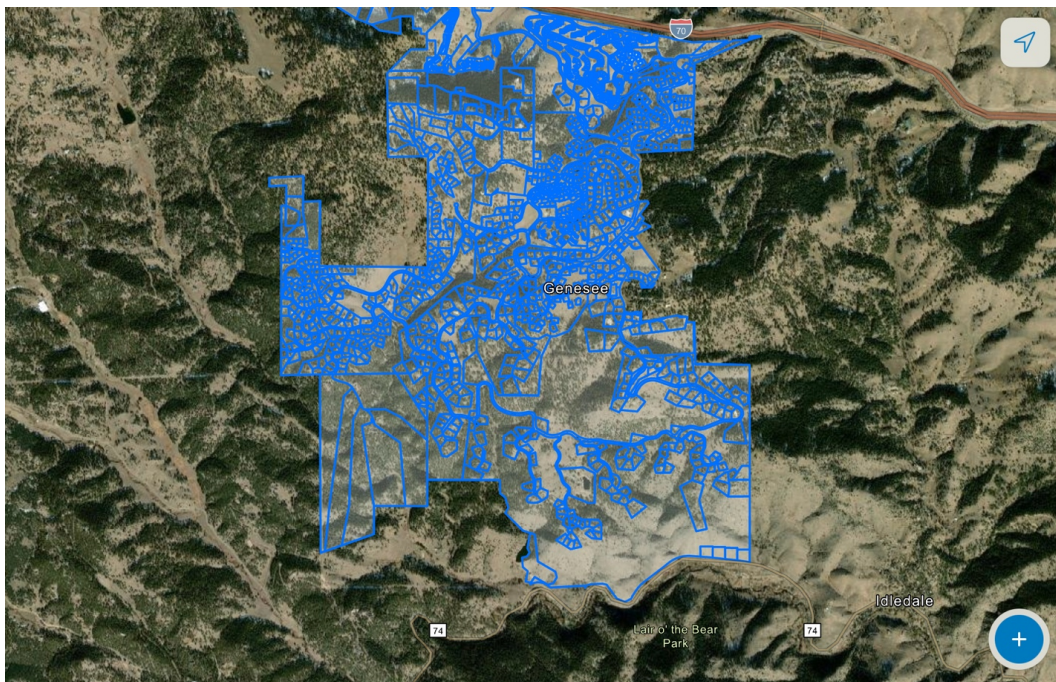
Field Name	Description	Response categories	Rationale & Additional Considerations	Related
Driveway Length	What best describes the driveway?	Less than 150' long	Similar to DrivewayClear, length is related to the safety of emergency responders that are accessing the home. The longer the driveway, the more risk exposure for responders. Length may be estimated by driving down the driveway (which will be very helpful to answer several other additional questions), satellite imagery, or visual estimate. Similarly, the "turnaround" aspect of the question relates to whether or not an adequate and appropriate turnaround exists along the driveway. By "adequate" we mean the turnaround can accommodate a Type 3 engine.	If a local FPD/county/local jurisdictional standard for emergency vehicle 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 helpful when trying to relay this information to the public. Boulder County Turnaround Standards Link: https://assets.bouldercounty.org/wp-content/uploads/2017/03/w04-emergency-vehicles-access.pdf
		150' or more with "adequate" turnaround		
		150' or more without "adequate" turnaround		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Distance to Dangerous Topography	What is the closest distance from the home to a ridge, steep drainage, or narrow canyon?	More than 150'	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 ridges, chimneys, and drainages are known to dramatically increase fire behavior (rate of spread, flame length, etc.). As such, homes that are located close to and in direct alignment 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 observed feature.	This category has obvious overlap with the Slope category. However, slope is designed to capture the "grade" of the land, and this category is focused on specific topographic features.
		50' - 150'		
		Less than 50'		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
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 slope within 150 feet of the home?	Gentle - Less than 20%	Slope will be calculated using GIS. In general, the GIS tool will calculate average slope on property within a 150 foot buffer of the home. The output of this calculation (the average slope) will then be used to categorize the slope as 'Gentle', Moderate', or 'Steep'. The results of this GIS tool will be used to prepopulate that database. Each assessor, however, will have the capability to overwrite this data point and select a different slope category. Note this may affect timing of the Rapid Assessment data collection effort. Please consult with the WiRe Team regarding regarding the status of the GIS tool output.	
		Moderate - Between 20% - 45%		
		Steep - Greater than 45%		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Adjacent Fuels	Which of the following best describes the dominant vegetation 100' - 150' from the home? This may be outside the property boundary.	Light - grasses	Insert additional description of local vegetation that falls in to this category.	Fuels are one of the three categories on the wildfire behavior triangle. This domain looks at a proxy of fuel type and fuel load/density. It 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 moistures, 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: Look at the area where the home is situated. Within a band starting at 100 feet from the home (limits of defensible space category) and extending out to 150 feet of the home, in all directions, estimate 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 fire behavior should those fuels become involved in the fire.
		Medium - Light brush and/or isolated trees (e.g., grass with some ponderosa pine, scattered pinon juniper, or other conifer)	Insert additional description of local vegetation that falls in to this category.	
		Dense - Dense brush and/or dense trees (e.g., continuous ponderosa pine, dense aspen, and/or dense mixed conifer)	Insert additional description of local vegetation that falls in to this category.	
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Defensible Space	What is the closest distance from the home to overgrown, dense, or unmaintained vegetation?	More than 100'	Primary experimental research from the International Crown Fire Modeling Experiment (1998) demonstrated that structures (stick built, T-1-111 siding, composite shingles) were able to survive (with light scorch) from the radiant heat of an active crown fire (Jack Pine) at a distance as little as 10 meters (32.8 feet), without direct flame contact, but did ignite when the structure was exposed to direct flames. At a distance of 30 meters (98.42 ft), the same structures survived without any scorch. Along with modeling, case studies and other research, this famous experiment laid 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 led to a fuller understanding of ignition vulnerabilities for the home (primarily related to ember ignitions). A new 5 foot zone has emerged from the work being conducted by IBHS and has begun to gain more widespread adoption. 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 that particular 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 treatment/mitigation for defensible space, would you recommend that the vegetation in question be managed within 5 feet of the home? Within 30 feet of the home? Within 100 feet of the home?	Truly assessing defensible space requires a more thorough evaluation of the home and its immediate surroundings and typically necessitates an in-person walk through with the homeowner. 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. The new 5 foot zone should be devoid of all combustible materials (including bark mulch or combustible vegetation).
		30' - 100'		
		5' - 29'		
		Less than 5'		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Other Combustibles	What is the closest distance from the home to combustible items other than vegetation such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?	More than 30' or no combustible items	Are there any other combustible materials, near the home (within Zone 1), that a structure triage group would likely want to remove/clean up in the event of an approaching wildfire? Common items include lumber, construction materials, firewood, propane tanks, hay bales, leaves, wicker furniture, decorative ornaments, etc. If so, how close to the home are these items?	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.
		5' - 30'		
		Less than 5'		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Roofing Materials	What is the most vulnerable roofing material?	Tile, metal, or asphalt shingles	Tile, metal or asphalt shingles are commonly associated with a Class A roofing assembly - though not in all cases. Tar or rubberized roofs are most commonly found with adobe SW style homes with a flat roof. 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, multiple types of roofing materials are used, particular in homes with complex roof lines, dormers and extensions. In these cases, we recommend rating the entire roof as whatever is the most vulnerable section.	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 vulnerable to ignition due to the assembly. Important related factors to the roof are eaves and gutters. Open eaves represent a higher risk than soffit eaves. All vents/openings should at minimum incorporate 1/8" metal screening. Additionally, gutters play a major role.
		Wood (shake shingles)		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	

Field Name	Description	Response categories	Rationale & Additional Considerations	Related
Building Exterior	What is the most vulnerable exterior siding material?	Stucco, cement, brick, stone, or other noncombustible siding	This category includes brick, stone, block, concrete synthetic stone, metal, stucco (3 stage or EIFS), fiber cement (e.g. Hardie Board) or other materials that are considered Class A or B.	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 on the home, and the role of the assessor is to determine if any such ignition vulnerabilities likely exist. Using all available information, including visual observation, photographs, county assessor data, it is up to the assessor to make a determination if any exterior cladding/siding represents a potential risk for ignition on the home and to utilize the response categories to denote these risk. 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.
		Log or heavy timbers	In order to qualify as log, it needs to be considered "heavy log construction" with a minimum log diameter of 6 inches with all bark striped and incorporating a chinking material to fill the gaps between the logs. Faux logs, D-Link, and square logs DO NOT qualify for this category and should be counted as "Wood or open sided".	
		Wood or vinyl siding	Wood or vinyl siding only	
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Combustible Attachments	Does the home have a combustible balcony, deck, porch, or fence attached to the structure?	No	Decks and fences are well known 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 based upon an observation of the combustibility of such attachment. While composite decking boards (e.g. Trex) are considered by many to be a better alternative than standard decking boards, for the purposes of this risk assessment, we are considering composite decking to fall in to the category of "combustible."	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.
		Yes		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Proximity to Adjacent Homes	What is the closest distance to a neighboring home?	More than 100'	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 generally built with combustible materials and contain gutters, porches and vulnerable locations where embers can get trapped and combust. When assessing the home, determine the relative proximity of the nearest home. Is the nearest home more than 100 feet away? Is it less than 100 feet, but more than 30 feet? Is the nearest home within 10 feet of the home being assessed?	
		30' - 100'		
		10' - 29'		
		Less than 10'		
		Unknown - not observed	If you observe the attribute, but are unsure of the correct response category, choose the riskiest option. If you can not observe the attribute at all, choose "Unknown - not observed."	
Comments	Enter additional comments necessary to understand this assessment.		This is a great place to add any notes that will help the back end data compilation and analysis efforts. Type away and help everyone understand what other things we might all need to know!	

1 Genesee Fire Protection District Rapid Assessment Instructions for Using Collector

Before starting the WiRē rapid wildfire risk assessments (RAs), it's important to remember the strong tie between the RA and the homeowner survey. The driving principle behind the paired data collection approach is to empower residents to take action to reduce their wildfire risk.

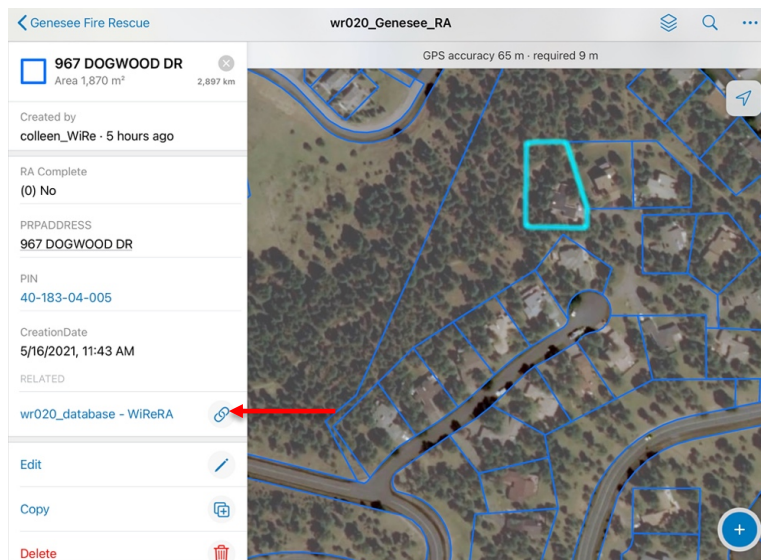
Be consistent with the response categories throughout data collection. The goal of the WiRē RAs is to assess all parcels with residential and commercial structures in the Genesee Fire Protection District, which comprise approximately 1500 residential homes and 28 commercial structures. These parcels are indicated on the map below in blue.



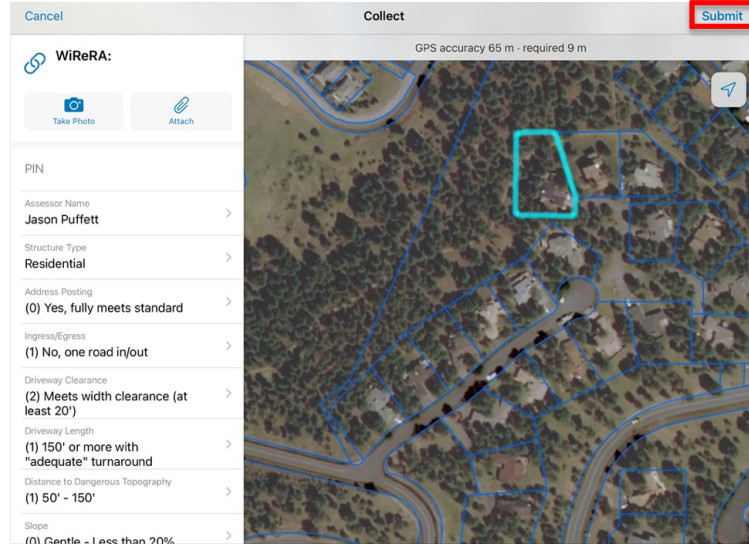
1. How to access the data collection app?
 - a. Download Collector onto your tablet or other device. For Android users choose ‘Collector’ and iPad users choose “ArcGIS Collector” as there are two apps.
 - b. Log into the app using the following credentials:
 - i. Username: Alison_WiRe
 - ii. Password: WiReGIS123
 - c. There will be folder called Genesee Fire Rescue on your display once you’ve logged into Collector.
 - i. Click on the folder.
 - ii. Select the map called wr020_Genesee_RA
 - iii. Click the layers button and click on the words wr020_geodatabase to bring you to the study area on the map.



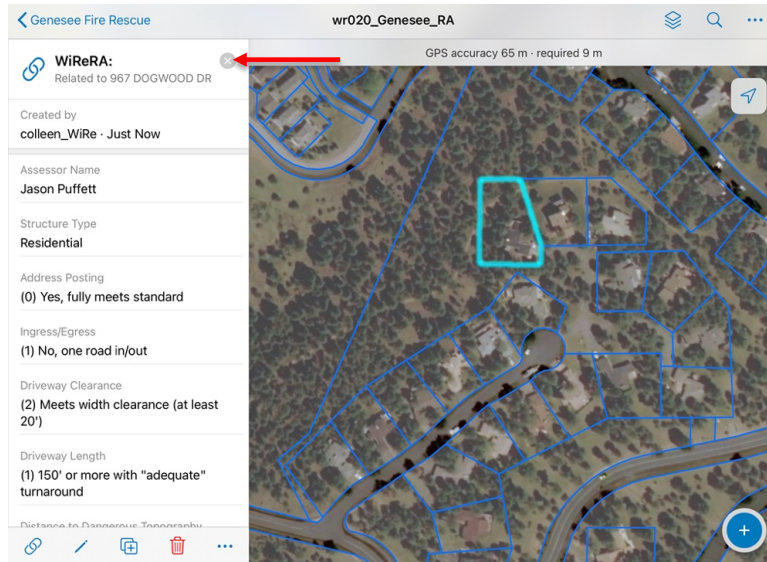
2. What to do to collect data?
 - a. Open Collector and pan to the parcel
 - b. Select a blue outlined polygon, and a sidebar will pop up on the left.
 - c. Click on the link to the RA form.



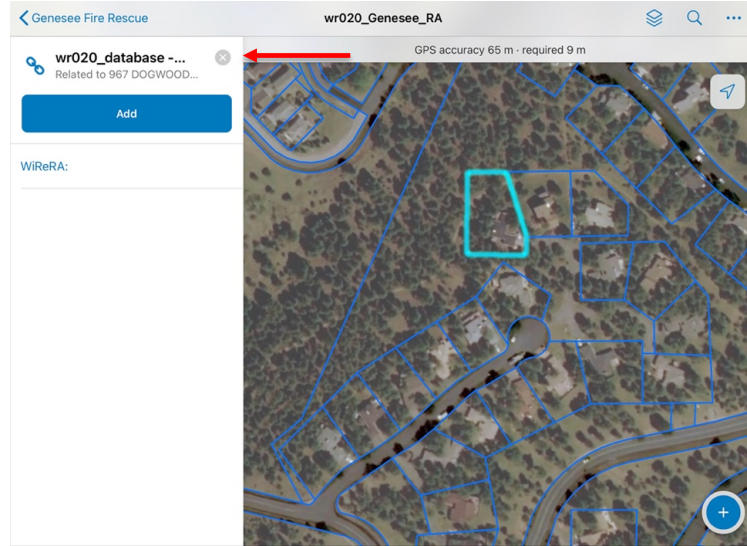
- a. Click the blue Add button.
- b. Fill out the form following protocols outlined in the Assessor Reference Guide.
- c. When done, click submit in top, right-hand corner.



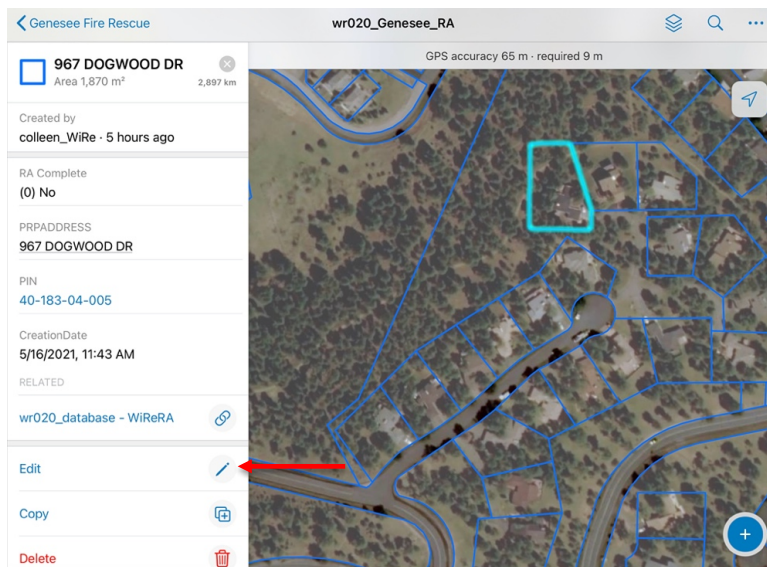
- d. Click on the x.



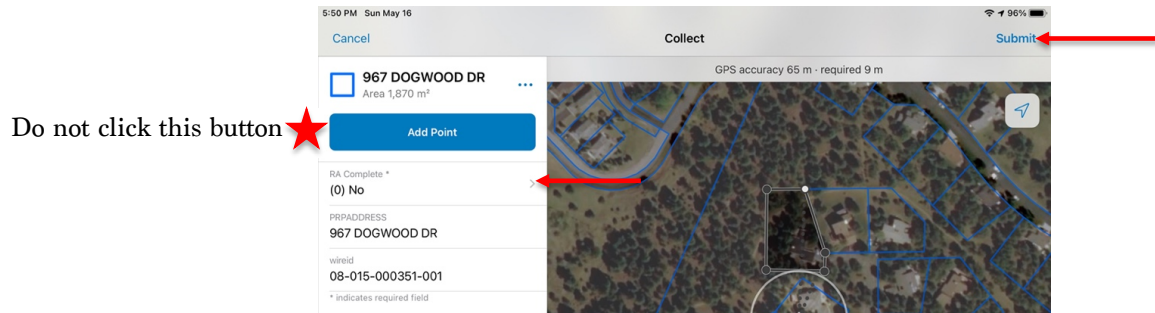
- e. Click on the x again.



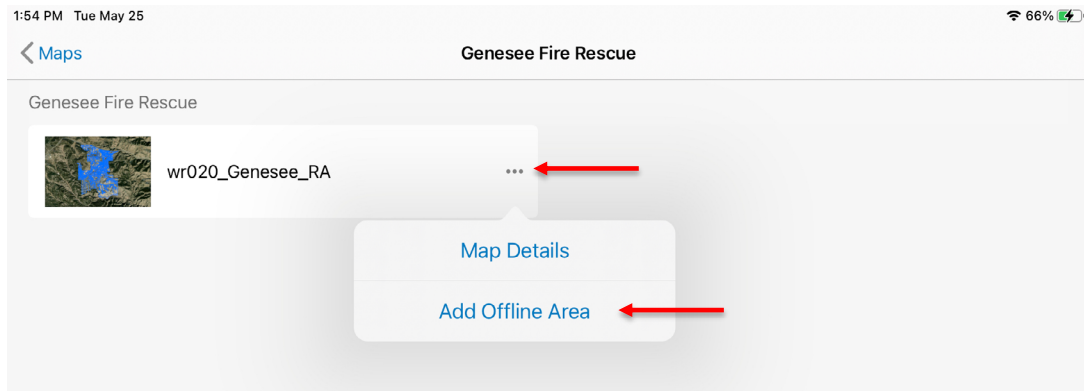
f. Click on the edit button.



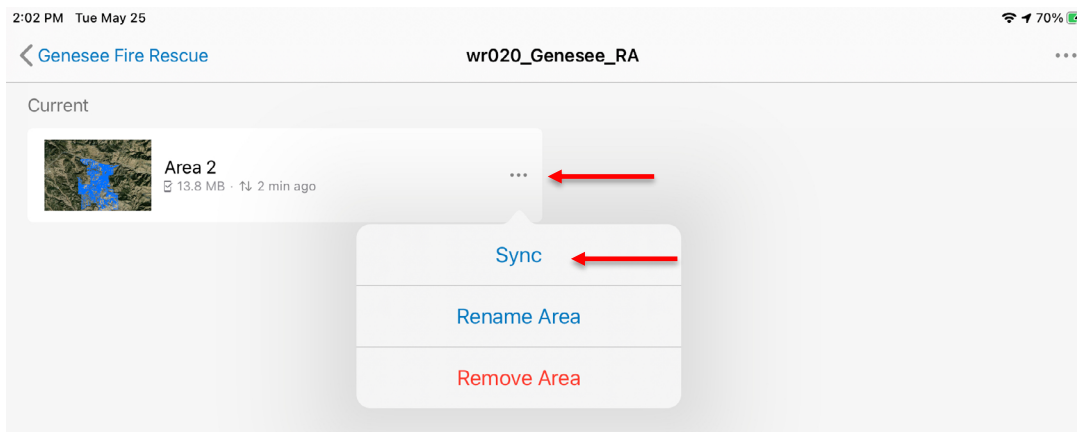
- g. Click on the drop-down and select (1) Yes for a completed survey and then click Submit. Do NOT click the “Add Point” button.



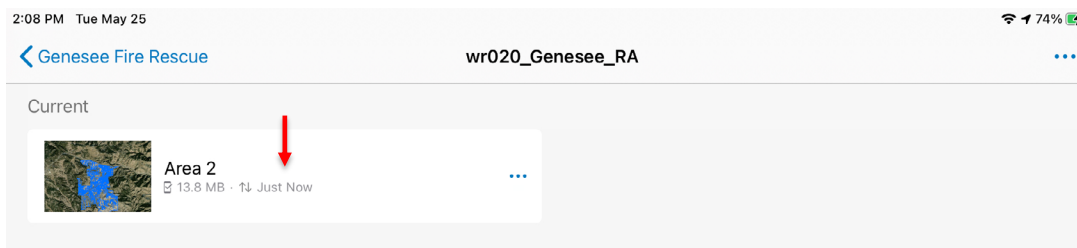
- 3. What to do when there are multiple structures on a property?
 - a. Some parcels might have multiple structures on them. Please complete an RA for **all** residential structures on a property. To do this, assess the main residential structure first following the instructions in bullet #2 above.
 - b. To assess another residential structure on the same parcel, select the same parcel in Collector and follow the same procedures in bullet #2. Add in a description in the comments field to indicate it is a new residential structure such as ‘2nd house on property possibly a rental’ or ‘3rd residence on parcel appears used.’
- 4. How to add an off-line basemap?
 - a. From the main screen in Collector, select the three dots next to the wr020_Genesee_RA and select “Add Offline Area”



- b. Move the box over the area where you will conduct the rapid assessments and select “Download Area”. It may take some time to fully download. I had the best luck at the front of the fire station. Once the area is downloaded, you can go collect the data.
5. How to sync after being off-line?
- a. When you have finished for the day, return to a place where you have WIFI to sync your work.
 - b. Go the map screen, select the three dots next to the offline area you selected in step #4, and then select “Sync.”



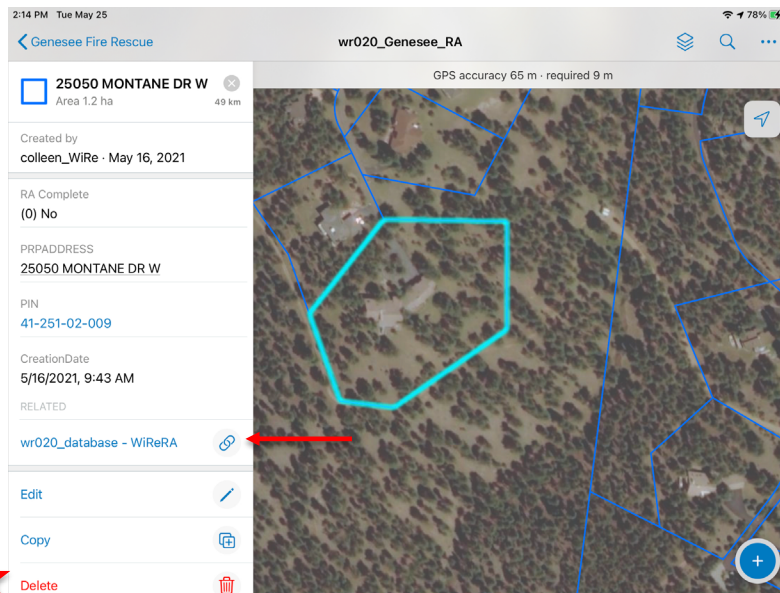
- a. You will know it has synced because the time will update. Right after you sync, it should say “Just Now”.



- b. Once you’ve synced the data, click on the three dots again and select “Remove Area.” This will return you to the full view of the area.

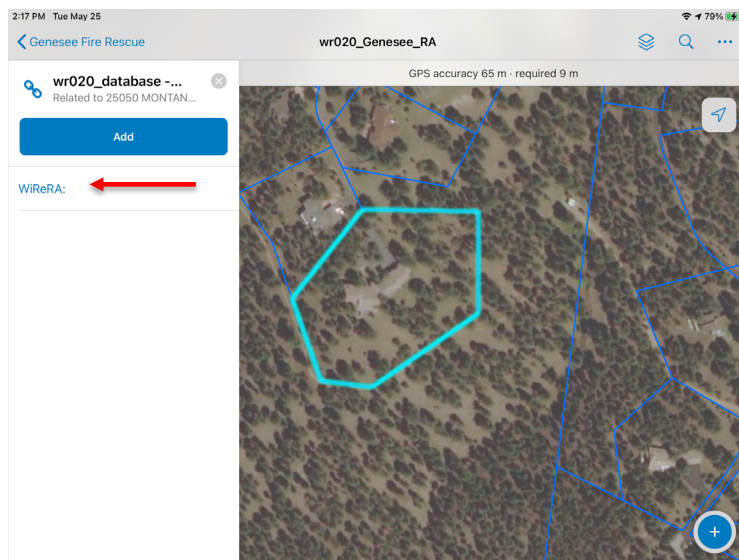
6. How to delete rapid assessment data should you need to?
 - a. While this should not happen often, there may be an instance where you need to delete the rapid assessment data associated with a parcel. To do this, select the parcel and click the link for wr020 - database – WiReRA.

Note: Do not click the button that says “Delete” in red font next to the trashcan. This will delete the parcel.

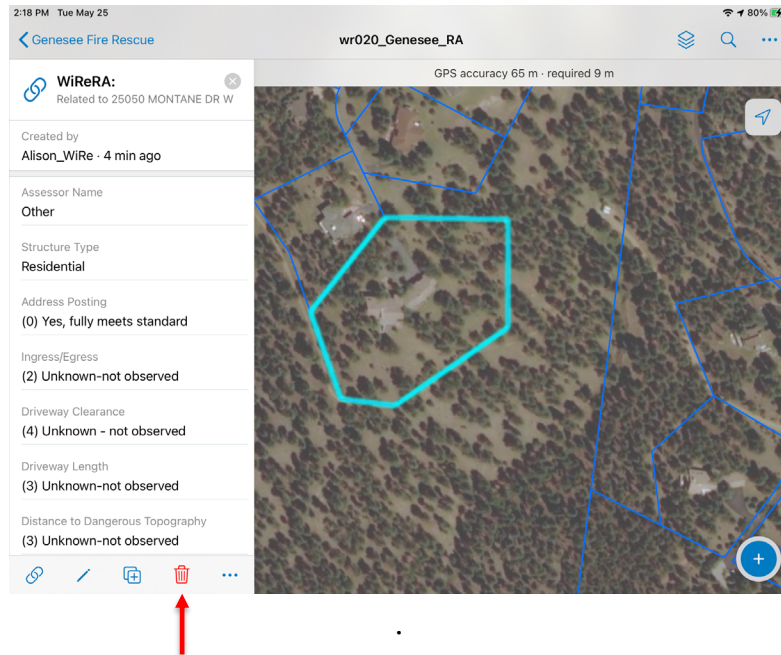


Do not click this button **Delete**

- b. Then you will see a screen with a hyperlink to the rapid assessment data. Click on the hyperlink.

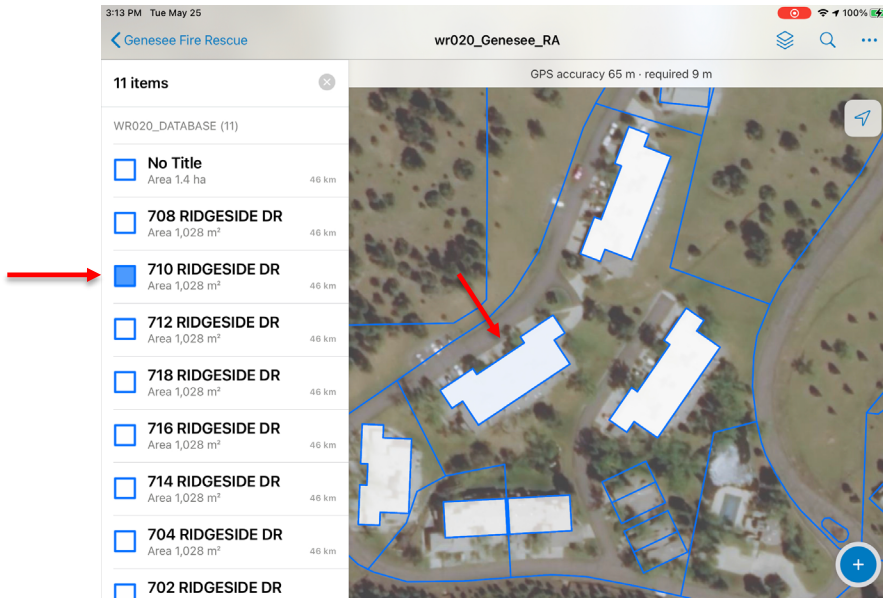


- c. Then you will see a screen with the rapid assessment data on the left. To delete the rapid assessment data, click on the red trashcan data on the bottom and delete the feature.



7. What to do with multi-unit attached structure (ex., single family attached homes, condos, apartment buildings) embedded in one white polygon?

- a. If a property has a structure with multiple units, conduct one rapid assessment for the entire structure and add a note in the comments field to let us know it was a multi-unit structure.
- b. When you have submitted the rapid assessment and selected “yes, complete” then the unit will turn blue, not the entire polygon.



Appendix C: WiRē Rapid Assessment Summary

The Wildfire Research Center
WiRē



Genesee Fire Rescue Rapid Assessment Summary

Genesee Fire Rescue mitigation specialists conducted parcel-level rapid wildfire risk assessments in 2021. Risk assessment data collection was collected as a census of all residential properties with a structure in the study area¹. The rapid wildfire risk assessments were conducted for 1,340 residential properties using the standard WiRē Rapid Wildfire Risk Assessment (RA), which is comprised of a set of 13 attributes that includes access to the property, background fuels and topography, vegetation near the home, and building materials. Each attribute of the RA is evaluated relative to other private land parcels within the study area. As a result, the RA serves as an indicator of the relative risk of private land parcels within the study area, rather than an absolute measure of risk.

The 13 attributes are weighted and summed to produce an overall risk score for each parcel. The weights reflect the attributes' relative contribution (ranging from 1% - 30% per attribute) to overall wildfire risk. Following our process for a standard RA, we apply a standard approach for placing the overall risk scores into five risk categories: **low** (20-240), **moderate** (241-305), **high** (306-435), **very high** (436-505), **extreme** (506-1000). This process can be iterative over time but has been validated across previous WiRē projects.

To ensure consistent, high quality data collection WiRē wildfire practitioners conducted a virtual training for those who would conduct the rapid risk assessments. A standardized reference sheet for data collectors was available for use in the field.

All parcel level assessments were conducted on the property being assessed unless access was blocked by a gated driveway or posted with no trespassing signage. While environmental and situational variables may occasionally affect the rapid assessment data collection process, Genesee Fire Rescue is confident that the rapid assessments collected for this project provide an accurate representation of relative wildfire risk to the parcels in the study area.

In instances when Genesee Fire Rescue 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.

¹ Jefferson County assessor data were provided on March 10, 2021.

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

*All data received and processed as of November 5, 2021

*Document prepared March 11, 2022

The following tables present a summary of the Genesee Fire Rescue mitigation specialists' responses to the 13 risk attributes in the RA. Additionally, the tables present the results of the overall wildfire risk rating, which is the sum of the attribute scores. The percentages might not add to 100% due to rounding.

1.1 Overall risk rating

Overall risk rating: Based on the sum of the 13 attribute scores.		
Response categories	Score range	All RAs in study area (N=1,340)
Low	20-240	0%
Moderate	241-305	0.5%
High	306-435	14%
Very high	436-505	38%
Extreme	506-1000	48%

1.2 Access

Risk attribute: Address Posting (1% of total RA score) Does the address sign meet all local standards (Posted at the driveway, reflective, 4-inch numerals, contrasting background, and non-combustible)		
Response categories	Score	All RAs in study area (N=1,340)
Yes, fully meets standard	0	1%
Address sign is visible, but does not meet all standards	5	92%
No, not posted/visible from the primary road	10	8% ^a

a. Out of *All RAs in study area*, 2 were missing/unobserved (<1%) and included in the highest risk category.

Risk attribute: Ingress/Egress (1% of total RA score)		
If the road to access the home was blocked due to a wildfire, is there another road to get out of the community?		
Response categories	Score	All RAs in study area (N=1,340)
Yes, two or more roads in/out	0	21%
No, one road in/out	10	79% ^a

a. Out of *All RAs in study area*, 2 were missing/unobserved (<1%) and included in the highest risk category.

Risk attribute: Driveway clearance (1% of total RA score)		
Does the driveway meet the horizontal and vertical clearance standards: height at least 13.5' and width at least 20'?		
Response categories	Score	All RAs in study area (N=1,340)
Yes, meets all driveway standards	0	11%
Meets one, but not both , standards (height or width)	5	73%
Does not meet either standard (height and width)	10	16% ^a

a. Out of *All RAs in study area*, 12 were missing/unobserved (1%) and included in the highest risk category.

Risk attribute: Driveway length (1% of total RA score)		
What best describes the driveway? (“Adequate” refers to enough turnaround to accommodate a Type 3 engine)		
Response categories	Score	All RAs in study area (N=1,340)
Less than 150' long	0	94%
150' or more with “adequate” turnaround	5	2%
150' or more without “adequate” turnaround	10	4% ^a

a. Out of *All RAs in study area*, 22 were missing/unobserved (2%) and included in the highest risk category.

1.3 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	Score	All RAs in study area (N=1,340)
More than 150'	0	22%
50' – 150'	25	30%
Less than 50'	50	48% ^a

a. Out of *All RAs in study area*, 4 were missing/unobserved (<1%) 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 slope of the property within 150' of the home?		
Response categories	Score	All RAs in study area (N=1,340)
Gentle (less than 20%)	0	3%
Moderate (between 20% and 45%)	10	57%
Steep (greater than 45%)	20	40% ^a

a. Out of *All RAs in study area* 6 were missing/unobserved (<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 100' to 150' from the home? This may be outside the property boundary.		
Response categories	Score	All RAs in study area (N=1,340)
Light - Grasses	10	1%
Moderate - Light brush and/or isolated trees (e.g., grass with some ponderosa pine, scattered pinon juniper, or other conifer)	20	64%
Dense - Dense brush and/or dense trees (e.g., continuous ponderosa pine, dense aspen, and/or dense mixed conifer)	40	35% ^a

a. Out of *All RAs in study area*, 2 were missing/unobserved (<1%) and included in the highest risk category.

1.4 Defensible space

Risk attribute: Defensible Space (10% of total RA score)		
What is the closest distance from the home to overgrown, dense, or unmaintained vegetation?		
Response categories	Score	All RAs in study area (N=1,340)
More than 100'	0	0%
Between 30' - 100'	50	1%
Between 5' - 29'	75	2%
Less than 5'	100	97% ^a
a. Out of <i>All RAs in study area</i> , 42 were missing/unobserved (3%) and included in the highest risk category.		

Risk attribute: Other combustibles (8% of total RA score)		
What is the closest distance from the home to combustible items <i>other than vegetation</i> such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?		
Response categories	Score	All RAs in study area (N=1,340)
More than 30' or no combustible items	0	1%
5' – 30'	40	0%
Less than 5'	80	99% ^a
a. Out of <i>All RAs in study area</i> , 199 were missing/unobserved (15%) and included in the highest risk category.		

1.5 Home ignition potential

Risk attribute: Roof (30% of total RA score)		
What is the most vulnerable roofing material?		
Response categories	Score	All RAs in study area (N=1,340)
Non-combustible (tile, metal, or asphalt shingles)	0	98%
Combustible (wood shake shingles)	300	2% ^a
a. Out of <i>All RAs in study area</i> , 21 were missing/unobserved (2%) and included in the highest risk category.		

Risk attribute: Building Exterior (7% of total RA score)		
What is the most vulnerable exterior siding material?		
Response categories	Score	All RAs in study area (N=1,340)
Stucco, cement, brick, stone, or other noncombustible siding	0	16%
Log or heavy timbers	35	1%
Wood or vinyl siding	70	82% ^a

a. Out of *All RAs in study area*, 11 were missing/unobserved (1%) and included in the highest risk category.

Risk attribute: Combustible Attachments (10% of total RA score)		
Does the home have a combustible balcony, deck, porch, or fence attached to the structure?		
Response categories	Score	All RAs in study area (N=1,340)
No combustible attachments	0	2%
Combustible attachments present	100	98% ^a

a. Out of *All RAs in study area*, 199 were missing/unobserved (15%) and included in the highest risk category.

Risk attribute: Proximity to adjacent homes (20% of total RA score)		
What is the closest distance to a neighboring home?		
Response categories	Score	All RAs in study area (N=1,340)
More than 100'	0	14%
30' – 100'	50	49%
10' – 29'	100	16%
Less than 10'	200	21% ^a

a. Out of *All RAs in study area*, 7 were missing/unobserved (1%) and included in the highest risk category.

Appendix D: Comparison of WiRē Rapid Assessment and Household Survey

The Wildfire Research Center
WiRē



Genesee Fire Rescue Rapid Assessment Compared to Household Survey Responses

Genesee Fire Rescue conducted parcel-level rapid wildfire risk assessments and administered a household survey in 2021. The rapid assessment provides the professional's risk rating for each parcel, and the household survey provides, among other things, respondent's self-assessed risk for their own parcel. Pairing these data is the heart of the WiRē Approach because it allows us to analyze the risk gap between how professionals rate wildfire risk and how survey respondents (i.e., homeowners) perceive their risk.

We have 581 properties with a paired rapid assessment and household survey. We have an additional 759 properties with a rapid assessment only, for a total of 1,340 properties with a rapid assessment. Within this document, we present the following:

- 1) A comparison of the professional and self-assessed risk for the 581 properties with a paired rapid assessment and household survey (Section 1).
- 2) A three-way comparison of A) professional risk ratings for the 1,340 properties for which we have a rapid assessment, B) professional risk ratings for 581 properties for which we have paired rapid assessment and household survey, and C) the 581 household survey respondents' self-assessed risk ratings (Section 2).

Section 1 and Section 2 are organized by overall risk rating, followed by the attribute-level risk ratings, which are organized by categories of access, background conditions, defensible space, and home ignition potential.

**This project was funded by USDA Forest Service, Washington Office Fire and Aviation Management.*

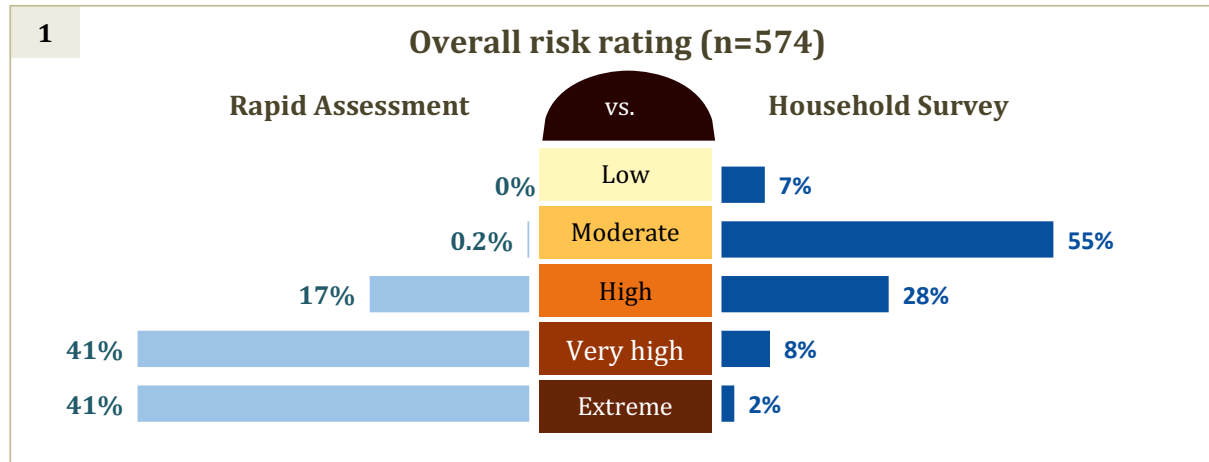
**All data received and processed as of January 31, 2022*

**Document prepared March 4, 2022*

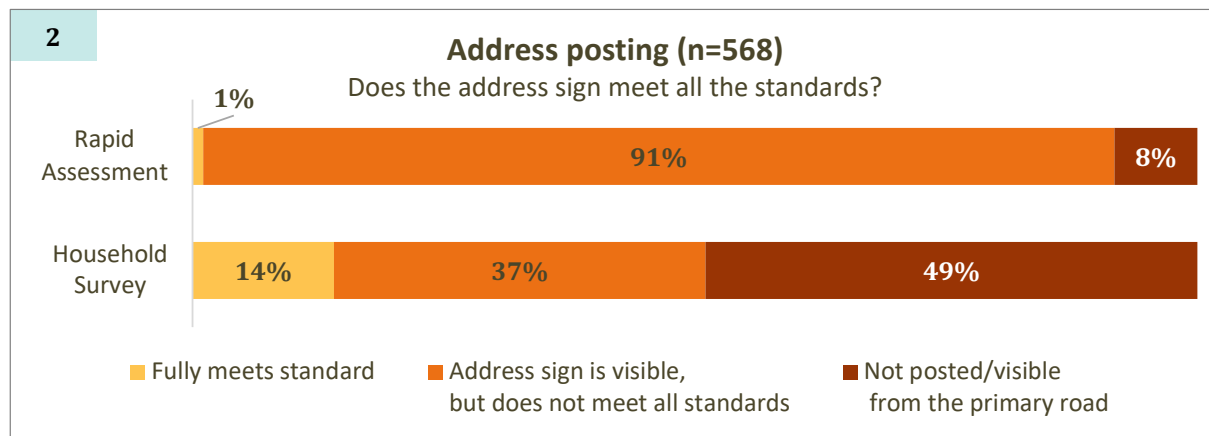
1. Comparison of paired WiRē Rapid Assessment vs. Household Survey

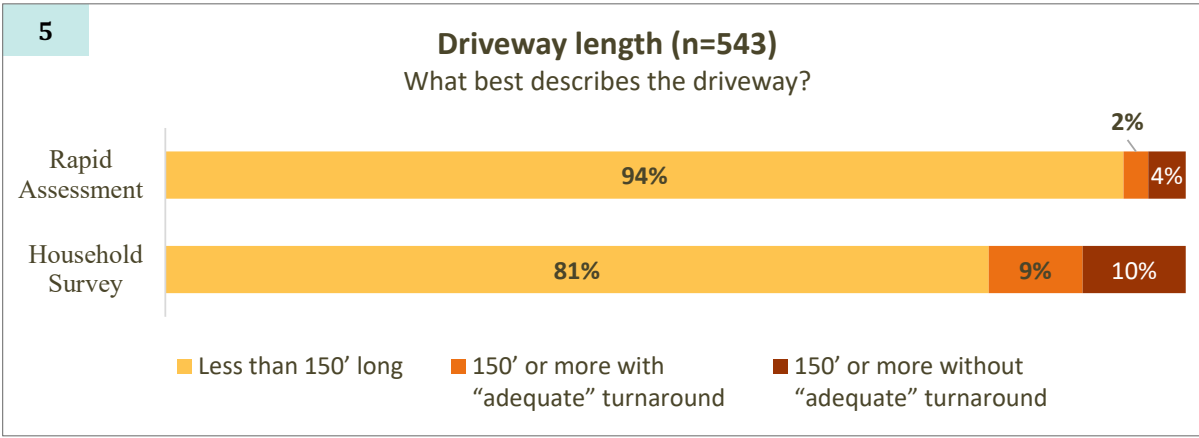
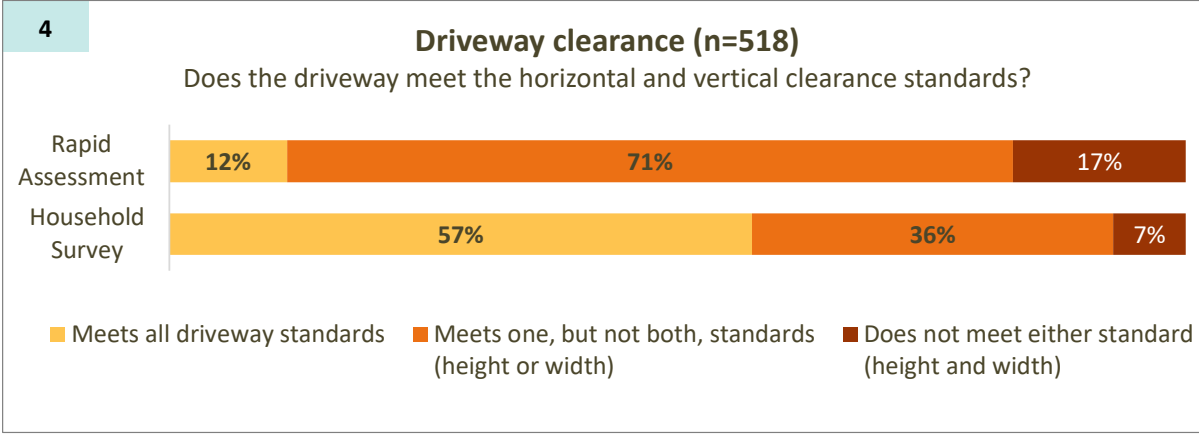
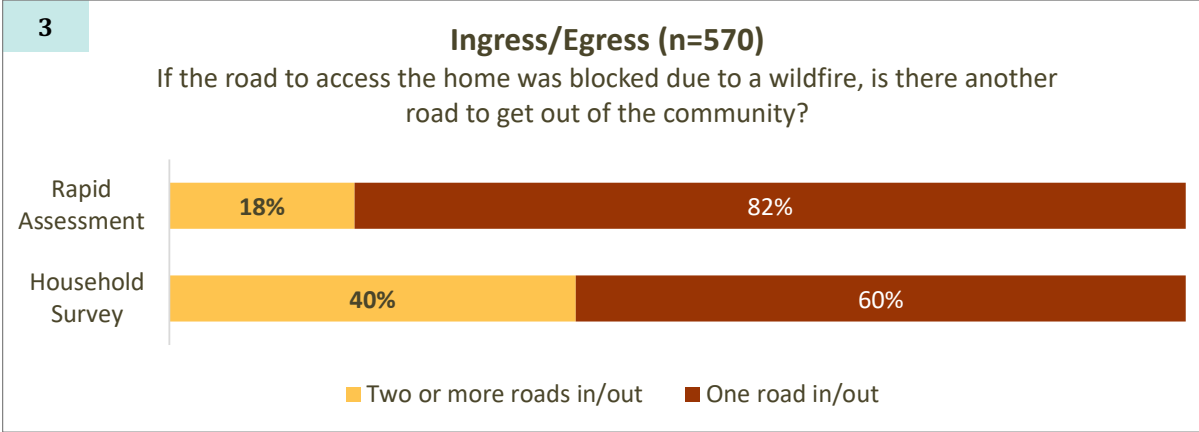
In this section, we compare professional risk ratings and household survey respondents' self-assessments for parcels' overall risk rating and the 13 risk attributes included in the rapid assessment. These comparisons are presented as graphs. For the overall risk rating, the professional risk ratings are on the left and the household survey respondent' self-assessment is on the right. For the remaining risk attributes, the first bar shows the professional risk rating, and the second bar presents the household survey respondents' self-assessment. For each individual risk attribute, our comparisons only include the data from parcels for which we have both rapid assessment and household survey data for that particular attribute, and thus the number of records (signified by "n=") varies by attribute and is reported for each.

1.1 Overall risk rating

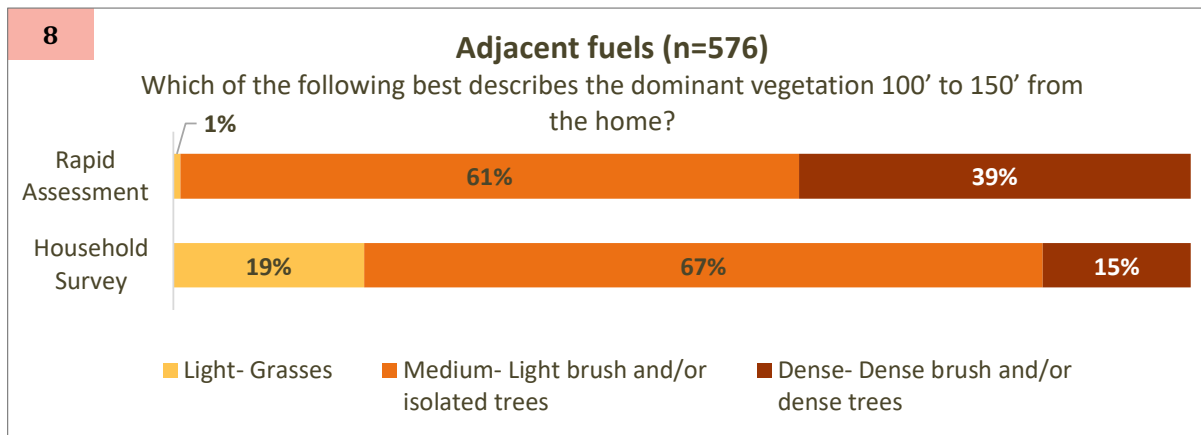
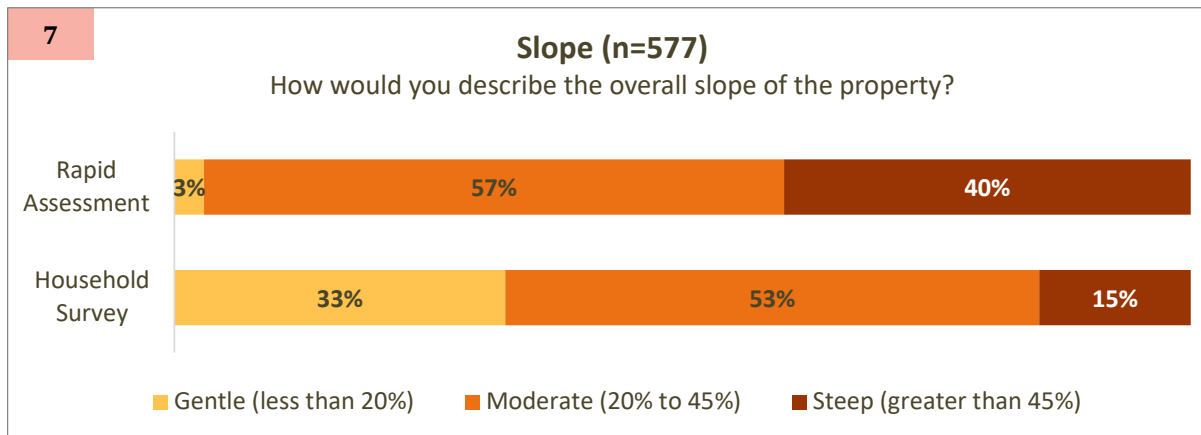
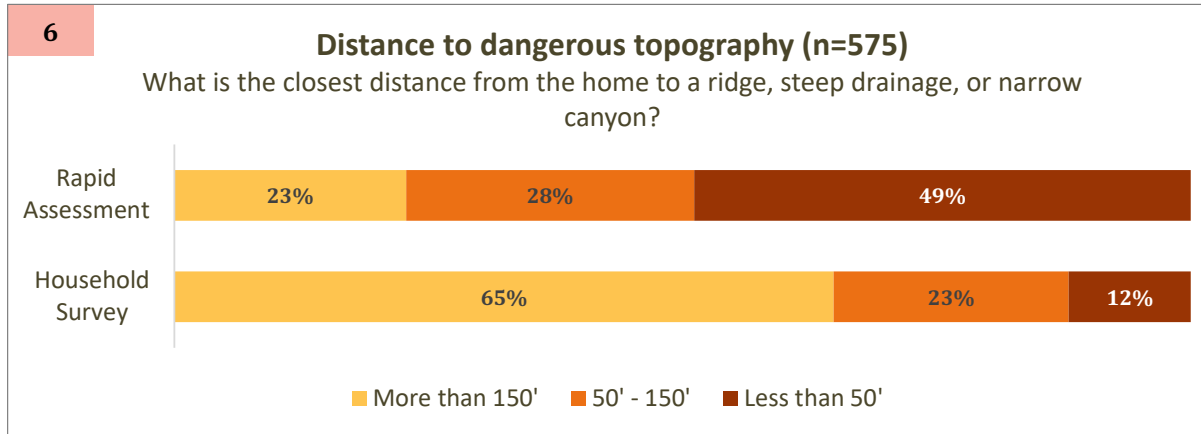


1.2 Access

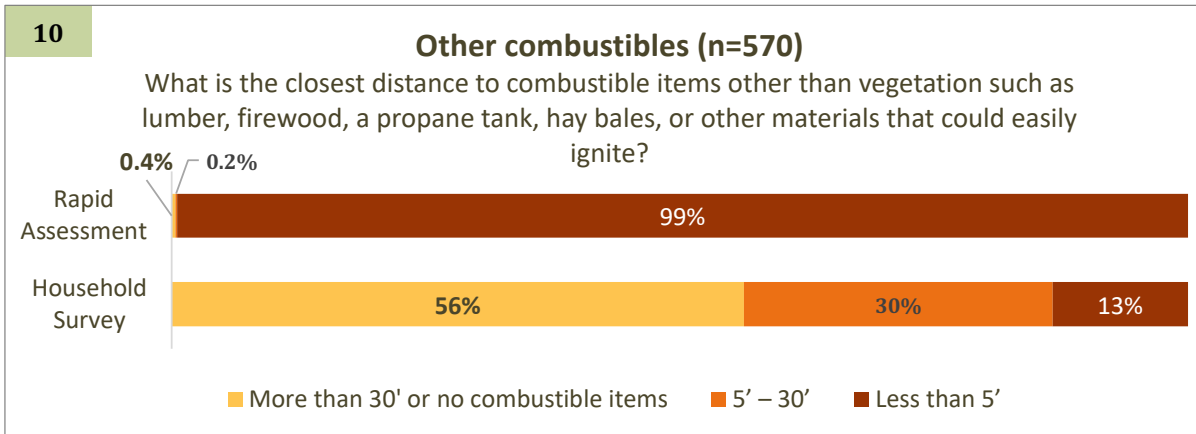
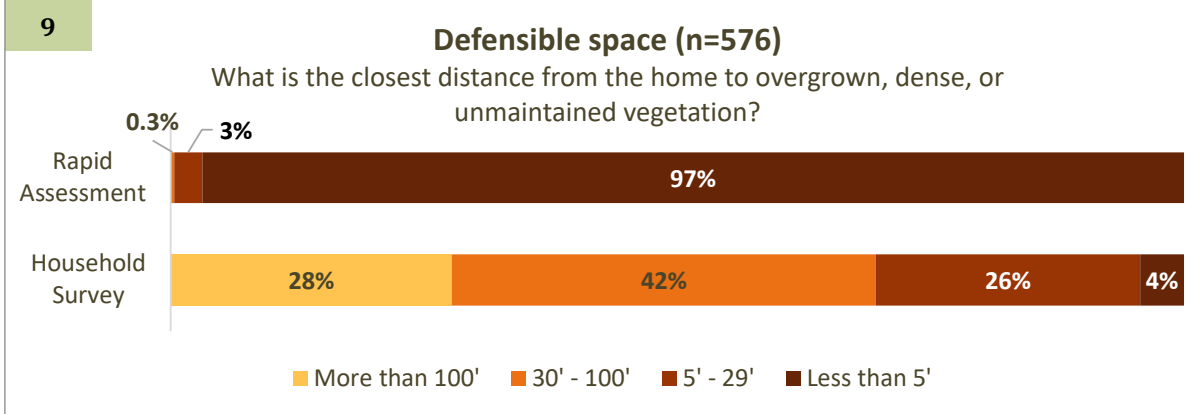




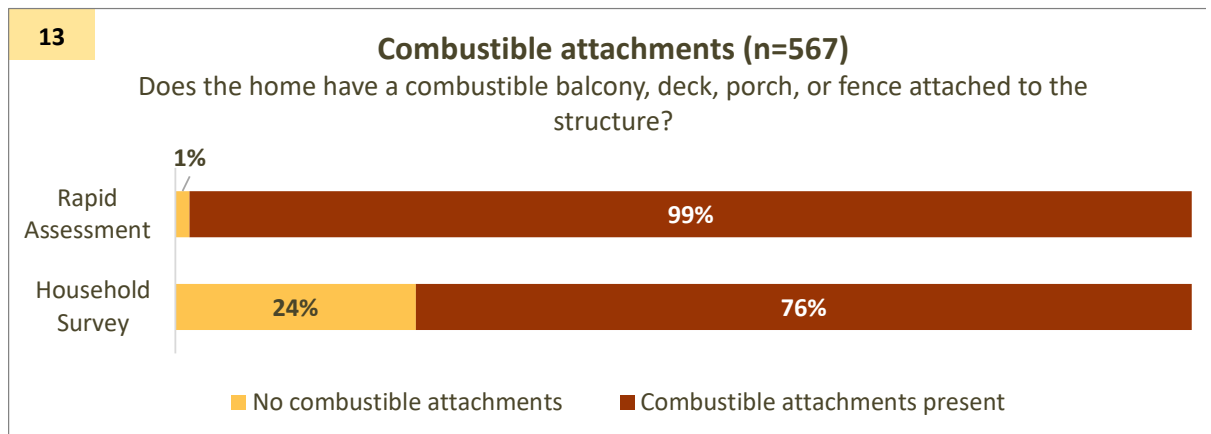
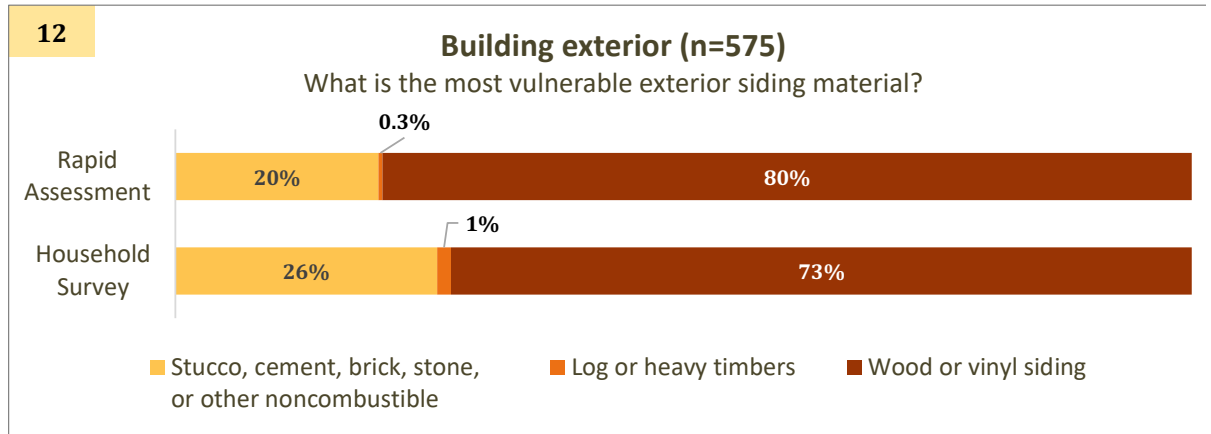
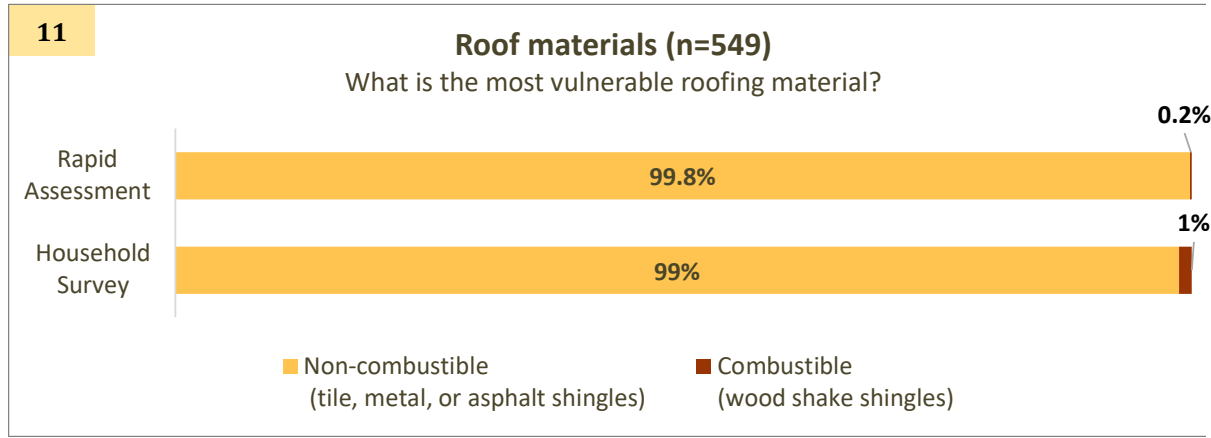
1.3 Background conditions



1.4 Defensible space



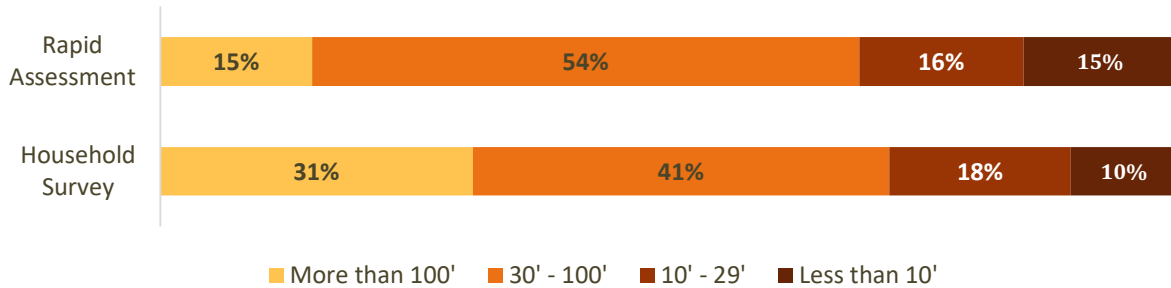
1.5 Home ignition potential



14

Proximity to adjacent homes (n=576)

What is the closest distance to a neighboring home?



2. Comparison of all Rapid Assessments vs. paired Rapid Assessment and Household Survey

In this section, we provide a three-way comparison of A) professional risk ratings for the 1,340 properties for which we have a rapid assessment, B) professional risk ratings for 581 properties for which we have paired rapid assessment and household survey, and C) the 581 household survey respondents' self-assessed risk ratings.

2.1 Overall risk rating

Overall risk rating:
Based on the sum of the 13 attribute scores. Homeowner's self-assessment response to: What do you think is your property's current overall wildfire risk rating?

Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=574)	Self-assessment from household surveys (N=574)
Low	0%	0%	7%
Moderate	0%	0%	55%
High	14%	17%	28%
Very high	38%	41%	8%
Extreme	48%	41%	2%

2.2 Access

Risk attribute: Address Posting			
Does the address sign meet all local standards (Posted at the driveway, reflective, 4-inch numerals, contrasting background, and non-combustible)			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=568)	Self-assessment from household surveys (N=568)
Fully meets standard	1%	1%	14%
Address sign is visible, but does not meet all standards	92%	91%	37%
Not posted/visible from the primary road	8% ^a	8% ^b	49%
a. Out of <i>all RAs in study area</i> , 2 were missing/unobserved (<1%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 1 was missing/unobserved (<1%) and included in the highest risk category.			

Risk attribute: Ingress/Egress			
If the road to access the home was blocked due to a wildfire, is there another road to get out of the community?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=570)	Self-assessment from household surveys (N=570)
Two or more roads in/out	21%	18%	40%
One road in/out	79% ^a	82% ^b	60%
a. Out of <i>all RAs in study area</i> , 2 were missing/unobserved (<1%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 1 was missing/unobserved (<1%) and included in the highest risk category.			

Risk attribute: Driveway clearance			
Does the driveway meet the horizontal and vertical clearance standards: at least 13.5' high and 20' wide?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=518)	Self-assessment from household surveys (N=518)
Meets all driveway standards	11%	12%	57%
Meets one, but not both , standards (height or width)	73%	71%	36%
Does not meet either standard (height and width)	16% ^a	17% ^b	7%
a. Out of <i>all RAs in study area</i> , 12 were missing/unobserved (<1%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 6 were missing/unobserved (1%) and included in the highest risk category.			

Risk attribute: Driveway length			
What best describes the driveway? (“Adequate” refers to enough turnaround to accommodate a Type 3 engine)			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=543)	Self-assessment from household surveys (N=543)
Less than 150’ long	94%	94%	81%
150’ or more with “adequate” turnaround	2%	2%	9%
150’ or more without “adequate” turnaround	4% ^a	4% ^b	10%

a. Out of *all RAs in study area*, 22 were missing/unobserved (2%) and 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.

2.3 Background conditions

Risk attribute: Distance to dangerous topography			
What is the closest distance from the home to a ridge, steep drainage, or narrow canyon?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=575)	Self-assessment from household surveys (N=575)
More than 150'	22%	23%	65%
50' - 150'	30%	28%	23%
Less than 50'	48% ^a	49% ^b	12%

a. Out of *all RAs in study area*, 4 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*, 3 were missing/unobserved (<1%) and included in the highest risk category.

Risk attribute: 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 slope of the property within 150' of the home?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=577)	Self-assessment from household surveys (N=577)
Gentle (less than 20%)	3%	3%	33%
Moderate (20% to 45%)	57%	57%	53%
Steep (greater than 45%)	40% ^a	40% ^b	15%
a. Out of <i>all RAs in study area 6</i> were missing/unobserved (<1%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 1 was missing/unobserved (<1%) and included in the highest risk category.			

Risk attribute: Adjacent Fuels			
Which of the following best describes the dominant vegetation 100' to 150' from the home? This may be outside the property boundary.			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=576)	Self-assessment from household surveys (N=576)
Light - Grasses	1%	1%	19%
Moderate - Light brush and/or isolated trees (e.g., grass with some ponderosa pine, scattered pinon juniper, or other conifer)	64%	61%	67%
Dense - Dense brush and/or dense trees (e.g., continuous ponderosa pine, dense aspen, and/or dense mixed conifer)	35% ^a	39% ^b	15%
a. Out of <i>all RAs in study area</i> , 2 were missing/unobserved (<1%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 0 were missing/unobserved (0%) and included in the highest risk category.			

2.4 Defensible space

Risk attribute: Defensible Space			
What is the closest distance from the home to overgrown, dense, or unmaintained vegetation?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=576)	Self-assessment from household surveys (N=576)
More than 100'	0%	0%	28%
30' - 100'	1%	<1%	42%
5' - 29'	2%	3%	26%
Less than 5'	97% ^a	97% ^b	4%
a. Out of <i>all RAs in study area</i> , 42 were missing/unobserved (3%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 18 were missing/unobserved (3%) and included in the highest risk category.			

Risk attribute: Other combustibles			
What is the closest distance from the home to combustible items <i>other than vegetation</i> such as lumber, firewood, a propane tank, hay bales, or other materials that could easily ignite?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=570)	Self-assessment from household surveys (N=570)
More than 30' or no combustible items	1%	<1%	56%
5' – 30'	0%	<1%	30%
Less than 5'	99% ^a	99% ^b	13%
a. Out of <i>all RAs in study area</i> , 199 were missing/unobserved (15%) and included in the highest risk category. b. Out of the <i>subset of RAs for parcels that returned a household survey</i> , 81 were missing/unobserved (14%) and included in the highest risk category.			

2.5 Home ignition potential

Risk attribute: Roof			
What is the most vulnerable roofing material?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=549)	Self-assessment from household surveys (N=549)
Non-combustible (tile, metal, or asphalt shingles)	97%	99.8%	99%
Combustible (wood shake shingles)	3% ^a	<1% ^b	1%
<p>a. Out of all RAs in study area, 21 were missing/unobserved (2%) and included in the highest risk category.</p> <p>b. Out of the subset of RAs for parcels that returned a household survey, 1 was missing/unobserved (<1%) and included in the highest risk category.</p>			

Risk attribute: Building Exterior			
What is the most vulnerable siding material?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=575)	Self-assessment from household surveys (N=575)
Stucco, cement, brick, stone, or other noncombustible	16%	20%	26%
Log or heavy timbers	1%	<1%	1%
Wood or vinyl siding	82% ^a	80% ^b	73%
<p>a. Out of all RAs in study area, 11 were missing/unobserved (1%) and included in the highest risk category.</p> <p>b. Out of the subset of RAs for parcels that returned a household survey, 4 were missing/unobserved (1%) and included in the highest risk category.</p>			

Risk attribute: Combustible Attachments (e.g., Balcony, Decking, Fencing)			
Does the home a combustible balcony, deck, porch, or fence attached to the structure?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=576)	Self-assessment from household surveys (N=576)
No combustible attachments	2%	1%	24%
Combustible attachments present	98% ^a	99% ^b	76%
<p>a. Out of all RAs in study area, 199 were missing/unobserved (15%) and included in the highest risk category.</p> <p>b. Out of the subset of RAs for parcels that returned a household survey, 95 were missing/unobserved (17%) and included in the highest risk category.</p>			

Risk attribute: Proximity to adjacent homes			
What is the closest distance to a neighboring home?			
Response categories	All RAs in study area (N=1,340)	Subset of RAs for parcels that returned a household survey (N=576)	Self-assessment from household surveys (N=576)
More than 100'	14%	15%	31%
30' – 100'	49%	54%	41%
10' – 29'	16%	16%	18%
Less than 10'	21% ^a	15% ^b	10%

a. Out of *all RAs in study area*, 7 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*, 3 were missing/unobserved (1%) and included in the highest risk category.

Appendix E: Genesee Household Survey Summary

Living with Wildfire in the Genesee Fire Protection District in 2021



GENESEE FIRE RESCUE

Entered survey responses: 584 n = number of observations

Response rate: 45%

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

** This project was funded by USDA Forest Service, Washington Office Fire and Aviation Management.*

**All data received and processed as of January 31, 2022*

**Document prepared February 4, 2022*

Section 1: In this first section of the survey, we ask about your home in Genesee Fire Protection District (FPD). Please answer the following questions with respect to your **Genesee FPD home**.

When choosing a response, please fill in the circle completely. Correct: ● Incorrect: ○ ⊗ ⊙

OWNRENT_a (n=581)

1.1. Do you own or rent your Genesee FPD home? (*Fill in one circle*)

- 96% Own: primary home
- 3% Own: secondary residence
- 1% Rent: I do not own this home

1.2. What months do you occupy your Genesee FPD home? (*Fill in all that apply*)

N=579	ALL_MONTHS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	NO_MONTHS
	All 12 months	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	No months
	91%	94%	94%	94%	94%	97%	97%	97%	97%	98%	96%	94%	95%	1%

FULLTIME (n=577)

1.3. In what year did you move to your Genesee FPD home? (*Fill in the blank*)

AVERAGE = 2006

YRBUILD (n=575)

1.4. In what year was your Genesee FPD home originally built? (*Fill in the blank*)

AVERAGE = 1985

RISKAWAR (n=582)

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

- 31% Very aware
- 49% Somewhat aware
- 18% Not aware
- 1% Don't remember

Section 2: In this section, we ask about your experience with, and preparation for, wildfire at your Genesee FPD home.

FIRE (n=582)

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

- 2% There has been a wildfire on my property
- 18% Less than 2 miles away but not on my property
- 34% 2 to 10 miles away
- 23% More than 10 miles away
- 23% Not sure

2.2. Has your Genesee FPD home ever had smoke or fire damage from a wildfire? *(Fill in one circle per row)*

		No	Yes
EVACUATED (n=578)	I have evacuated from my Genesee FPD home due to a wildfire or threat of a wildfire	97%	3%
SMOKEDAM (n=577)	My Genesee FPD home has had smoke damage	99%	1%
FIREM (n=577)	My Genesee FPD home has had wildfire damage	99%	1%
DESTROY (n=577)	My Genesee FPD home was destroyed by a wildfire	99%	1%

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

		No	Yes	Not applicable
EVACPPL (n=571)	For the people in my household	29%	71%	
EVACPETS (n=570)	For the pets in my household and on my property	19%	38%	43%
EVACLIVSTOC (n=567)	For livestock on my property	5%	0%	95%

2.4. Have you completed any of the following actions to prepare for a wildfire **evacuation** and do you want more information about how to complete any of the actions?
(Fill in two circles per row, one for each question)

		Completed action?		Want more information about the action?	
		No	Yes	No	Yes
Identify how I will be notified about an evacuation	EVACACT1 (n=536)	29%	71%	EVACINFO1 (n=365)	33% 67%
Sign up for a wildfire evacuation notification system (CodeRED)	EVACACT2 (n=538)	27%	73%	EVACINFO2 (n=341)	46% 54%
Identify safe evacuation routes	EVACACT3 (n=542)	22%	78%	EVACINFO3 (n=352)	42% 58%
Identify a location that my household will evacuate to	EVACACT4 (n=555)	42%	58%	EVACINFO4 (n=328)	53% 47%
Identify what to take and what to leave behind during an evacuation	EVACACT5 (n=549)	36%	64%	EVACINFO5 (n=337)	46% 54%
Discuss evacuation with my neighbors	EVACACT6 (n=553)	79%	21%	EVACINFO6 (n=327)	53% 47%
Create a checklist for steps to take before evacuating	EVACACT7 (n=550)	75%	25%	EVACINFO7 (n=348)	33% 67%
Identify a place to stay during a long-term evacuation (i.e., more than a few days)	EVACACT8 (n=556)	40%	60%	EVACINFO8 (n=320)	62% 38%
Pack a “go” bag with important items you would need during an evacuation (see https://simplebooklet.com/emergencygobag)	EVACACT9 (n=553)	77%	23%	EVACINFO9 (n=334)	40% 60%

2.5. Please tell us about your experiences with your **homeowners insurance** for your Genesee FPD home. *(Fill in one circle per row)*

		No	Yes	DK
INSURE2 (n=577)	Has your current or a previous insurance company ever provided information on reducing the risk of wildfire?	49%	38%	14%
INSURE3 (n=577)	Did an insurance company ever refuse to provide or renew your insurance because of the risk of wildfire?	83%	16%	2%
INSURE4 (n=576)	Do you pay a higher premium for your insurance due to wildfire risk?	25%	32%	43%
INSURE10 (n=575)	Do you receive a discount on your insurance premium because you have reduced wildfire risk on your property?	58%	15%	27%
INSURE12 (n=576)	Do you think your home is adequately insured against loss from a wildfire?	8%	71%	21%
INSURE13 (n=577)	Has your current insurance company ever required you to take action to reduce wildfire risk in order to continue coverage?	85%	12%	3%
INSURE14(n=575)	Has your current insurance company offered private firefighting services?	83%	9%	8%

Section 3: In this section, we ask about the characteristics of your Genesee FPD home and the area near your Genesee FPD home.

3.1. Does your Genesee FPD home have any of the following roofing materials?
(Fill in all that apply)

		No	Yes
ROOFTYPE1 (n=552)	Tile, metal, or asphalt shingles	1%	99%
ROOFTYPE2 (n=552)	Wood (shake shingles)	99%	1%

3.2. Does your Genesee FPD home have any of the following exterior siding materials?
(Fill in all that apply)

		No	Yes
SIDETYPE1 (n=578)	Stucco, cement, brick, stone, or other noncombustible siding	61%	39%
SIDETYPE2 (n=578)	Log or heavy timbers	97%	3%
SIDETYPE3 (n=578)	Wood or vinyl siding	27%	73%

ATTACHCOMB (n=570)

3.3. Does your Genesee FPD home have a **combustible** balcony, deck, porch, or fence attached to the structure? (Fill in one circle)

24%	No
76%	Yes

COMBUST_A (n=573)

3.4. What is the **closest** distance from your Genesee FPD home 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)

56%	More than 30 feet or no combustible items
30%	5 – 30 feet
13%	Less than 5 feet

CLOSEVEG_A (n=579)

3.5. What is the **closest** distance from your Genesee FPD home to overgrown, dense, or unmaintained vegetation? (Fill in one circle)

28%	More than 100 feet
42%	30 – 100 feet
26%	5 – 29 feet
4%	Less than 5 feet

DOMVEG_A (n=579)

3.6. Which of the following best describes the **majority** of vegetation on your Genesee FPD property and those properties immediately surrounding you? That area might be outside your property boundary. *(Fill in one circle)*

- 19% Grasses
- 67% Light brush and/or isolated trees (ex. grass with some ponderosa pine, scattered pinon juniper, or other conifer)
- 15% Dense brush and/or dense trees (ex. continuous ponderosa pine, dense aspen, and/or dense mixed conifer)

CLOSEHOME (n=579)

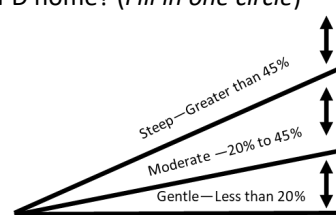
3.7. What is the **closest** distance from your Genesee FPD home to a neighboring home? *(Fill in one circle)*

- 31% More than 100 feet
- 41% 30 - 100 feet
- 18% 10 – 29 feet
- 10% Less than 10 feet

SLOPE (n=580)

3.8. The “slope” or “grade” of a property refers to the steepness of the land. How would you describe the slope within 150 feet of your Genesee FPD home? *(Fill in one circle)*

- 15% Steep – Greater than 45%
- 53% Moderate – 20% to 45%
- 32% Gentle – Less than 20%



RIDGE (n=578)

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

- 65% More than 150 feet
- 23% 50 – 150 feet
- 12% Less than 50 feet

3.10 Do any of the following describe your driveway? My driveway... (Fill in one circle per row)

		No	Yes
DRIVEWAYV (n=548)	has an overhead obstruction (ex. tree limbs) lower than 13.5 feet	90%	10%
DRIVEWAYW_B (n=549)	is narrower than 20 feet wide	58%	42%
DRIVEWAYL_A (n=551)	is longer than 150 feet	80%	20%
TURNARND_A (n=561)	has room for a fire truck to turn around	69%	31%

3.11 Do any of the following describe your address number? My address number... (Fill in one circle per row)

		No	Yes
HOMENUM (n=571)	is posted at the end of my driveway?	49%	51%
REFLECT_A (n=567)	is reflective?	63%	37%
HOMENUM4IN (n=571)	has 4-inch numerals?	10%	90%
HOMENUMCONTRAST (n=570)	is on a contrasting background?	17%	83%
HOMENUMCOMBUST (n=559)	is made of noncombustible materials?	30%	70%

ROADS (n=573)

3.12 If the road you use to access your Genesee FPD home was blocked due to a wildfire, is there another road you could use to get out of your community? (Fill in one circle)

60% No
40% Yes

RISKRATE (n=577)

3.13 Properties in your community 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 Genesee FPD property's current overall wildfire risk rating? (Fill in one circle)

7% Low risk
55% Moderate risk
28% High risk
8% Very high risk
2% Extreme risk

Section 4: In this section, we ask about wildfire risk reduction activities.

TALKFIRE (n=578)

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

32% No
68% Yes

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

		No	Yes
ACTIVITIES1 (n=574)	Reduced vegetation on my Genesee FPD property (ex. cleared/pruned weeds, brush, and trees)	10%	90%
ACTIVITIES7 (n=566)	Regularly cleared my roof and gutters of leaves and pine needles	12%	88%
ACTIVITIES8 (n=574)	Regularly mowed and raked around my Genesee FPD home	12%	88%
ACTIVITIES2 (n=570)	Made my Genesee FPD home more fire resistant (ex. replaced roofing, siding, added hardscaping)	42%	58%
ACTIVITIES3 (n=572)	Helped neighbor(s) reduce vegetation on their properties	77%	23%
ACTIVITIES4 (n=572)	Helped reduce vegetation on community property (ex. HOA, subdivision)	72%	28%
ACTIVITIES5 (n=573)	Helped reduce vegetation on nearby public lands (ex. county, state, federal lands)	93%	7%
ACTIVITIES6 (n=574)	Participated in a community wildfire preparedness activity (ex. meeting, chipper day, etc.)	59%	41%
ACTIVITIES9 (n=573)	Met with a wildfire professional at your home to evaluate and discuss your property's wildfire risk	65%	35%

4.3. How much do you think each of the following factors contributes to the chances of a wildfire damaging your Genesee FPD property **in the next 12 months?**
(Fill in one circle per row)

		A lot	Somewhat	Not at all
CONTRIB1 (n=571)	Vegetation on my property	22%	61%	17%
CONTRIB2 (n=568)	Physical characteristics of my house or other buildings (ex. roofing or siding) on my property	25%	51%	23%
CONTRIB3 (n=574)	Vegetation on my neighbors' properties	23%	57%	20%
CONTRIB4 (n=570)	Vegetation on nearby public or large undeveloped land	36%	50%	14%
CONTRIB5 (n=566)	Lack of nearby water supply (ex. hydrant or cistern) for fire suppression	12%	26%	62%

NEIGHBORACT (n=568)

4.4. How many of your immediate neighbors do you think have taken action to reduce wildfire risk on their properties (ex. removing dense vegetation or switching to noncombustible siding) *(Fill in one circle)*

- 7% All my neighbors have taken action
- 27% Most of my neighbors have taken action
- 56% Some of my neighbors have taken action
- 10% None of my neighbors have taken action

4.5. 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
ACCEPT14 (n=574)	Removing trees and reducing other vegetation on HOA property surrounding communities to slow the spread of wildfire (ex. fuel breaks)	46%	29%	17%	5%	3%
ACCEPT1 (n=573)	Removing trees and reducing other vegetation (thinning/fuel breaks) on nearby public lands	47%	31%	14%	6%	2%
ACCEPT2 (n=563)	Burning piles of vegetation (slash piles) on nearby public lands	26%	23%	18%	15%	17%
ACCEPT3 (n=571)	Conducting a prescribed fire ignited by fire professionals on nearby public lands	23%	25%	25%	15%	12%
ACCEPT4 (n=568)	Managing a naturally ignited fire (lightning) on nearby public lands	39%	24%	20%	10%	7%
ACCEPT6 (n=568)	Adopting growth policies or land use regulations that limit new development in fire-prone areas in Genesee FPD	45%	31%	17%	4%	3%
ACCEPT7 (n=571)	Adopting building codes that require fire resistant materials for structures located in fire-prone areas in Genesee FPD	41%	33%	18%	6%	3%
ACCEPT8 (n=574)	Adopting development standards that require vegetation management (ex. removing or thinning trees and mowing grass) on lots located in fire-prone areas in Genesee FPD	35%	35%	20%	5%	5%
ACCEPT12 (n=567)	Temporarily shutting off the power grid during extreme fire risk days to avoid new wildfire ignitions	14%	21%	27%	17%	21%
ACCEPT9 (n=573)	Removing vegetation along roadways for safer evacuation	54%	31%	10%	3%	2%
ACCEPT13 (n=571)	Build a new road to provide an emergency evacuation route	41%	18%	18%	14%	10%

Section 5: In this section, we ask about your notions, expectations, and risk perceptions related to wildfire.

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

		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
STATE2 (n=565)	With proper technology, we can control most wildfires.	4%	29%	29%	30%	8%
STATE3 (n=563)	We should put out wildfires that threaten human life.	64%	33%	2%	0%	0%
STATE4a (n=566)	We should put out wildfires that threaten homes.	50%	42%	6%	1%	0%
STATE5 (n=563)	During a wildfire, saving homes should be a priority over saving forests.	36%	37%	20%	6%	1%
STATE6 (n=564)	Wildfires are a natural part of a healthy forest/ecosystem.	42%	46%	10%	2%	0%
STATE11 (n=565)	I live here for the trees and will not remove any of them to reduce wildfire risk.	2%	5%	17%	36%	40%
STATE13 (n=563)	Managing the wildfire danger is a government responsibility, not mine.	0%	2%	15%	45%	36%
STATE14 (n=568)	Homeowners' actions to reduce wildfire are not effective.	1%	3%	10%	51%	35%
STATE15 (n=568)	My property is at risk of wildfire.	18%	55%	17%	8%	1%
STATE17 (n=566)	My effort to reduce wildfire risk on my property is not effective because of the heavy vegetation on my neighbors' properties.	2%	12%	30%	44%	11%
STATE19 (n=565)	Local firefighters have sufficient resources to keep a wildfire from spreading.	1%	9%	37%	40%	13%
STATE20 (n=565)	Local firefighters have sufficient resources to protect threatened homes.	2%	14%	41%	32%	12%
STATE21 (n=565)	Firefighters should put their lives at risk to protect my home.	0%	3%	11%	39%	46%
STATE22 (n=561)	Wildfires threaten my community water supply.	7%	32%	42%	16%	3%
STATE24 (n=567)	I plan to move out of the area in the next 12 months because of wildfires.	0%	1%	5%	23%	71%
STATE25 (n=562)	Development in fire-prone areas of Genesee FPD increases the wildfire risk to my Genesee FPD property.	11%	32%	38%	14%	5%

5.2. If there is a wildfire on your Genesee FPD 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=572) I would put the fire out.	4%	8%	15%	29%	44%	0%
LACT2 (n=570) The fire department would save my home.	5%	31%	47%	14%	3%	0%
LACT3 (n=565) My home would have smoke damage.	15%	48%	28%	7%	1%	1%
LACT4 (n=567) My home would have some physical damage.	13%	42%	32%	12%	1%	0%
LACT5 (n=570) My home would be destroyed.	5%	16%	37%	32%	10%	0%
LACT6 (n=568) I would lose money due to the loss of business or income on my property.	6%	14%	10%	10%	24%	36%
LACT7 (n=572) My trees and landscape would burn.	19%	43%	26%	11%	1%	0%
LACT9 (n=568) My neighbors' homes would be damaged or destroyed.	8%	31%	36%	20%	3%	1%
LACT12 (n=568) Direct flame would ignite my home.	9%	26%	32%	24%	9%	0%
LACT13 (n=571) Embers would ignite my home.	9%	29%	33%	24%	6%	0%
LACT14 (n=571) Nearby homes would ignite my home.	6%	22%	33%	24%	14%	0%

CHANCES1 (n=572)

5.3. What do you think is the chance that a wildfire will be on your Genesee FPD property **in the next 12 months?** *(Fill in one circle)*

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
0%	0%	1%	1%	1%	13%	4%	14%	23%	40%	3%

CHANCES2 (n=568)

5.4. If there is a wildfire on your property **in the next 12 months**, what do you think is the chance that it will destroy or severely damage your Genesee FPD home? *(Fill in one circle)*

For sure										No chance
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
3%	6%	6%	9%	6%	20%	9%	14%	14%	14%	1%

Section 6: In this section, we ask where you get information about wildfire, how useful the information is, how you receive information, and how you would like to receive information.

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

		Received information from source	Usefulness of information among respondents who received information from the source (sums to ~100%)					
			Extremely useful	Very useful	Moderately useful	Slightly useful	Not at all useful	
Genesee Fire Rescue	SOURCEREC1 (n=558)	88%	SOURCEUSE1 (n=490)	29%	43%	22%	4%	1%
Community group (ex. homeowners association)	SOURCEREC2 (n=554)	82%	SOURCEUSE2 (n=456)	20%	34%	33%	10%	3%
Local arborist/contractor	SOURCEREC28 (n=556)	37%	SOURCEUSE28 (n=206)	17%	35%	24%	15%	9%
Firewise USA®	SOURCEREC5 (n=548)	29%	SOURCEUSE5 (n=159)	20%	38%	30%	9%	3%
Ready, Set, Go! program	SOURCEREC24 (n=547)	17%	SOURCEUSE24 (n=93)	13%	41%	26%	13%	8%
Denver Mountain Parks	SOURCEREC35 (n=551)	9%	SOURCEUSE35 (n=52)	8%	23%	29%	21%	19%
Jefferson County Open Space	SOURCEREC36 (n=549)	30%	SOURCEUSE36 (n=165)	7%	27%	35%	22%	8%
Colorado State Forest Service	SOURCEREC6 (n=550)	24%	SOURCEUSE6 (n=134)	10%	32%	34%	19%	5%
USDA Forest Service	SOURCEREC14 (n=548)	14%	SOURCEUSE14 (n=76)	8%	24%	39%	17%	12%
National Park Service	SOURCEREC34 (n=546)	10%	SOURCEUSE34 (n=55)	7%	18%	36%	20%	18%
Bureau of Land Management	SOURCEREC15 (n=547)	7%	SOURCEUSE15 (n=40)	8%	25%	23%	20%	25%
Media (newspaper, TV, radio, internet)	SOURCEREC4 (n=551)	63%	SOURCEUSE4 (n=348)	3%	14%	41%	34%	8%

6.2. How do you currently receive information about wildfire risk reduction and how would you prefer to receive information? Please answer **both** questions for each row.
 (Fill in two circles per row, one for each question)

		I receive information about how to reduce wildfire risk on my property by...		I prefer to receive information about how to reduce wildfire risk by...	
		No	Yes	No	Yes
Email/e-newsletter	RECEIVEINFO1 (n=541)	34%	66%	WANTINFO1 (n=521)	14% 86%
Mailed newsletter	RECEIVEINFO2 (n=544)	30%	70%	WANTINFO2 (n=523)	28% 72%
Community meetings	RECEIVEINFO3 (n=536)	48%	52%	WANTINFO3 (n=517)	38% 62%
In-person interactions	RECEIVEINFO4 (n=532)	58%	42%	WANTINFO4 (n=511)	26% 74%
Social media (Facebook, Twitter, Nextdoor)	RECEIVEINFO5 (n=541)	82%	18%	WANTINFO5 (n=507)	81% 19%
Internet (non-social media)	RECEIVEINFO6 (n=538)	58%	42%	WANTINFO6 (n=516)	46% 54%
TV news	RECEIVEINFO7 (n=541)	52%	48%	WANTINFO7 (n=513)	56% 44%
Newspaper	RECEIVEINFO8 (n=539)	79%	21%	WANTINFO8 (n=515)	79% 21%
Radio	RECEIVEINFO9 (n=540)	83%	17%	WANTINFO9 (n=515)	78% 22%

Section 7: In this section, we would like to know why you do or do not take action to reduce the risk of wildfire to your Genesee FPD property.

7.1. Do any of the following **prevent you** from taking action to reduce the wildfire risk on your Genesee FPD property (ex. cutting trees, changing roof/siding?)
(Fill in all circles that apply for each row)

	FACTOR1 (n=564)	FACTOR2 (n=564)	FACTOR3_a (n=564)	FACTORNO1 (n=564)
Personal resources	Financial cost 33%	Time to do the work 20%	Physical ability to do the work 27%	None of these 48%
Lack of specific information about...	FACTOR11 (n=555) The factors contributing to my property's wildfire risk 15%	FACTOR4 (n=555) How to reduce wildfire risk on my property 19%	FACTOR12 (n=555) Where to dispose of vegetation/slash 16%	FACTORNO2 (n=555) None of these 66%
Personal perspectives	FACTOR6 (n=560) I do not want to change the way my property looks 15%	FACTOR5_a (n=560) I do not think taking action would reduce my property's wildfire risk 13%	FACTOR13 (n=560) It's a low priority to me 8%	FACTORNO3 (n=560) None of these 68%
Community	FACTOR14 (n=555) Lack of options for disposing vegetation/slash 13%	FACTOR9_a (n=555) Restrictions on the changes I can make to my property 28%	FACTOR15 (n=555) Social pressure from neighbors 3%	FACTORNO4 (n=555) None of these 64%

7.2. Would any of the following encourage you to take action to reduce the wildfire risk on you Genesee FPD property? *(Fill in all that apply for each row)*

Resources	<p>INCENTV1 (n=558)</p> <p>Cost-share or financial assistance</p> <p>49%</p>	<p>INCENTV3 (n=558)</p> <p>Help doing the work</p> <p>40%</p>	<p>INCENTV4 (n=558)</p> <p>Recommended contractors</p> <p>37%</p>	<p>INCENTVNO1 (n=558)</p> <p>None of these</p> <p>31%</p>
	<p>INCENTV6 (n=555)</p> <p>A report describing my property's wildfire risk factors</p> <p>64%</p>	<p>INCENTV7 (n=555)</p> <p>Videos showing how to reduce risk on a property in my area</p> <p>26%</p>	<p>INCENTV8 (n=555)</p> <p>One-on-one visit with wildfire risk experts on my property</p> <p>57%</p>	<p>INCENTVNO2 (n=555)</p> <p>None of these</p> <p>21%</p>
Information	<p>INCENTV9 (n=554)</p> <p>Feedback on the work I've done to reduce my property's risk</p> <p>38%</p>	<p>INCENTV10 (n=554)</p> <p>Recognition for taking action</p> <p>10%</p>	<p>INCENTV11 (n=554)</p> <p>Neighborhood group that organizes wildfire risk-reduction activities</p> <p>36%</p>	<p>INCENTVNO3 (n=554)</p> <p>None of these</p> <p>43%</p>
Other				

Section 8: In this section, we ask about personal and household characteristics. Your name will never be connected to your answers in any way.

RISKTAKE1 (n=565)

8.1. In general, 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%	1%	7%	15%	15%	28%	9%	13%	6%	3%	1%	

AGE (n=561)

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

MEAN AGE: 65 years old

GENDER (n=554)

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

- 59% Male
- 41% Female
- 0% Other

EDUC (n=563)

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

- 0% Less than high school
- 1% High school graduate
- 6% Some college or technical school
- 1% Technical or trade school
- 31% College graduate
- 12% Some graduate work
- 49% Advanced degree (M.D., M.A., M.S., Ph.D., etc.)

EMPLOY (n=567)

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

- 34% Employed full time (including self-employed)
- 10% Employed part time (including self-employed)
- 2% Unemployed or do not work outside of the home
- 54% Retired

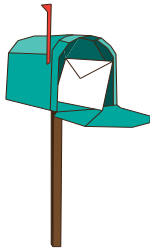
INCOME (n=483)

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

- 0% Less than \$15,000
- 1% \$15,000 - \$24,999
- 0% \$25,000 – \$34,999
- 2% \$35,000 - \$49,999
- 6% \$50,000 - \$74,999
- 13% \$75,000 - \$99,999
- 19% \$100,000 - \$149,999
- 20% \$150,000 - \$199,999
- 37% \$200,000 or more

Thank you for your help. Please use the space below to write any additional comments. Refer to the cover letter included in your mailing for contact information if you would like to schedule an onsite visit with a wildfire professional to learn how you can reduce risk on your property.

Appendix F: Infographic-Style Outreach Mailer



In 2021, we sent you a survey on wildfire risk.

Who responded?

Over 584 households in the Genesee Fire Protection District! The response rate was 45%, which is very high for this type of survey. Thank you so much for participating.

Who are we?

Genesee Fire Rescue (GFR) provides fire protection and emergency response services in the Genesee Fire Protection District (GFPD). We collaborated with the Wildfire Research Center to collect & analyze the data in this mailer.

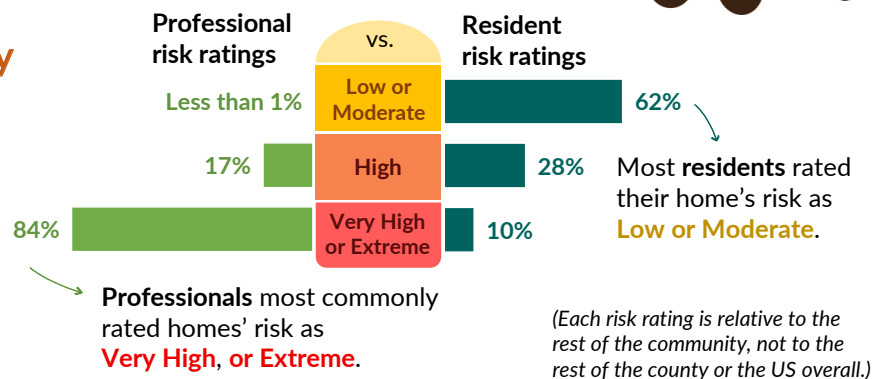


We also sent professionals to assess your wildfire risk.



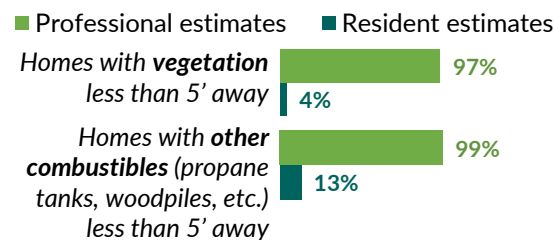
Your home's wildfire risk may be higher than you think.

Our data suggest that residents view wildfire risk differently than wildfire professionals.



Is your defensible space big enough? Start by looking at the vegetation and other combustibles within 5 feet of your home.

By professional estimate, most homes in the study area have less than 5 feet of defensible space.



How to reduce wildfire risk within 5 ft of your home:

- Clear pine needles & debris from roof, gutters, on/under deck, & foundation of home
- Keep weeds/grasses under 4 inches
- Remove tree branches overhanging the home
- Move firewood and propane tanks at least 30ft away from home
- Dispose of slash from tree & shrub thinning

Questions? Please contact us!
 ddalton@geneseefire.org or 303-526-1230
 Dorie Dalton, Genesee Fire Rescue
<https://geneseefpd.colorado.gov/>

Visit this website for a comprehensive list for the whole defensible space:
<https://csfs.colostate.edu/wildfire-mitigation/home-ignition-zone-checklists/>



We've made a lot of progress, but there's more work to be done.

What you can do:

 **Buy a reflective address sign**
 Reflective address signs help firefighters find your house in dark, smoky conditions. For more info & where to buy, visit: geneseefpd.colorado.gov/reflective-address-signs



 **Sign up for new emergency communication system**
 Sign up for our new emergency notification system, Lookout Alert (formerly CodeRed) for evacuation alerts. geneseefpd.colorado.gov/emergency-preparedness





 **Make an evacuation plan**
 Visit this website for resources on how to prepare your house to evacuate, what to pack, and communication tips: geneseefpd.colorado.gov/wildfire-evacuation-checklists



What we can do with you:

 **Schedule a Wildfire Prepared home visit**
 Sign up for a detailed, on-site wildfire risk assessment of your property: <https://www.wildfireprepared.com/>

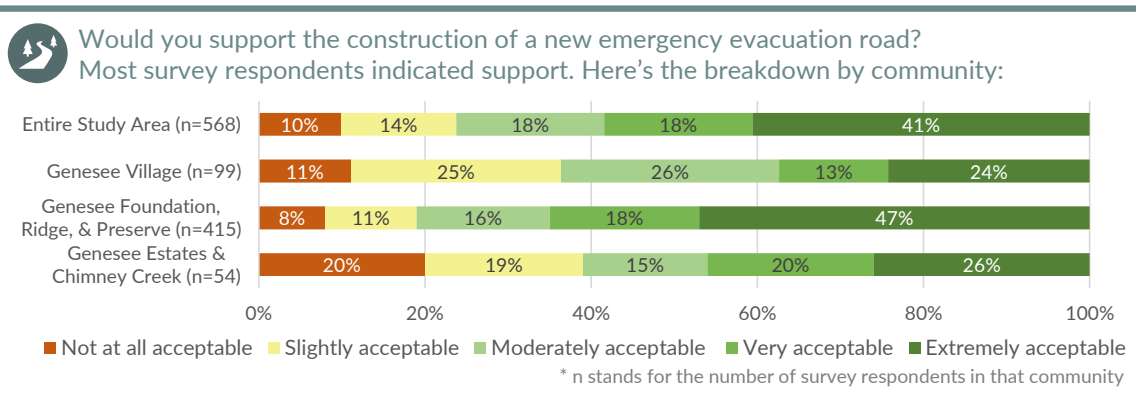
 **Join our community meeting, 6pm, April 14th via Zoom**
 Ask the Wildfire Research Center about the data we collected. The presentation will also be recorded. For the Zoom invite, visit geneseefpd.colorado.gov/wire



 **Participate in the GFR Slash Drop-Off on July 30**
 Remove vegetation around the home and bring it to us! On July 30, we'll provide free wood chipping services to anyone in the Genesee Fire Protection District.

 **Learn more about your risk**
 Visit our website to access your personal wildfire risk data. geneseefpd.colorado.gov/wire

What we might do in the future: Build an emergency road!



In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.htm and at any USDA office or write a letter addressed to USA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.



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