Rabun County Fire Protection District

Rabun County Georgia

2024

Community Wildfire Protection Plan

Rabun County
Fire Protection District
Community Wildfire Protection Plan
2024 Update

Prepared for Rabun County Fire Protection District

14 Emergency Drive

Clayton, Georgia 30525

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How to use this CWPP Document

This document is designed for everyone that lives, works, and manages land within and around the Rabun County Fire Protection District. Different sections will be most helpful to different people; please use this guide to direct you to the resources most relevant to you.

I want to learn the basics about wildfires, my local fire districts, and what a CWPP is.	**Look for:** •Section 1.a to learn about CWPPs •Section 2 to learn about wildfire threats in your local fire district •Section 3.a to learn what your next steps can be •Appendix A for an introduction to fire behavior
I'm a resident / homeowner and want to learn about protecting my family, home, and property from wildfires.	**Look for:** •Section 3.a to learn about the actions you can take, including detailed recommendations and research-backed guidance for protecting your home and family •Section 3.b to find detailed hazard ratings and recommendations for your neighborhood
I want to learn about community-led wildfire mitigation actions.	**Look for:** •Sections 3.b, 3.d, and 3.e to learn about the actions communities can take together to better protect everyone, including funding opportunities •Section 3.c to find detailed hazard ratings and recommendations for your neighborhood
I'm with a government agency or cross-boundary organization and want to learn about landscape-scale wildfire mitigation.	**Look for:** •Section 2.d and 2.e to learn about fire history and treatment history in the area •Section 4.b to learn about priority fuel treatment projects for this community •Sections 4.c and 4.d for general recommendations for stand-level and roadside fuel treatments •Section 4.d to learn about pros and cons of different slash management options
I want to learn about the science behind these recommendations and how priorities were made.	**Look for:** •Appendix B to learn about methodology for assessing fire behavior and evacuation, on-the-ground hazard assessments, and treatment prioritization

SAFESCAPES

Acronyms

RCFPD	Rabun County Fire Protection District
CR	County Road
GFC	Georgia Forestry Commission
CWDG	Community Wildfire Defense Grant
CWPP	Community Wildfire Protection Plan
DFPC	Division of Fire Prevention and Control
FAC	Fire Adapted Community
FEMA	Federal Emergency Management Agency
HIZ	Home Ignition Zone
HOA	Homeowner's Association
IIBHS	Insurance Institute for Business & Home Safety
IRPG	Incident Response Pocket Guide
ISO	Insurance Services Office
RCSO	Rabun County Sheriff's Office
NFPA	National Fire Protection Association
NWCG	National Wildfire Coordinating Group
RAWS	Remote Automatic Weather Stations
USFS	U.S. Forest Service
WUI	Wildland-Urban Interface

Refer to the **Glossary** on page 128 for definitions of the words and phrases used throughout this document.

1. Introduction

1.a. Purpose and Need for a Community Wildfire Protection Plan

Community Wildfire Protection Plans (CWPPs) help communities assess local hazards and identify strategic investments to mitigate risk and promote preparedness (Figure 1.a.1). Assessments and discussions during the planning process can assist fire protection districts with fire operations in the event of a wildfire and help residents prioritize mitigation actions. These plans also assist with funding gaps for fuel mitigation projects since many grants require an approved CWPP.

Figure 1.a.1. Elements of a holistic and actionable CWPP.

This Community Wildfire Protection Plan (CWPP) will address the mountain communities of Rabun County, Georgia, and will access the wildfire hazard areas within the communities.

This Community Wildfire Protection Plan, which is being created in 2024, will compliment the previous plan created in 2016 by the Georgia Forestry Commission, but will focus more directly on the individual communities within Rabun County and will provide a more comprehensive approach on the mitigation of communities within each of the 12 fire districts within the county.
The objectives of this project are:

- Identify the areas of high wildfire risk with each of the 12 fire districts within the county. These assessments will garner information from Rabun County Government leaders, fire officials within each of Rabun County Fire Districts, as well as vital information provided by dominant key landowners such as the United States Department of Agriculture Forest Service, Georgia Power Cooperation, State of Georgia Department of Natural Resources, Rabun County Emergency Management Agency, Rabun County Sheriff's Department as well as individual property owners throughout the county.

- Provide clear and concise information on how to mitigate the wildfire risk that has been identified throughout each fire district. The recommendations will also provide information on the resources available to carry out the mitigation practices outlined in the plan.

- Identify funding sources to help off-set costs associated with wildfire prevention and mitigation projects throughout Rabun County.

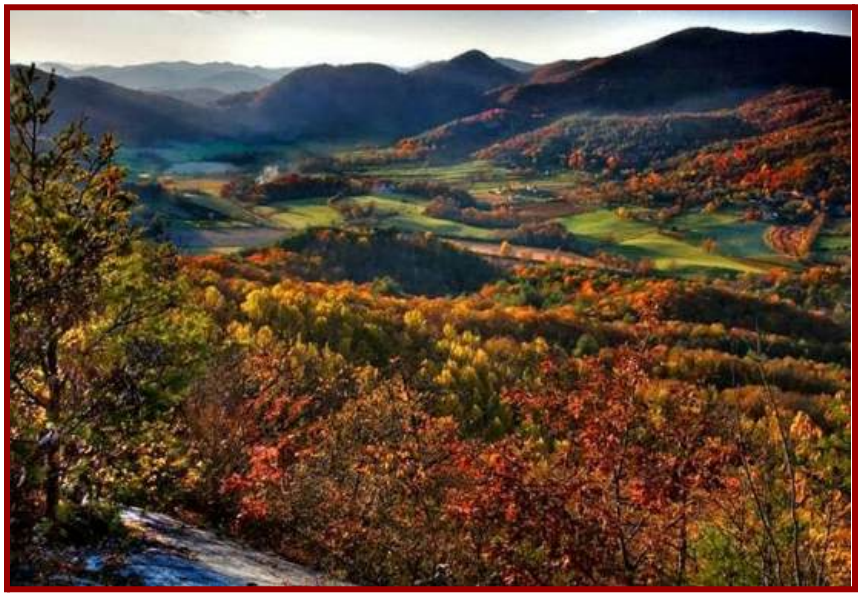
Complex interactions among wildland fuels, weather, and topography determine how wildfires behave and spread. Many aspects of wildfires are predictable based on known scientific research on the physical processes driving fire. Much of the work in this CWPP is based on scientific research and computer models of wildfire behavior. A basic understanding of fire behavior aids in interpreting the findings and recommendations reported herein. See **Appendix A. Introduction to Wildfire Behavior and Terminology** and the **Glossary** on page 128 for the definition of key terms.

Why is the CWPP relevant to me?

Becoming a fire adapted community that can safely coexist with wildland fire takes a concerted, ongoing effort by everyone who lives, owns property, protects, or manages land in and around this community. Conditions in Rabun County share some risk factors common to past catastrophic wildfires across the country. This CWPP provides recommendations for how to prepare your family to safely evacuate during a wildfire, how to mitigate your home ignition zone to give your house a fighting chance at surviving wildfires and protect the lives of firefighters engaged in protecting your community.

Work you do to reduce fire risk on your property can amplify the work that your neighbors do on theirs, resulting in greater protection for everyone. Removing trees from along roadways can increase the visibility of your property to firefighters, increase the accessibility of your property for fire engines, and reduce the chance that non-survivable conditions can develop and entrap residents and first responders during wildfires.

This CWPP is a call to action to do your part to continue making Rabun County a beautiful and safe community. Land management partners and Rabun County are here to support your individual efforts, and they are committed to taking action to reduce wildfire risk and increase emergency preparedness for the benefit of this amazing community.



Rabun County Mountains in the Fall

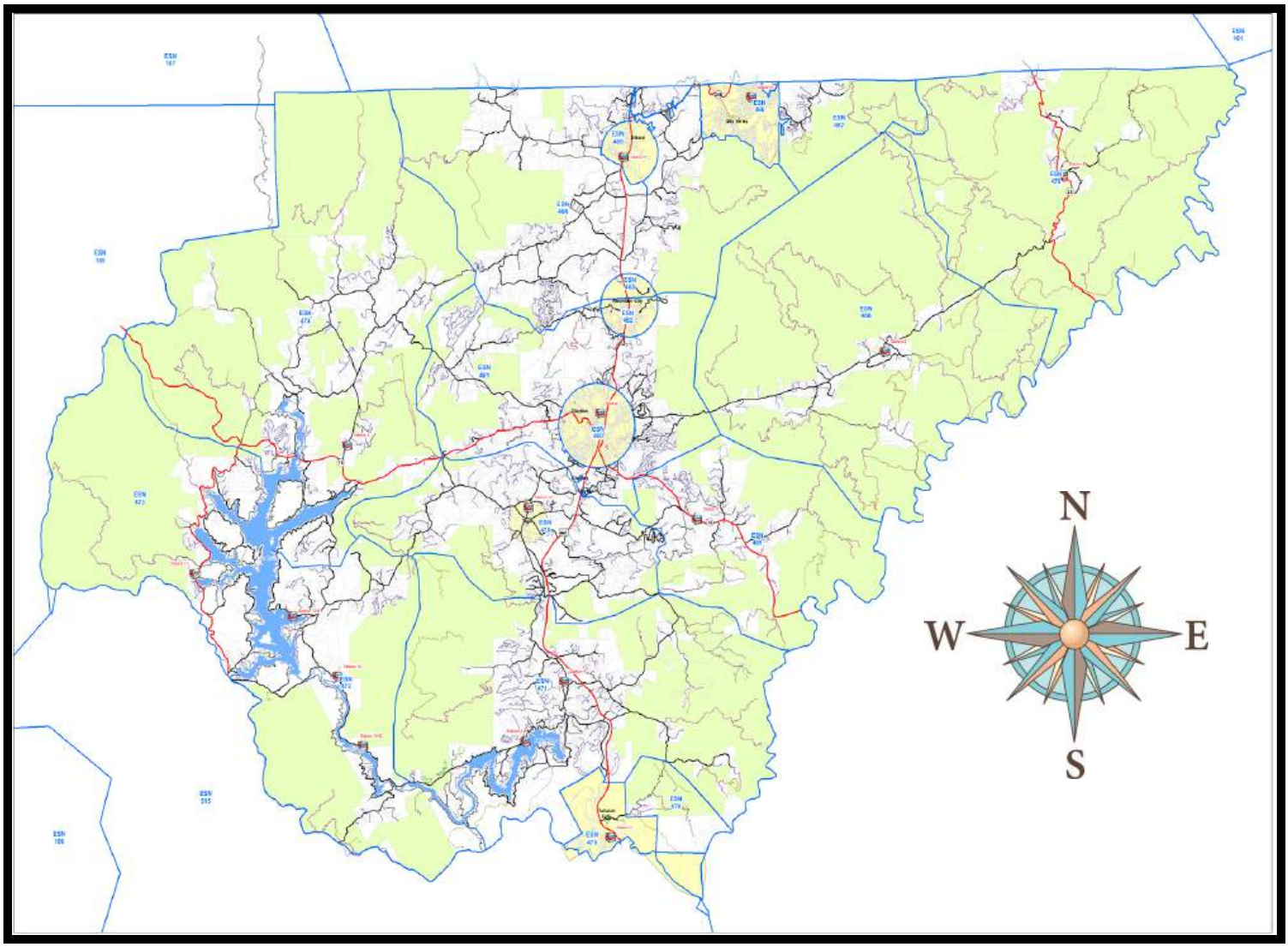


Figure 1.a.2. Boundary of Rabun County in Georgia.

Source: SafeScapes,LLC.

1.b. Community and Partner Engagement

Collaboration is an essential part of CWPPs. Community engagement, partner commitment, and follow through are what make CWPP successful. Representatives from Rabun County engaged partners from across the district and neighboring districts to develop the recommendations set forth in this CWPP.

The Core Team would like to thank the following partners for their time and effort in developing, providing data, providing feedback, and planning implementation projects for this CWPP:

- Rabun County Board of Commissioners
- Rabun County Fire Districts
- Rabun County Emergency Services
- Rabun County 911
- Rabun County GIS Mapping
- Rabun County Sheriff's Department
- Georgia Forestry Commission
- Georgia Department of Natural Resources
- Georgia Department of Transportation
- Georgia Power Company
- USDA Forest Service
- Rabun County Concerned Citizens

Initial meetings with each fire district were held to assess wildfire risk within their respective areas. This extensive assessment was followed by numerous onsite visits to gather hazard data, photograph risks and formulate methods of risk reduction.

A community wide meeting was held on July 2, 2024 to share information about the Community Wildfire Protection Plan (CWPP) process. Community risk assessment data within the 12 fire districts was also shared. All stakeholder groups were in attendance including County, State and Federal Officials and local property owners.

All stakeholders were represented at the Rabun County Community wide meeting on July 2, 2024 Photo Credit: SafeScapes

1.c. Accomplishments Since the Previous 2016 CWPP

Rabun County

- Rabun County has lowered its ISO rating from 5/5x to 4/4x
- Additional equipment has been purchased including three additional tanker trucks
- Four additional full time paid firefighters have been hired
- Wildfire Prevention/Fuel Mitigation Training for firefighters
- Several communities have completed fire mitigation projects and have earned Firewise recognition. The ten Firewise communities are:
    - Camp Rainey Mountain
    - City of Sky Valley
    - Denver York Lane Community
    - Dillard
    - Hampton Place
    - Lakemont Highlands
    - Screamer Mountain
    - Shades of Tiger
    - Town of Tiger
    - Tallulah Falls

Screamer Mountain receives Firewise recognition. Photo Credit: Georgia Forestry Commission

Georgia Forestry Commission

- Fuel reduction projects for private landowners with prescribed burns throughout Rabun County. These projects were at no cost to the property owners as many were funded by the Cross Boundary Wildfire Grant through the USDA Forest Service.
- Promotion of "fire safe" communities with the implementation of the Firewise Program throughout the county. Rabun County currently has ten certified Firewise USA Communities.
- Educational outreach throughout Rabun County, in conjunction with Rabun County Fire Department, Chestatee-Chattahoochee RC&D, and the USDA Forest Service.
    - Programs at every level of the Rabun County School System on Fire Prevention and Forest Fuel Mitigation
    - Fire Smart Days at local Fairs and Festivals
    - Educational Outreach at City Council and County Government meetings
    - Specialized training with local fire department members

- Wildland Fire Prevention/Education Teams have been deployed in Rabun County to facilitate community awareness and education in fire prevention, as well as the promotion of the Firewise Program to teach property owners the proper techniques of wildfire mitigation.

Georgia Forestry Commission provides information and community awareness at Firewise Day in Dillard, Georgia.
Photo Credit: Georgia Forestry Commission

Georgia Department of Natural Resources

- In conjunction with the USFS, Georgia DNR conducts prescribed burning on both state and federal land in Rabun County averaging 783 acres per year. This includes the following areas:
    - Tallulah Gorge State Park
    - Milksick Cove
    - Pool Creek
    - Lick Log
    - Deadin Timber

USDA Forest Service

- Prescribed burning on forest service lands throughout Rabun County to reduce excessive fuel accumulations.
- Ongoing educational programs to inform the public about the dangers of wildfire and the important methods of wildfire prevention.
- Promotion of the Firewise program throughout Rabun County to provide for safer communities and to reduce property damage because of wildfire.
- Promotion of the Cross Boundary Wildfire Mitigation Grant as a means of reducing fuel accumulations through prescribed burning on private lands within a set distance of forest service lands.

Prescribed burning on forest service lands throughout Rabun County to reduce excessive fuel accumulations. March 29. 2024: Chattahoochee National Forest; Pool Creek Road in Warwoman District. Photo credit: SafeScapes, LLC

Chestatee – Chattahoochee RC&D Council

- Creation of the Rabun County Wildfire Coalition to unify officials in a cohesive partnership to reduce wildfire risk.
- Implementation of fuel reduction projects throughout the county providing assistance in acquiring grant funding ensuring success project completion.
- Participation in Wildfire Awareness Days in Rabun County

Kimberly McCollum of Chestatee-Chattahooche RC&D hands out wildfire prevention information at Wildfire Awareness Day at Camp Rainey Mountain in Rabun County. Photo Source: Chestatee-Chattahooche RC&D

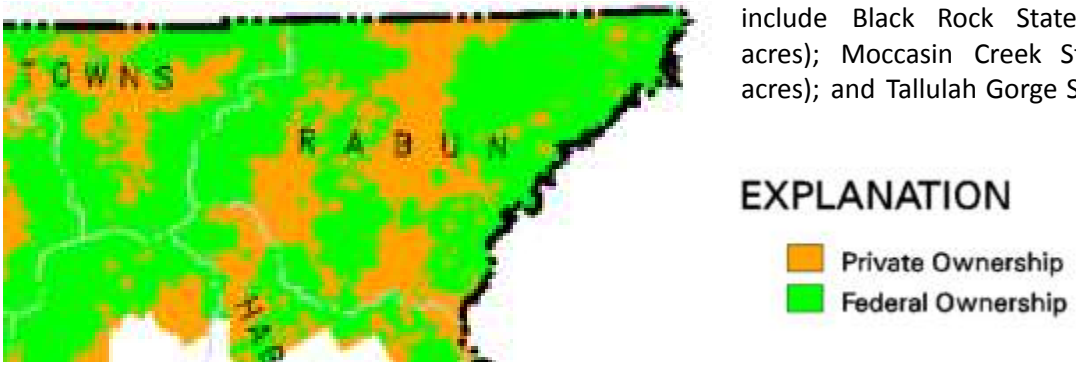
1.c. Integrations with Other Plans

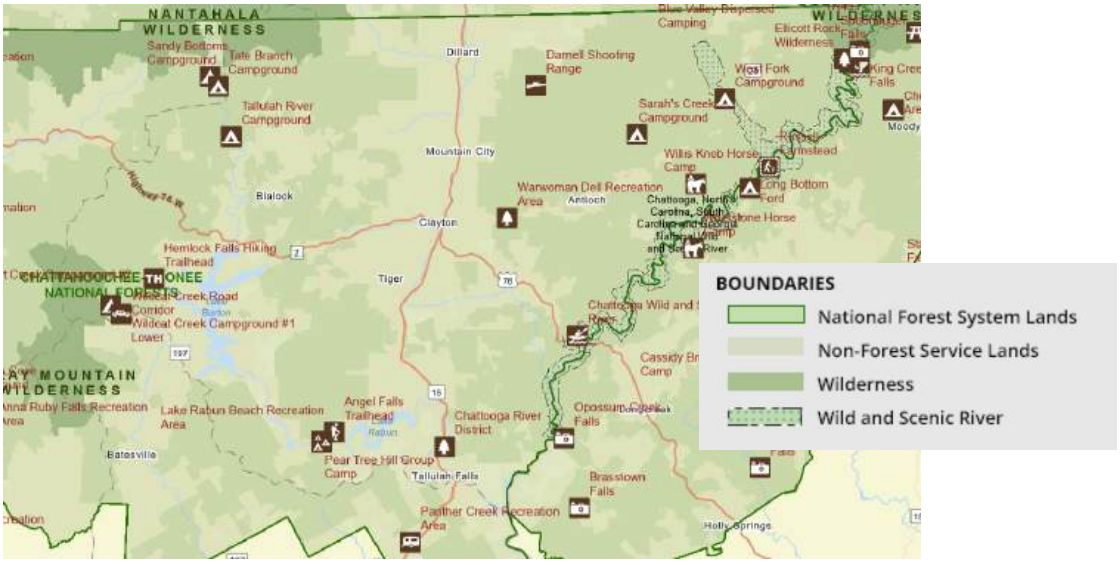
The Community Wildfire Protection Plan is a vital part of the Rabun County Hazard Mitigation Plan. Much of the terrain throughout Rabun County is forested and mountainous. Wildfire is very common in this region during dry periods, and the population within the wildland urban interface is numerous. The Community Wildfire Protection Plan has been an integral part of the Rabun County Hazard Mitigation Plan, which addresses the mitigation and hazard reduction for all natural and manmade disasters that could possibly occur in Rabun County.

2. Rabun County: Background

2.a. General Description

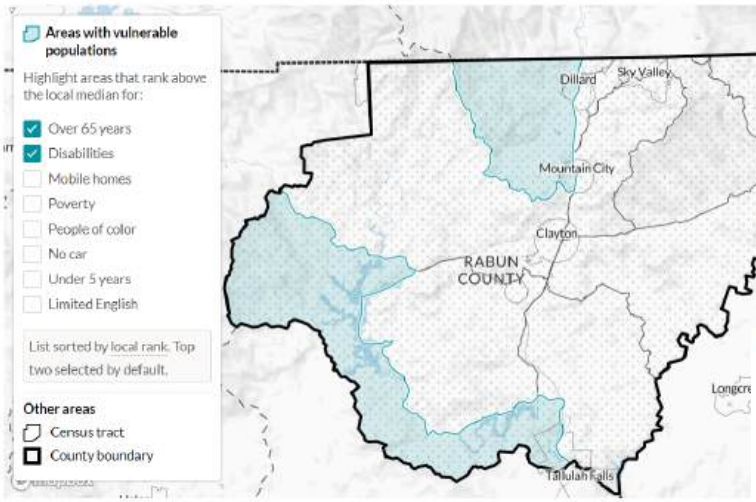
Rabun County, located in the northeastern most part of the U.S. state of Georgia covers a total area of 377 square miles (980 km²), which equates to 237,500 acres. Approximately two thirds of the land in Rabun County is publicly owned, and is under the care of the United States Forest Service (USFS), Georgia Department of Natural Resources and Georgia Power Company. This includes 148,684 acres of the Chattahoochee National Forest. (Figures 2.a.1). Additionally, the Warwoman Wildlife Management Area consists of 15,800 acres of USFS land that is managed by the Georgia Department of Natural Resources. State Parks in Rabun County include Black Rock State Park (1,743 acres); Moccasin Creek State Park (32 acres); and Tallulah Gorge State Park (473 acres).





Figures 2.a.1. *Publicly owned land across Rabun County.*
Sources: ***https://www.fs.usda.gov/ivm/***
https://en.wikipedia.org/wiki/Chattahoochee%E2%80%93Oconee_National_Forest#

In 2022, Rabun County, Georgia had a population of 17,206 people with a median age of 49.4 and a median household income of $57,261. Between 2021 and 2022 the population of Rabun County grew from 16,731 to 17,206, a 2.8% increase and its median household income grew from $48,652 to $57,261, a 17.7% increase. According to the website, *wildfirerisk.org*, around 8% of Rabun County families are living in poverty and 20.3% of the population are people with disabilities. People over the age of 65 account for 28% of the population, while just over 4% are under the age of 5. Nearly 13% of the residents live in mobile homes and 4.3% are households without a car (Figure 2.a.2). In 2022, the median property value in Rabun County, GA was $236,900, and the homeownership rate was 76.7%.



Map of Vulnerable populations in Rabun County, Georgia. Source: wildfire.org

Figure 2.a.2.

Vulnerable populations
All areas in Rabun County

Indicator	Number	Percent
Families in poverty	379 ±134	8.3% ±3%
People with disabilities	3,395 ±380	20.3% ±2.6%
People over 65 years	4,787 ±389	28.3% ±2.8%
People under 5 years	732 ±208	4.3% ±1.3%
People of color	2,020 ±1,379	11.9% ±8.2%
Black	237 ±109	1.4% ±0.7%
Native American	12 ±39	0.1% ±0.2%
Hispanic	1,350 ±305	8% ±1.9%
Difficulty with English	13 ±193	0.1% ±1.2%
Households with no car	302 ±116	4.3% ±1.7%
Mobile homes	895 ±204	12.7% ±5.6%

In 2022, there were nearly 26 times more White (Non-Hispanic) residents (14,900 people) in Rabun County, GA than any other race or ethnicity (over 88%). Other race/ethnicity groups are as follows: Multiracial/Hispanic (3.4%); Other/Hispanic(2.6%); Multiracial/Non-Hispanic (1.8%); White/Hispanic (1.6%); African American/Non-Hispanic (1.2%); and Asian/Non-Hispanic (1%). None of the households in Rabun County reported speaking a non-English language at home as their primary shared language. This does not consider the potential multilingual nature of households, but only the primary self-reported language spoken by all members of the household. However, According to the 2020 Wildfire Risk to Communities analysis by the U.S. Forest Service, 13 Rabun County households (0.1%) experience some difficulty with speaking English. Nearly 97% of the residents in Rabun County are U.S. citizens.

Interestingly, Rabun County holds the title of being the rainiest county in Georgia, with an average annual rainfall of over 70 inches. In 2018, it experienced the wettest year on record, with a staggering 116.48 inches of rain measured at the National Weather Service (NWS) cooperative observation station in northwest Rabun's Germany Valley. Even in 2020, the Germany Valley NWS station reported a yearly precipitation total of 100.19 inches.

The county's lush landscapes, abundant forests, and natural beauty make it a captivating place to explore. From the early explorers and settlers to the Cherokee people who once inhabited the region, Rabun County has a fascinating past. Notably, naturalist William Bartram was among the early visitors to this area, leaving behind a legacy of exploration and appreciation for its unique features.

Rabun County is filled with beautiful mountainous forest and is enjoyed not only by its full time residents, but by part-time residents and visitors alike. Short-term rentals are numerous, as well as summer homes that are inhabited by part time residents. These structures have little to no mitigation during the fall and winter months, and are located on remote mountain areas where access is a challenge. Once leaf fall occurs in the autumn, there is little to no defensible space within the home ignition zone. This fact is magnified by very small lot sizes that make an adequate defensible space nearly impossible in these mountain communities. Rabun County has become a very popular tourist destination because of its natural beauty and outdoor activities. Local outfitter groups that guide hikers and rafters are prominent throughout the region. Backwoods recreation on USDA Forest Service lands is very popular, so tourists and adventurers must also be addressed in this plan.

In addition to private property, critical infrastructures at risk must be considered in this plan. For the most part, the buildings considered to be critical infrastructure have sufficient defensible space and can be somewhat easier to protect. However, these structures must be taken into account, because they provide functions that are necessary for daily life. These structures include, but are not limited to, Rabun County Schools, medical facilities, nursing home facilities, fire departments, as well as law enforcement headquarters (Figures 2.a.3). Additionally there are six hydroelectric facilities and various communication towers.

Photo Courtesy John Heinen/Project 360 Media. Lake Burton and Rabun County

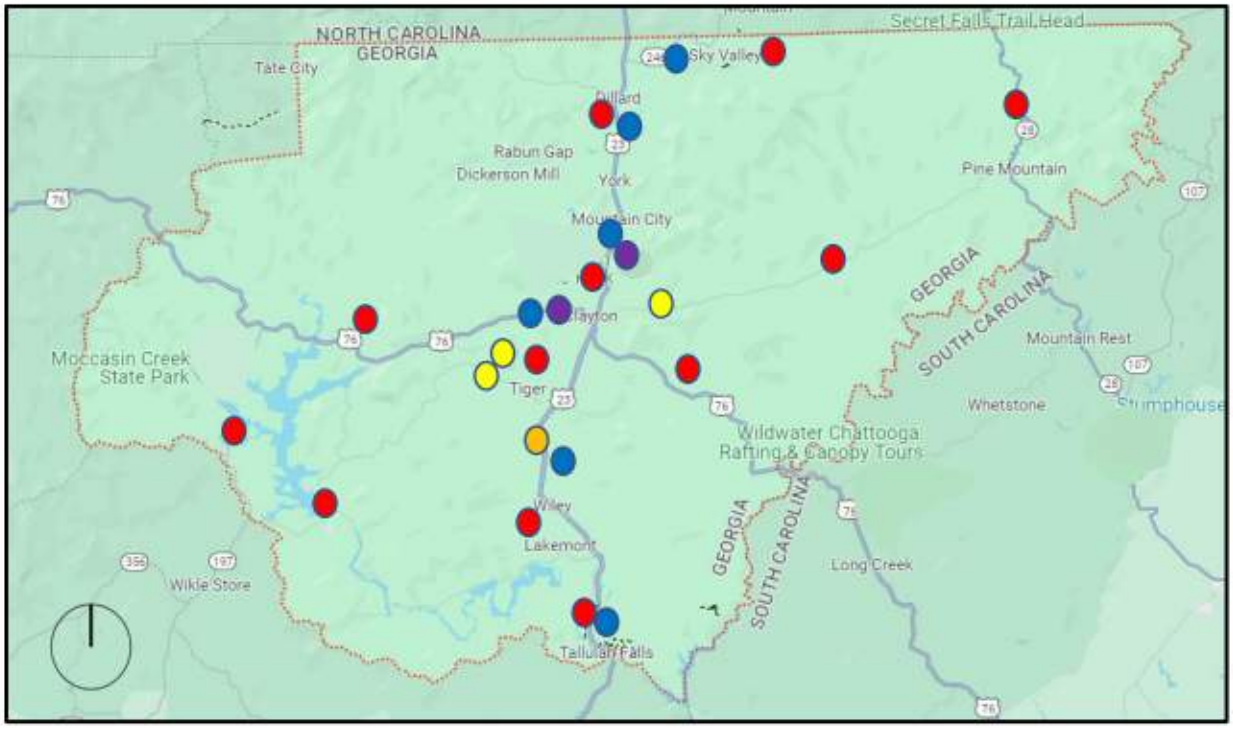


Figure 2.a.3. Map of Critical Infrastructure: Hospitals, Schools, Nursing Home Facilities, Fire Departments, Law Enforcement Headquarters Rabun County, Georgia. Source: SafeScapes,LLC

MAP LEGEND

Hospitals
- *Rabun County Hospital, 89 Oasis Road, Clayton, Georgia*
- *Mountain Lakes Medical Center, 169 Ridgecrest Circle, Clayton, Georgia 30525*

Schools:
- *Rabun County High School, 230 Wildcat Hill Drive, Tiger, Georgia 30576*
- *Rabun County Middle School, 95 Wildcat Pride Way, Tiger, Georgia 30576*
- *Rabun County Elementary School, 1115 Boggs Mountain Road, Tiger, Georgia 30576*
- *Rabun County Primary School, 801 E Boggs Mountain Road, Tiger, Georgia 30576*

Nursing Home Facilities
- *Mountain View Health Care Center*
- *Traces of Tiger Retirement*
- *Cannonwood Village*

Rabun County Fire Departments
- *Station 1 Clayton, 14 Emergency Drive, Clayton, Georgia 30525*
- *Station 2 Warwoman, 7870 Warwoman Road, Clayton, Georgia 30525*
- *Station 3 Tallulah Persimmon, 344 Persimmon Road, Clayton, Georgia 30525*
- *Station 4 Lakemont Wiley, 7974 Old 441 Highway, Lakemont, Georgia 30552*
- *Station 5 Valley, 29 Betty Creek Road, Dillard, Georgia 30537*
- *Station 6 Chechero, 7 Fire Station Circle, Clayton, Georgia 30525*
- *Station 7 Tallulah Falls, 255 Main Street, Tallulah Falls, Georgia 30573*
- *Station 8 Satolah, 2396 Highway 28, Clayton, Georgia 30525*
- *Station 9 Sky Valley, 1684 Saddleback Circle, Sky Valley, Georgia 30537*
- *Station 10 Lakes, 8767 Bridge Creek Road, Tiger, Georgia 30576*
- *Station 11, Wildcat, 5228 State Highway 197 North, Clarkesville, GA 30523*
- *Station 12 Tiger, 3010 Old 441 South, Tiger, Georgia 30576*

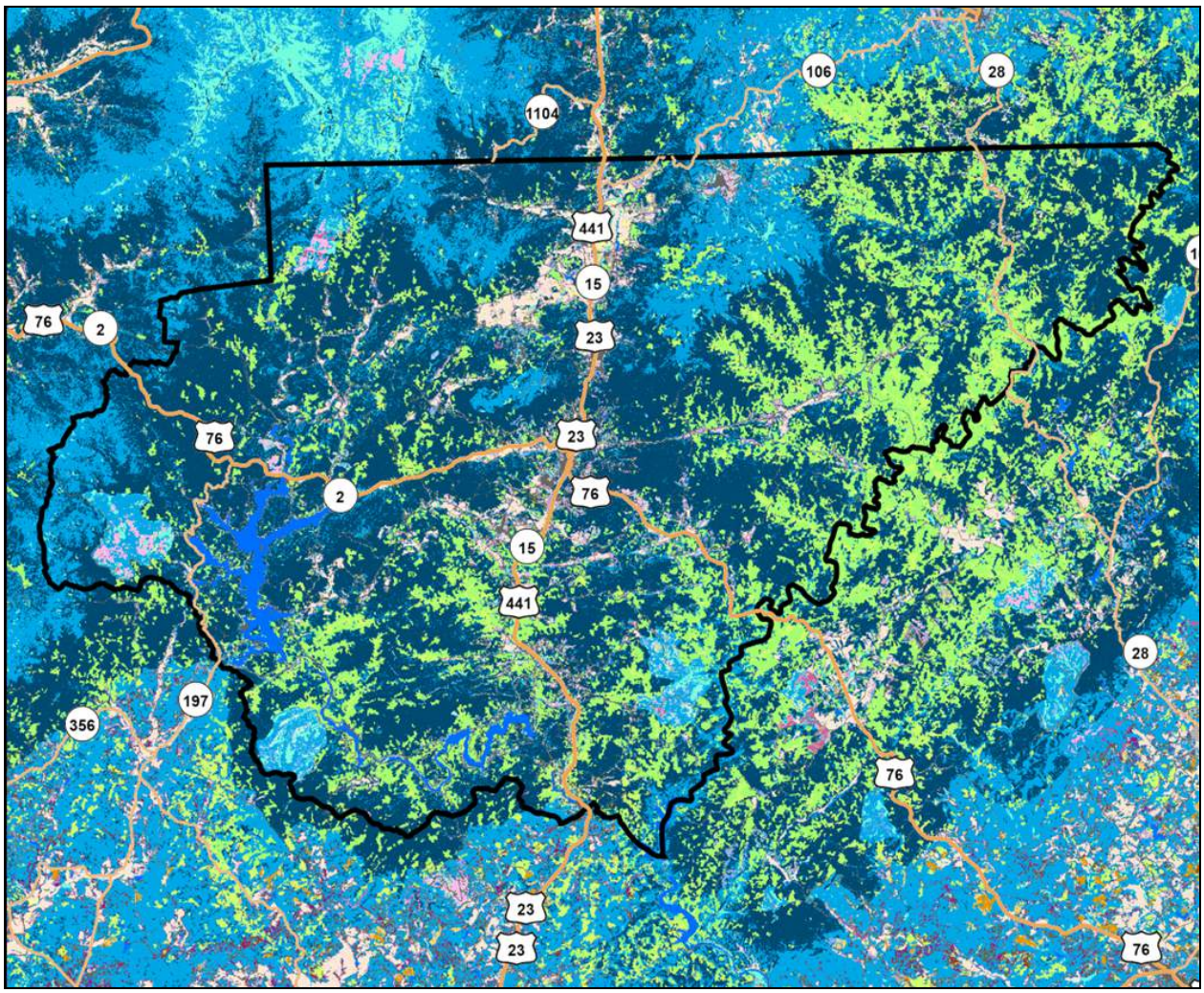
Law Enforcement Headquarters
- *Rabun County Sheriff's Office, 56 Boen Creek Road, Tiger, Georgia 30576*
- *Clayton Police Department, 837 Highway 76 W, Clayton, Georgia 30525*
- *Mountain City Police Department, 41 Education Street, Mountain City, Georgia 30562*
- *Dillard Police Department, 892 Franklin Street, Dillard, Georgia 30537*
- *Sky Valley Police Department, 3424 GA-246, Dillard, Georgia 30537*
- *Tallulah Falls Police Department, 255 Main Street, Tallulah Falls, Georgia 30573*

Mutual aid agreements exist with all adjoining county fire departments (Habersham County to the south, Towns County to the west, Macon County North Carolina to the north, Oconee County South Carolina to the east and Clay County North Carolina to the northwest). There is also mutual aid through the USDA Forest Service and the Georgia Forestry Commission. The Georgia Forestry Commission has the ability to provide firefighting resources from throughout the State of Georgia and the USDA Forest Service can provide firefighting resources from throughout the nation.

The Eastern Continental Divide runs through the county, roughly from southwest to northeast, also representing a portion of the Tennessee Valley Divide. The county's eastern border with South Carolina is formed by the Chattooga River, the largest tributary of the Tugaloo River and then Savannah River (which forms the rest of the border of the two states). The north-central portion of Rabun County is in the watershed of the Little Tennessee River, which flows northward from Mountain City. The high elevation along the divide gives Rabun County the most snow of any county in Georgia. This also gives it mild weather throughout the warmer months of the year, leading to the county's slogan, *Where Spring Spends the Summer*. Rabun County is the only county in Georgia with three state parks: Black Rock Mountain, Moccasin Creek, and Tallulah Gorge.

Calling Rabun County home is a wide variety of wild animal species: American black bears, coyotes, deer, bobcats, beavers, river otters, foxes, turkey, raccoons, opossums, weasels, squirrels, chipmunks, bats, salamanders, snakes, turtles, trout, and fireflies. Sky-high trees, shrubbery, vegetation, and blooming plants help make homes for the animal wildlife in Rabun County and really make the mountains and forests pop with color and life. Dominant forest type in Rabun County is Oak and Hickory, with a heavy population of white pine and hemlock. The hemlock and white pine have had heavy mortality from infestations of wooly adelgid in the hemlock and pine beetles in the white pine. This mortality has led to extreme heavy fuel accumulations of dead and dying timber throughout the forest in Rabun County. The excessive fuels once dried could pose a great threat to communities within the Wildland Urban Interface. Fuel reduction through prescribed burning and mastication will greatly reduce the risk. (**Figure 2.a.4**).

American Black Bear in Rabun County, Photograph by Terry Spivey, USDA Forest Service



121,427 acres (50% of area) Very high load; broadleaf litter; heavy needle-drape in otherwise sparse shrub layer; spread rate is moderate; flame length moderate

35,962 acres (15%) Moderate fuel bed moderate; litter load with grass and shrub; spread rate high; flame length moderate

35,888 acres (15%) Moderate load; less compact; spread rate moderate; flame length low

9,809 acres (4% of area) Dense pine stands with high loads

9,360 (4% of area) Urban or suburban development; insufficient wildland fuel to carry wildland fire; includes roads

Figure 2.a.4. *Map of vegetation across Rabun County. Rabun County is primarily Oak and Hickory forest with heavy concentrations of dead and dying white pine and hemlock, which is an indication of transition to a climax forest type.*

Source: southernwildfirerisk.com.

2.b. District Capacity

The Rabun County Fire Service is staffed with well qualified firefighters, who are well versed in the strategies of fighting wildfires in the Wildland Urban Interface. These men and women work closely with state and federal partners to protect the citizens and the natural resources of Rabun County.

There are 12 Volunteer Fire Stations with 165 highly dedicated volunteer firefighters. There are also ten paid personnel including a fire chief, an assistant chief and eight full-time firefighters. These stations have a total of 17 fire engines; 14 tankers; 11 mini pumpers and 3 fire boats. Eleven stations have extrication tools and all stations have members who are medical responders.

In 2023, Rabun County Fire Departments responded to just over 2,000 calls which consisted of structure fires, wildfires, motor vehicle accidents and emergency medical calls.

The Rabun County Fire Department currently has an active educational program, which promotes wildfire mitigation awareness through the promotion of the Firewise program throughout the county. Efforts should be made to expand the program to include all communities that are identified in the high risk area

Rabun County Fire Services put the county's first ladder truck into service in 2020. Photo credit: Megan Broome/The Clayton Tribune.

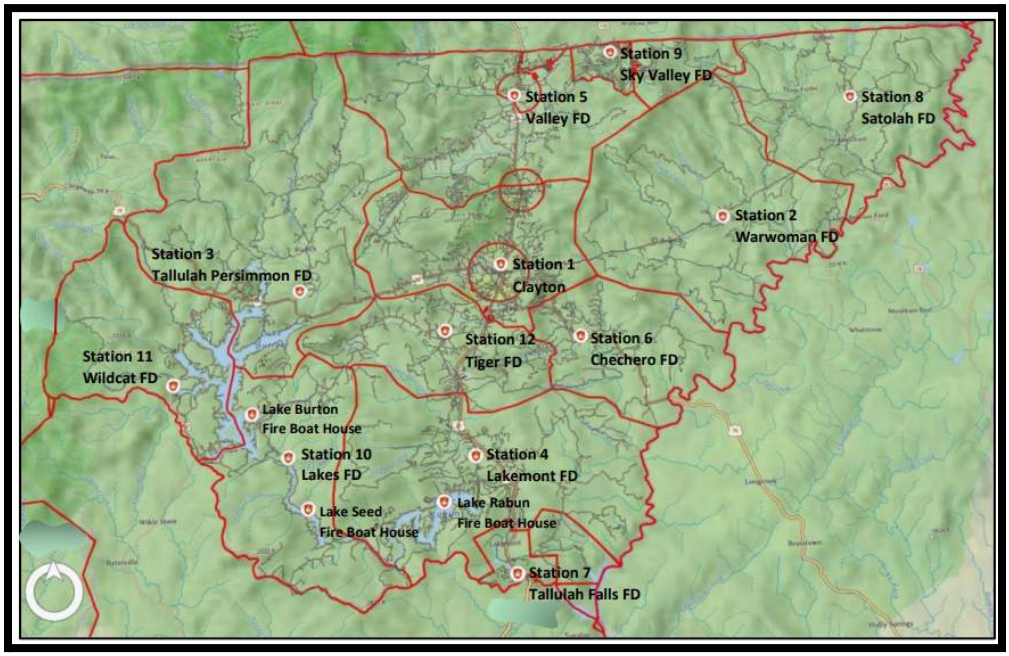


Figure 2.a.5.

12 Fire District Headquarters and 3 Fire Boat Houses in Rabun County, Georgia. Source: SafeScapes,LLC

2.c. Wildland-Urban Interface

The Wildland-Urban Interface (WUI) is any area where the built environment meets wildfire-prone areas—places where wildland fire can move between natural vegetation and the built environment and result in negative impacts on the community (Forge, 2018). People that live and work in the WUI must be aware of the effect that ecosystem processes and disturbances, such as wildland fire, have on their lives. WUI exists along a continuum of wildland to urban densities (**Figure 2.c.1**). Wildland-urban intermix refers to areas where housing and wildland vegetation intermingle, while wildland-urban interface refers to areas where housing is in the vicinity of a large area of dense wildland vegetation (Martinuzzi et al., 2015).

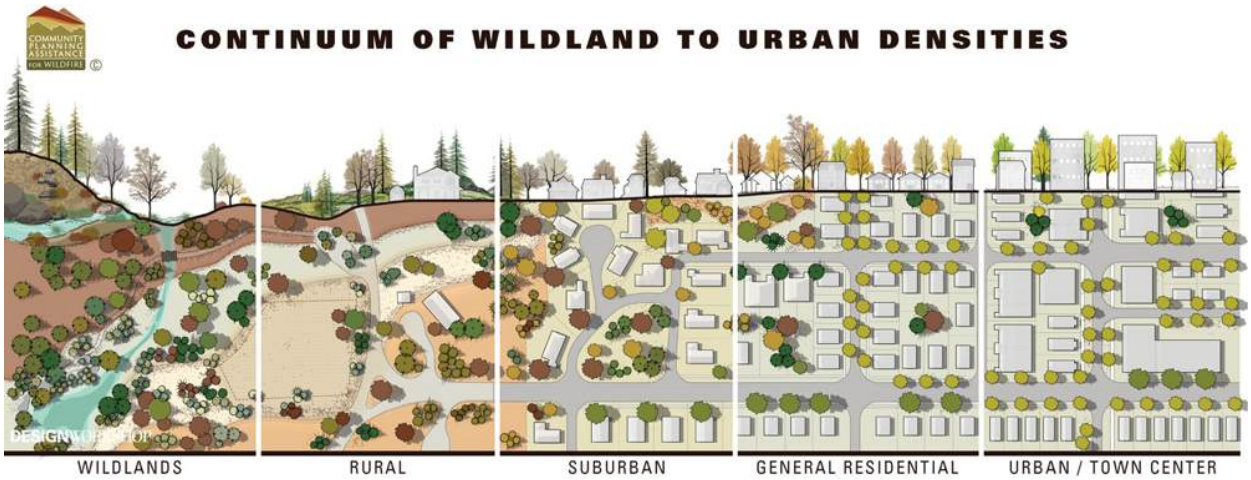


***Figure 2.c.1**. The wildland-urban interface exists along a continuum of wildland to urban densities. Source: Community Planning Assistance for Wildfire.*

According to the 2020 *Wildfire Risk to Communities* analysis by the U.S. Forest Service, homes in Rabun County have a high risk of wildfire - higher than 75% of counties in the United States (USFS, 2021a). Risk to homes measures the relative consequence of wildfire to residential structures everywhere on the landscape, whether a home actually exists there or not. This allows us to consider wildfire risk in places with homes in addition to places where new construction is proposed.

Wildfire likelihood is the probability of wildfire burning in any given year. At the community level, wildfire likelihood is averaged where housing units occur. According to the 2020 analysis by the U.S. Forest Service, Rabun County has, on average, greater wildfire likelihood than 77% of counties in the US (USFS, 2021a)

Homes and other buildings in Rabun County are predominantly in the Direct Exposure Zone. The U.S. Forest Service states that 93% of Rabun County homes are in direct exposure of ignition by adjacent vegetation, flying embers, or nearby structures. Another 6% of Rabun County homes are in indirect exposure, meaning that they may be ignited by indirect sources such as embers and home-to-home ignition. (USFS, 2021a)

For the purpose of this CWPP, the WUI boundary includes all of Rabun County, the surrounding landscape that could transmit wildland fire into Rabun County, and the area along important evacuation

routes. The majority of population lies through the center of Rabun county, which comprises the valley region of the county, which runs along Georgia Highway 441. This region is the epicenter of the cities and towns that make up the urban areas of Rabun County. The urban areas from south to north along Georgia Highway 441 include the Town of Tallulah Falls, The City of Clayton, which houses the bulk of the urban population, The Town of Mountain City and the Town of Dillard. Outlining urban areas include The Town of Tiger and the Town of Sky Valley. In the northeast corner of Rabun County, where the risk is greater due to topography, heavy fuels, and high elevation homes lacking defensible space sits the township of Sky Valley. (**Figure 2.c.2)**; see methodology in **Appendix B**. Strategic wildfire mitigation across the WUI can increase the safety of residents and wildland firefighters and can reduce the chances of home loss.

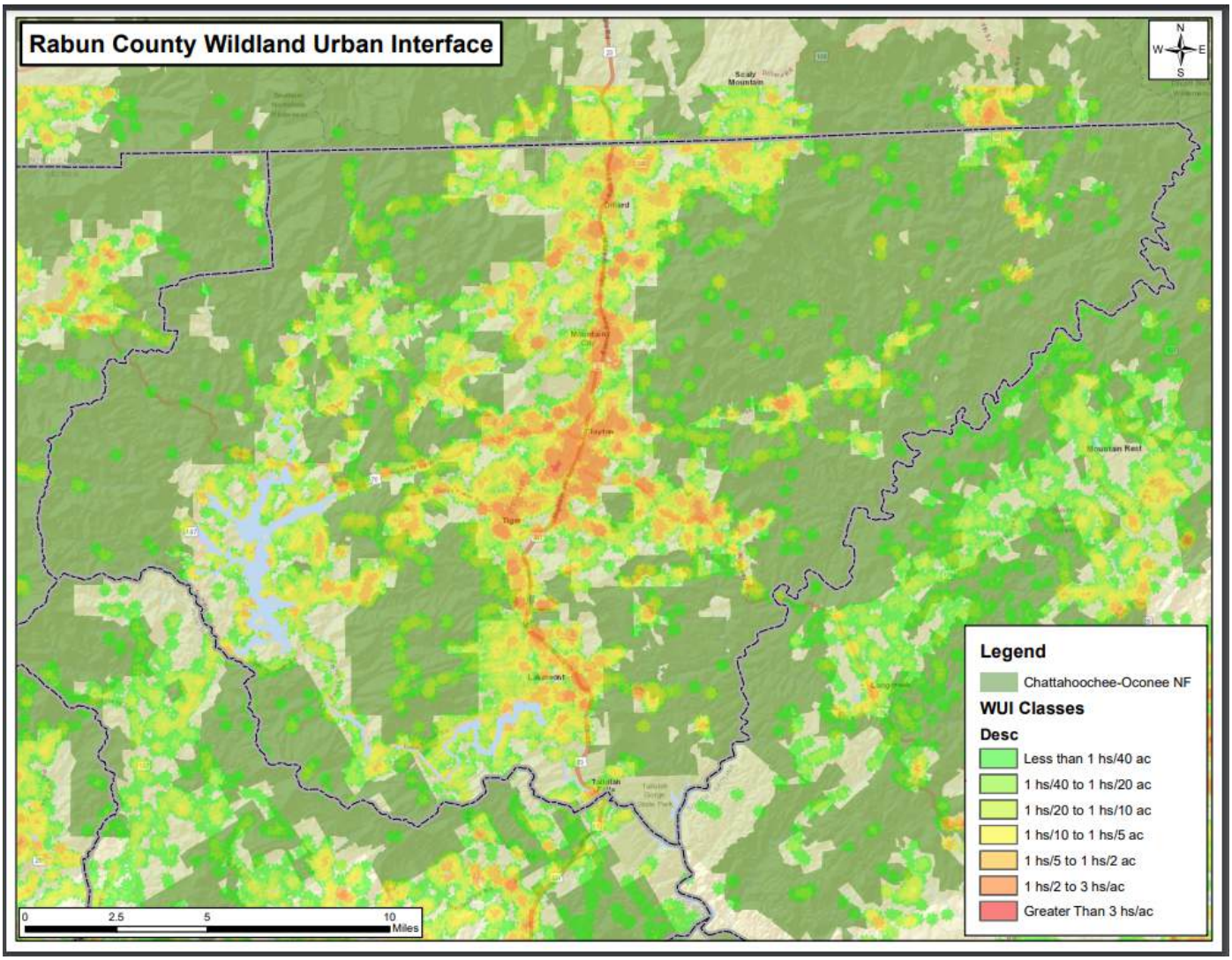


Figure 2.c.2. *Residents in the Rabun County Wildland-Urban Interface and/or Intermix and are exposed to elevated wildfire risk. For the purpose of this CWPP, the WUI boundary was determined to be [briefly describe how you delineated WUI] (see methodology in* ***Appendix B****).*
*Source: Alex Jaume, US Forest Service. *Note - This WUI Map is likely to change soon.*

2.*d.* Fire History

Fire has long played a critical role in the landscape and ecosystems in Rabun County. Early colonists who arrived on the land that would become Rabun County commented on the Native Americans' extensive use of wildland fire to achieve several land management objectives, including hunting habitat, travel, and protection. This frequent fire use helped shape the landscapes colonists experienced upon arrival.

Periodic wildfires occurred from both lightning and human-originated ignitions and were allowed to burn until they extinguished themselves. Oftentimes, the same landscape would burn about every 3 to 8 years. A lack of organized fire suppression resources allowed this periodic burning to occur, and residents accepted it as a normal part of their lives. The majority of forests in Rabun County are fire-dependent ecosystems which thrived from the periodic burning.

Wildland fire continued to be used as a management tool in Rabun County even after it became a county in Georgia on December 21, 1819. The exploitation of forests in Rabun County also inspired the national forest movement, which sought to set aside large tracts of public land for future use. Among the first acquisitions in the United States were Georgia mountain lands, a 31,000-acre tract sold to the federal government in 1911 by the Gennett Land and Lumber Company of Atlanta for $7 per acre. This land later became the Chattahoochee National Forest. The consolidation of land into large private and federal timber holdings greatly decreased the size of mountain farms, so that by 1930 the average homestead was fewer than eighty acres. By the early 20th century, the U.S. government became concerned that fire limited forest regeneration and health, and began an extensive fire prevention campaign in 1944. Smokey Bear was the symbol of this campaign, stressing to the public that “only you can prevent forest fires!” This widely promoted prevention campaign caused fire to be excluded from forests, leading to a buildup of hazardous fuel, with landscapes and ecosystems being fragmented or lost.

Although Rabun County receives more rainfall than any other county in Georgia, weather patterns do change, and drought conditions were prominent across northern Georgia in late summer and autumn of 2016 when several large catastrophic wildfires burned across the landscape in Rabun County **(Figure 2.c.3)**, and threatened numerous communities within the county. The weather patterns have changed somewhat, and hotter drier periods have been experienced in recent years.

Rabun County firefighters were assisted by Demorest firefighters on the 2016 wildfires.
Source: Rob Moore, AccessWDUN

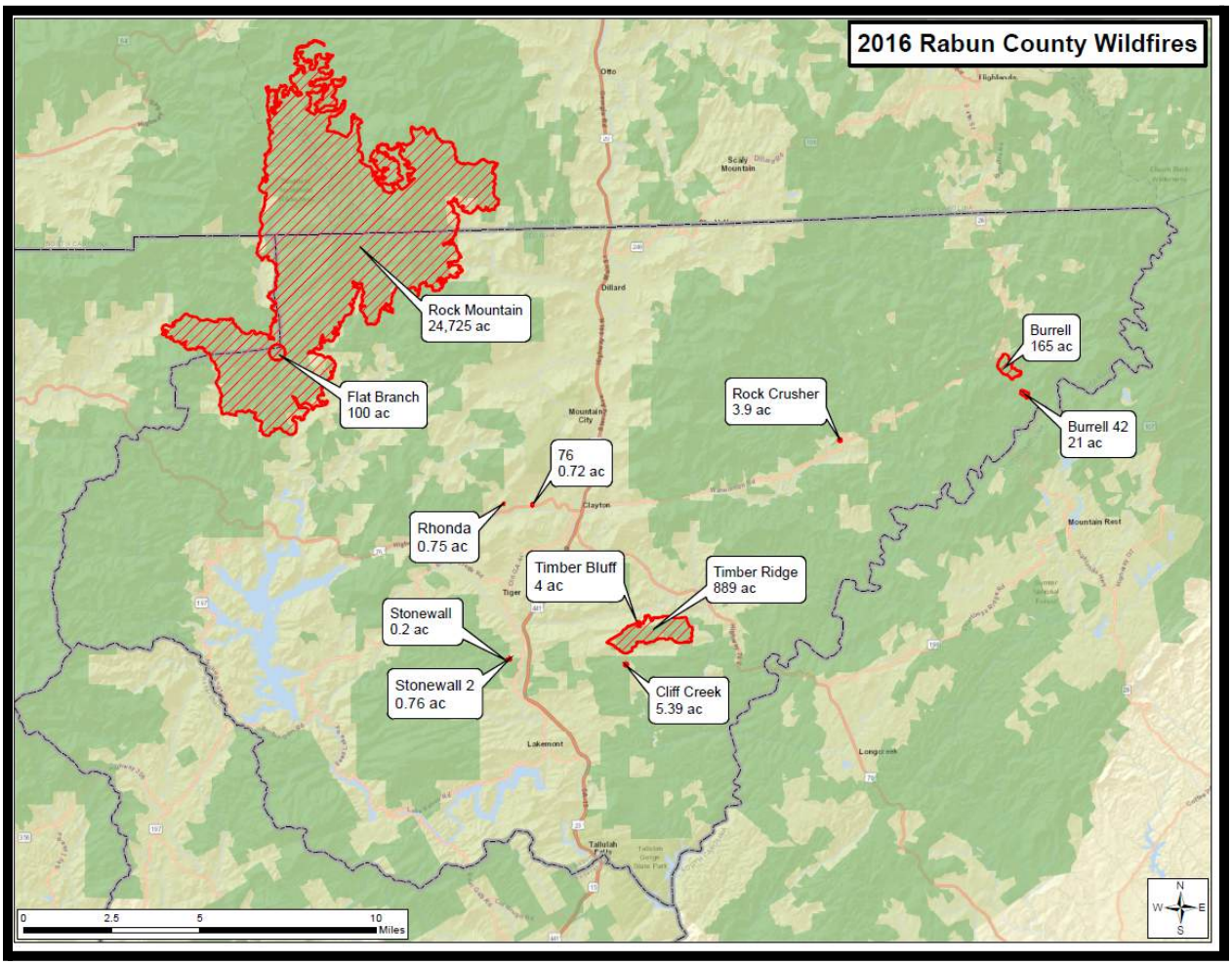


Figure 2.c.3. *2016 Rabun County Wildfires*

Source: US Forest Service

2.e. Potential Fire Behavior and Exposure in Rabun County

Many neighborhoods in Rabun County could experience extreme fire behavior that could put the lives of residents, visitors, and firefighters at risk. Residents in Rabun County are exposed to steep slopes, dense forests, limited road access in and out of neighborhoods, and flammable buildings which contributes to this dangerous situation. *There is an immediate need for this community to undertake proactive measures to mitigate wildfire risk to protect lives and property.*

Topography and weather are two of the primary factors that determine how a wildfire will behave. Topography includes the physical features of an area, such as elevation, slope, aspect, and man-made structures. Weather conditions include wind, high temperatures, and rainfall. Together, these factors can help or hinder the spread of fire:

Topography

Can act as a fire break, such as rocky slopes, drainages, ridges, rock outcrops, streams, rivers, lakes, or roads. However, other topographic features can intensify fire behavior, such as saddles or passes between ridges that can change wind patterns and increase wind speed. Wildfires also burn more rapidly when moving up a slope because heat rises ahead of the flames, drying out fuels and making them more combustible.

Weather

Wind can move more rapidly up slopes, increasing the speed at which a fire can spread. High temperatures and little rainfall can dry out trees, shrubs, fallen leaves, and limbs, making them more likely to fuel a fire.

Fuels

The characteristics of fuels, such as their composition, density, and moisture level, can have a significant impact on the behavior of wildfires:

- Moisture: Fuels with higher moisture content, like live trees, take longer to burn because the fire must first evaporate the moisture. This can slow down the spread of the fire and make it less intense.
- Chemical makeup: A fuel's chemical composition also affects how easily it will burn.
- Density: Large, dense trees can burn for hours and produce a lot of heat.
- Type: Different types of fuels can produce different types of fires. For example, dried grasses burn quickly and don't produce much heat, while large, dense trees burn for hours and produce a lot of heat.
- Location: Fuels on south- and west-facing slopes tend to be drier than those on north- and east-facing slopes.

The factors mentioned above regarding the various elements that will favor an intense fast moving fire in Rabun County are evident in the two most critical aspects of the catalysts that produce intense wildfire, which are topography and fuel. Rabun County is blessed in the fact that it receives more rain on average than any other county in Georgia. The rains not only dampen the potential fuels that could ignite, but also provide nourishment to the plant life which enables them to grow and thrive. This excessive growth

produces heavy amounts of fuel on the forest floor over time, combined with slope which enables the fire to travel 16 times faster upslope. Once the rains subside, the fuels and slope are a recipe for disaster. When you combine the slope, heavy forest fuels and home construction in these areas you get a very dangerous situation.

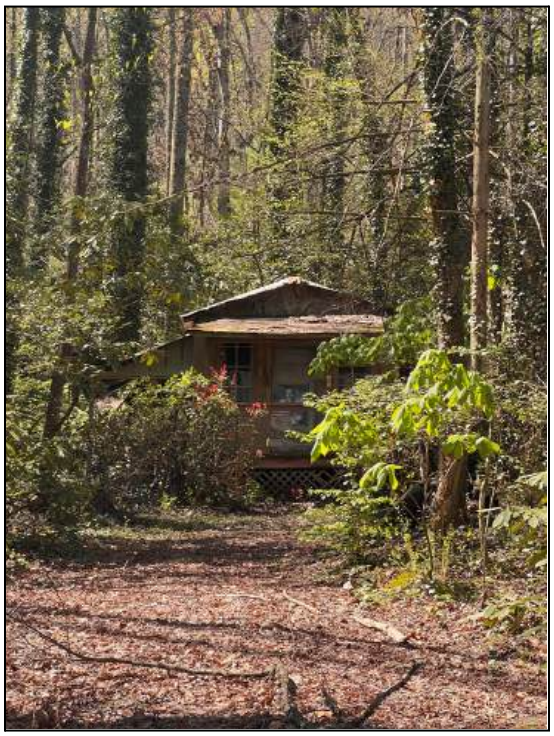
Rabun County contains some of the most beautiful, picturesque mountains in the US. Abundant rainfall has greatly increased the vegetative growth in these forested mountains. It has been said that Rabun County receives more rainfall than any other county east of the Mississippi river, which has enabled these mountains to be filled with abundant foliage from various forms of plant life. As the mountains transition to the final climax forest succession of oak and hickory, shorter lived species such as pine, sweetgum and poplar slowly start to die back as they are overtopped by the mature oak and hickory forest and sunlight becomes minimal. The race for water and nutrients is dominated by the oak and hickory which have a larger root system and consume the vast majority of the water and minerals in the forest stands. The lack of water and nutrients makes it easy for forest pests to invade the weakened declining stand. These secondary species die and litter the forest floor with heavy concentrations of forest fuel, which when wet pose no threat, however when rain subsides for a long period of time these fuel laden forests become extremely volatile and prone to catastrophic wildfire that can be difficult to control.

Rabun County has experienced extreme wildfires in the past, such as the wildfires in the autumn of 2016. Communities were threatened during these wildfires, and the potential for a recurrence of this type of wildfire activity is just a drought away. Property owners and homeowners should be aware of the potential dangers of these fast moving intense wildfires and the steps that can be taken to mitigate these risks. The removal of fuels from the top and around a structure is critical to help mitigate the risk of loss in a wildfire. The embers from a wildfire can drift over a mile, and even further if intense winds prevail. These embers can land on roofs, in rain gutters and shrubbery igniting and destroying fuel laden areas.

- Once structures ignite, they can produce powerful flames and can send embers in various directions. This could initiate home-to-home ignitions, depending on proximity of homes to each other. This is especially true in communities with densely populated structures, such as subdivisions.
- Roadways laden with heavy fuel accumulations can become sources of wildfire ignitions from vehicle exhaust, discarded smokes or sparks from dragging metal along paved roadways. This could also make evacuations deadly.
- Thick forested areas comprise most of Rabun County. USDA Forest Service and Georgia Power land is vast and much of the forest is overstocked with dense regions of trees that could produce intense fires if ignited. Fuel reduction efforts have been made with prescribed burns on USDA Forest Service lands in some of the areas with a high urban interface, but much remains to be done.

Take Away Message

Rabun County is at risk for large, high-severity wildfires due to dense forest conditions, dry and hot weather, and strong, gusty winds. Increasing drought and warming temperatures exacerbate wildfire risk in the area. **Rabun County and residents in Rabun County must prepare for large wildfire events. Proactive work is imperative to protect lives and property.**



Fuel type and fuel loads greatly influence fire behavior, intensity, and rate of spread. Fuel loads are variable across Rabun County, ranging from these examples above. Photo credit: SafeScapes, LLC

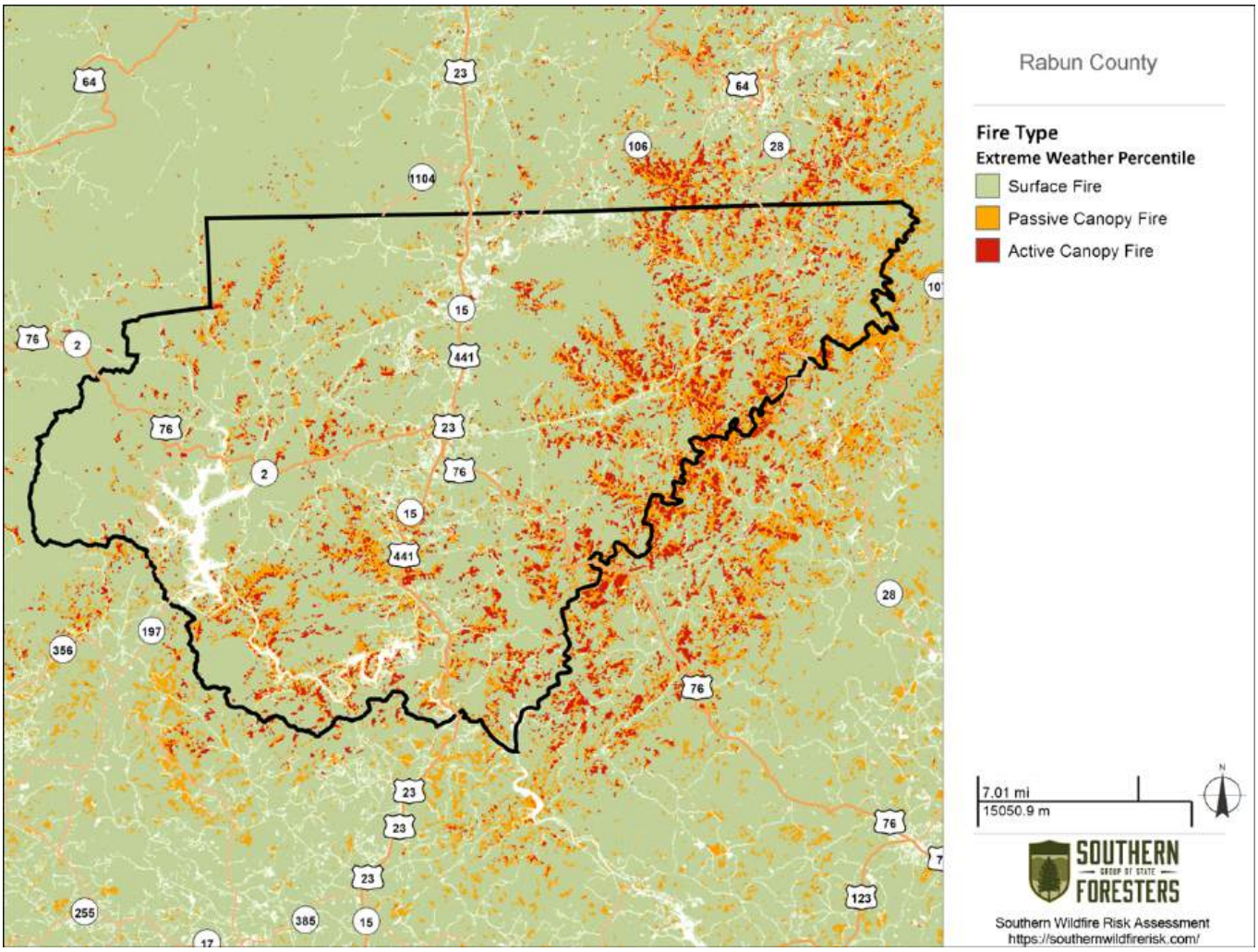


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Figure 2.e.2. Fire Types in Extreme Weather Conditions Red areas highlight the regions where there is a risk of active canopy fires based on topography, fuel types and fuel loading.

SOURCE: Southern Wildfire Risk Assessment

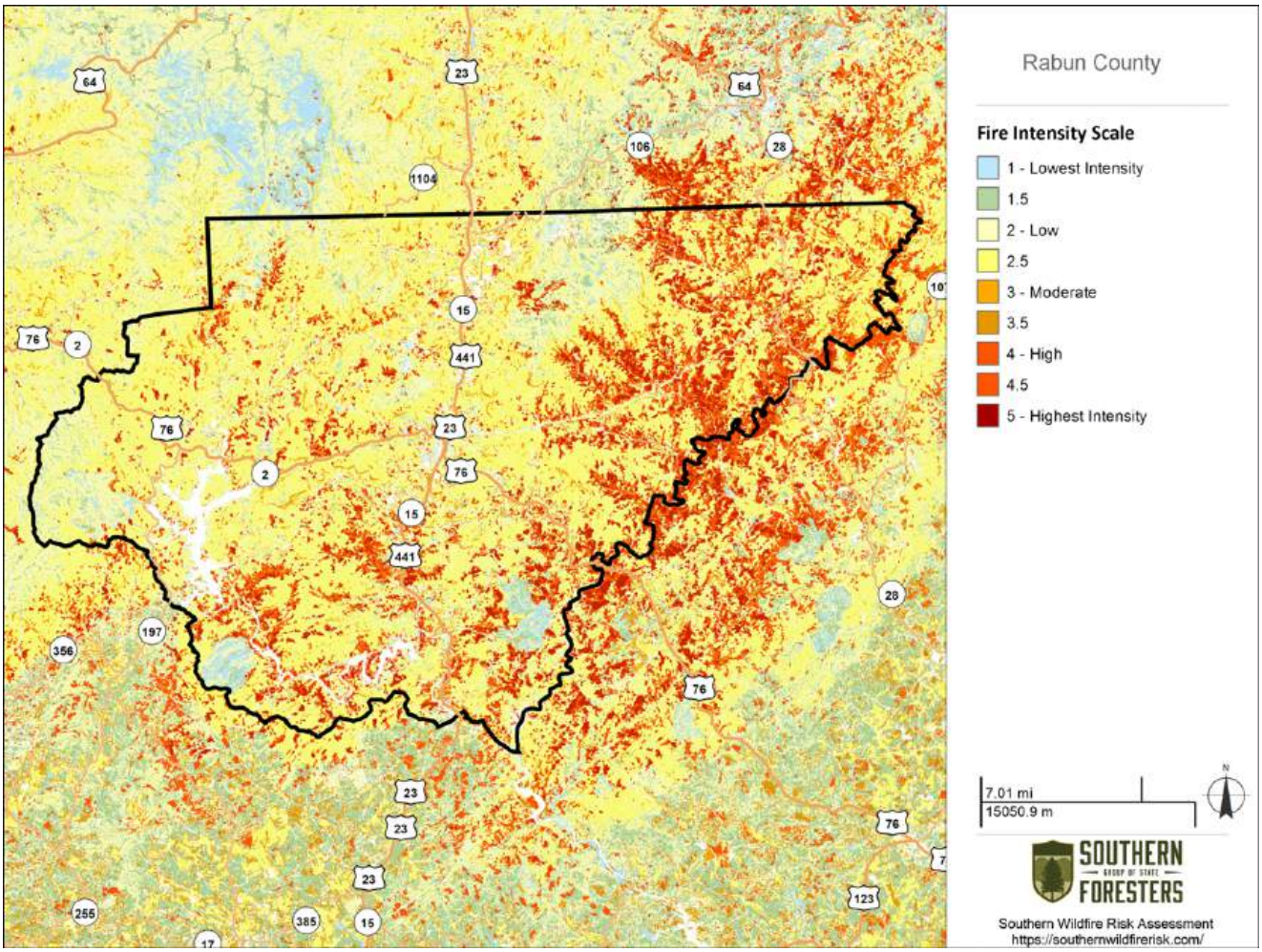


Figure 2.e.3. Fire Intensity Scale. Dark red areas highlight the regions of greatest fire intensity

SOURCE: Southern Wildfire Risk Assessment

2.*f.* Fuel Treatment History in and Around Rabun County

The Chattooga River Ranger District comprises National Forest lands in Rabun, Habersham, White, Stephens, and Banks counties. From 2020 to 2024 the district treated 25,817 acres of the National Forest in these counties with prescribed fire. During this timeframe the district treated 16,085 acres on 19 burn units in Rabun County. These units ranged from 56 acres to 2,221 acres in size. These burn units are typically on a burn rotation to maintain treatments to reduce fuel loads and to restore habitat. The district will add new burn units over time. The primary focus for these treatments is to reduce hazardous fuels, although other objectives may be involved. This could include wildlife and sensitive plant species habitat restoration. Several Rabun County burn units are located within the Foothills Landscape Project. The Foothills Landscape Project was proposed to create, restore, and maintain resilient ecosystems through a variety of active management techniques that address unique habitats, forest composition and structure, risks to forest health, resilience to climate change, forest successional diversity, aquatic and terrestrial wildlife habitat, communities at risk of wildfire, and sustainable recreation opportunities.

Fuel treatments reduce the amount of fuel in strategic locations, reducing the fire risk to nearby communities and creating tactical opportunities for wildland firefighters to engage in wildland fires. Fuel treatments on the Chattahoochee National Forest are essential for maintaining forest health and reducing wildfire risks. These treatments include activities such as prescribed burns, thinning and mechanical removal of vegetation.

For example, in an effort to improve wildlife habitat and reduce hazardous fuel overgrowth, the Chattooga River Ranger District recently conducted prescribed burns on 526 acres at Pool Creek; 782 acres at Lick Log; and 857 acres at Deadin Timber. These treatments help to manage the forest ecosystem by reducing the accumulation of combustible materials, which can lead to catastrophic wildfires if left unchecked. **Figure 2.f.1** illustrates treatments that were conducted on hazardous fuel in the Chattahoochee National Forest in Rabun County from 2002 to present. These treatments include prescribed burning, mechanical fuel treatment, forest thinning, etc. **Figure 2.f.2** shows the prescribed burns that were completed from 2013-2023.

An important component of this CWPP is the identification of locations for fuel treatments needed to protect the community. **Section 4** outlines these priority locations and the land management agency that will lead these efforts in the coming years.

Chattooga River Ranger District prescribed burn, 526 acres at Pool Creek, March 2024

Photo Credit: SafeScapes, LLC

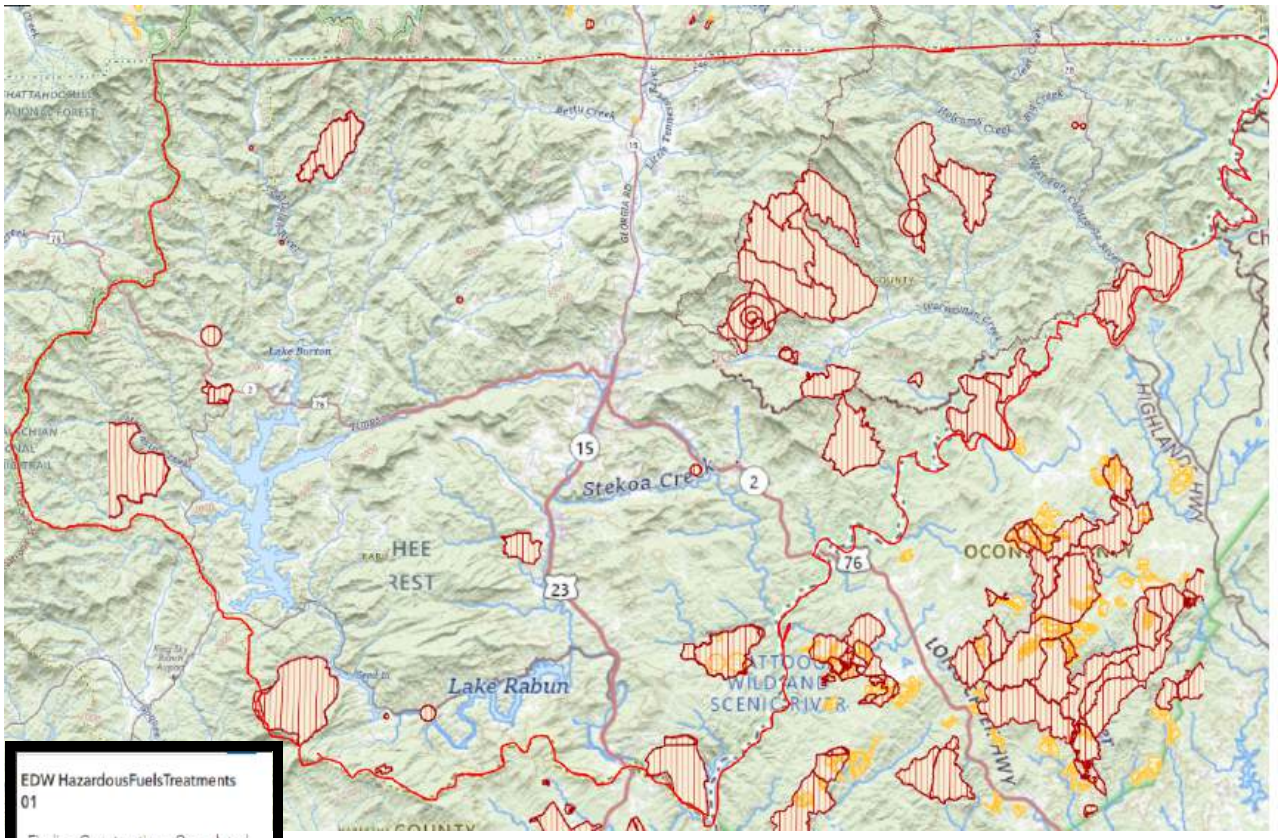


Figure 2.f.1. Locations of forest management treatments and wildfires in and around Rabun County from 2002 to present that were conducted by the United States Forest Service (USFS)

Source: United States Forest Service

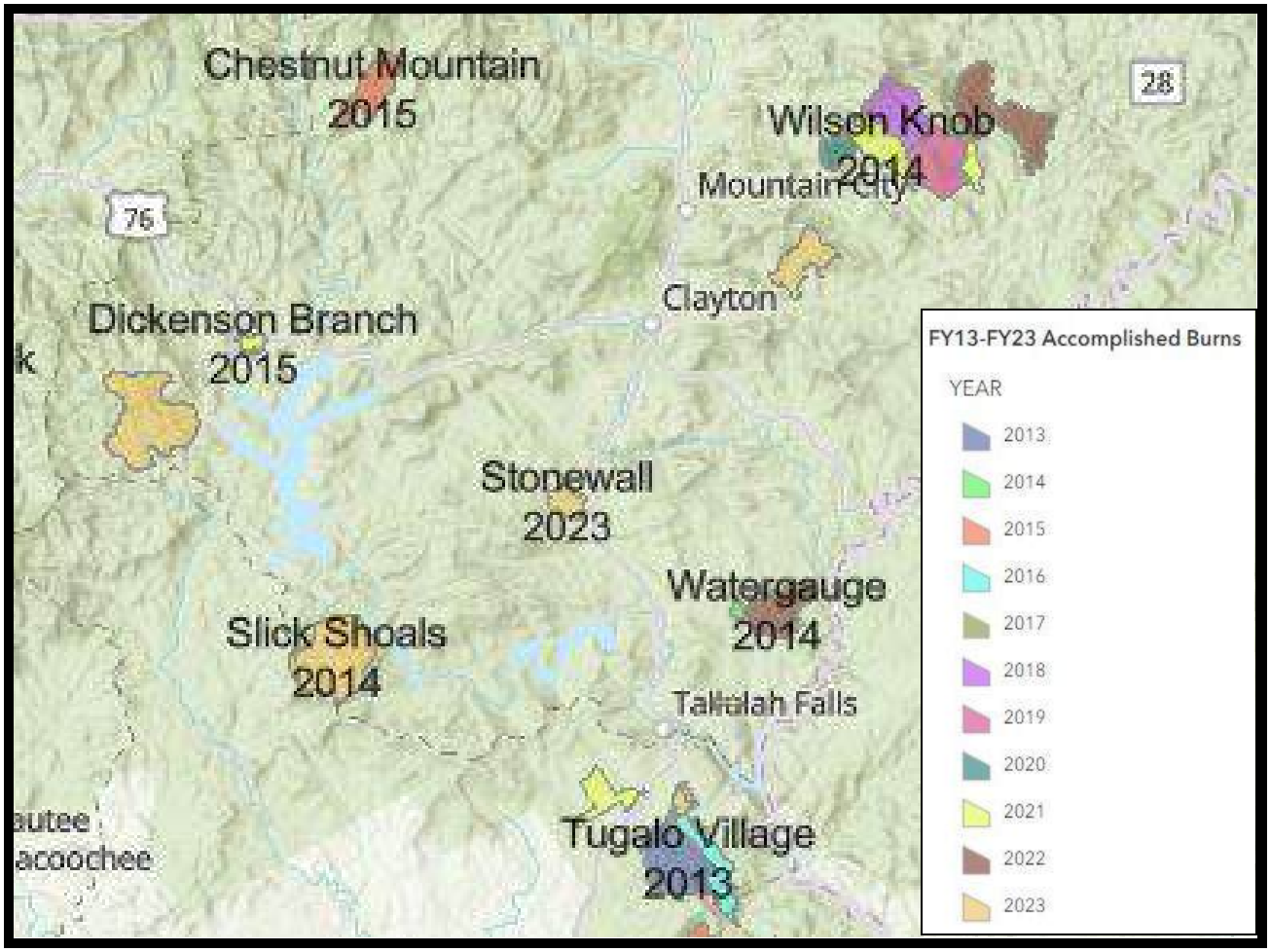


Figure 2.f.2. Accomplished Burns for 2013-2023 in and around Rabun County, Georgia

3. Becoming a Fire Adapted Community

It is recommended that Rabun County, HOAs, and residents embrace the concept of Fire Adapted Communities (FAC), which is defined by the National Wildfire Coordinating Group as "a human community consisting of informed and prepared citizens collaboratively planning and taking action to safely coexist with wildland fire". This concept can guide residents, fire practitioners, and communities through a holistic approach to become more resilient to fire (**Figure 3.1.**).

Your community's CWPP sets the stage for fire adaptation, and the next step is on-the-ground action and an ongoing commitment to risk mitigation at all levels of the community, from individual homeowners to neighborhoods and HOAs to Rabun County, to land managers and other partners. This section of the CWPP includes recommendations and resources for mitigating wildfire risk and enhancing emergency preparedness. Rabun County and public land managers have an important role to play in implementing the recommendations in this CWPP, and they have made commitments to take on-the-ground action as outlined in **Section 4.**

Individual homeowners, neighborhoods, and HOAs also have a vital role to play in addressing shared wildfire risk. Action and community-building centered around mitigation have reduced wildfire risk and increased community resilience across the southeast. Mitigation work by residents can spur mitigation by their neighbors. The cumulative impact of linked defensible space across private properties can improve the likelihood of home survival and protect firefighters during wildfire events (Jolley, 2018).

Photo Credit: SafeScapes, LLC

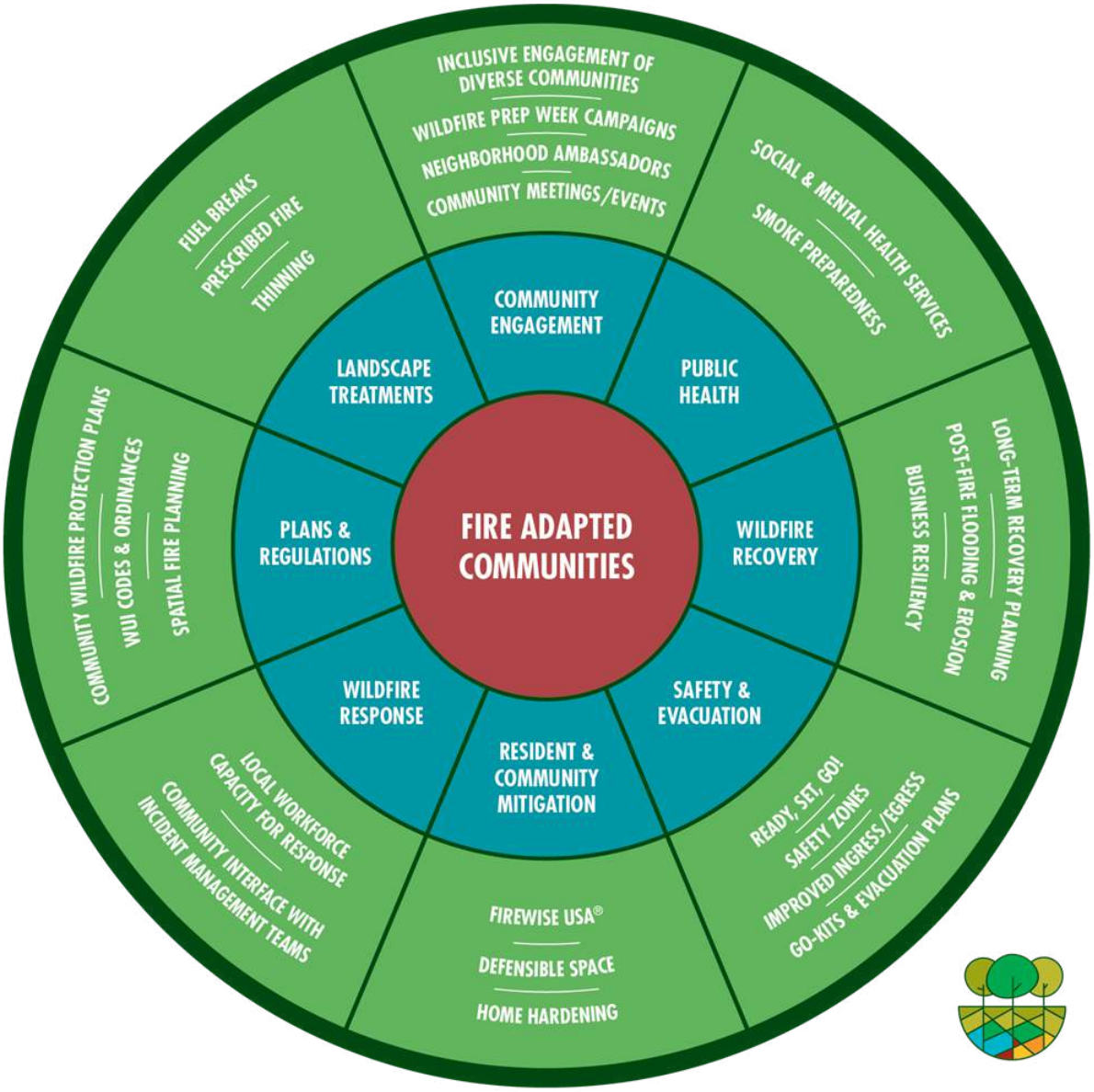


Figure 3.1. *The Fire Adapted Communities graphic provides specific programs and activities that communities can take to reduce their wildfire risk and increase their resilience*

Source: Fire Adapted Community Learning Network.

3.a. Individual Recommendations

Mitigate the Home Ignition Zone

During catastrophic wildfires, property loss happens mostly due to conditions in the **home ignition zone** (HIZ). The home ignition zone includes your home and other structures (e.g., sheds and garages) and area within 100 feet of each structure. Firefighter intervention, adequate defensible space, and home hardening measures were common factors for homes that survive major wildfires (IIBHS, 2019; Maranghides et al., 2022) Research following the 2016 Gatlinburg fires showed that homes were more likely to burn down when they were close to other structures that had also burned, when they had vegetation within 100 meters of the home, and when they had combustible materials (firewood or propane tanks) near the home (Knapp et al., 2021).

You can increase the likelihood that your home will survive a wildfire and help protect the safety of firefighters by creating defensible space, replacing, or altering building materials to make your home less susceptible to ignition, and taking steps to increase firefighter access along your driveway.

It is important for residents to work together as a community to mitigate shared wildfire risk in the HIZ. Structure-to-structure ignition is a major concern in WUI communities and can cause substantial property loss. Neighbors can increase their homes' chances of survival during a wildfire if they work together to reduce hazards in their overlapping defensible space.

Defensible space is the area around a building where vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire and reduce exposure to radiant heat and direct flame. It is encouraged that residents develop defensible space so that during a wildfire their home can stand alone without relying upon limited firefighter resources due to the great reduction in hazards they have undertaken.

Defensible space allowed firefighters to protect this home during the Autumn Wildfires of 2016

Home hardening is the practice of making a home less likely to ignite from the heat or direct contact with flames or embers. It is important to remember that embers can ignite homes even when the flaming front of a wildfire is far away. Home hardening involves reducing this risk by changing building materials, installation techniques, and structural characteristics of a home. Home hardening measures are particularly important for WUI homes; 50% to 90% of homes ignite due to embers rather than radiant heat during wildfires (Babrauskas, 2018; Gropp, 2019).

Fortunately, many residents in Rabun County have already started taking actions to mitigate their home ignition zone. (**Figure 3.a.1**) Around three fourth of the residents who responded to the CWPP survey have cut and removed dead or unhealthy trees and keep their gutters free of debris. Around half of the respondents remove low limbs on their property, trim grasses within 30 feet of their homes, and keep their house siding in good repair. Over a third of residents surveyed remove understory ladder fuels, and maintain wood decks. While just under a third have thinned trees to create greater crown separation.

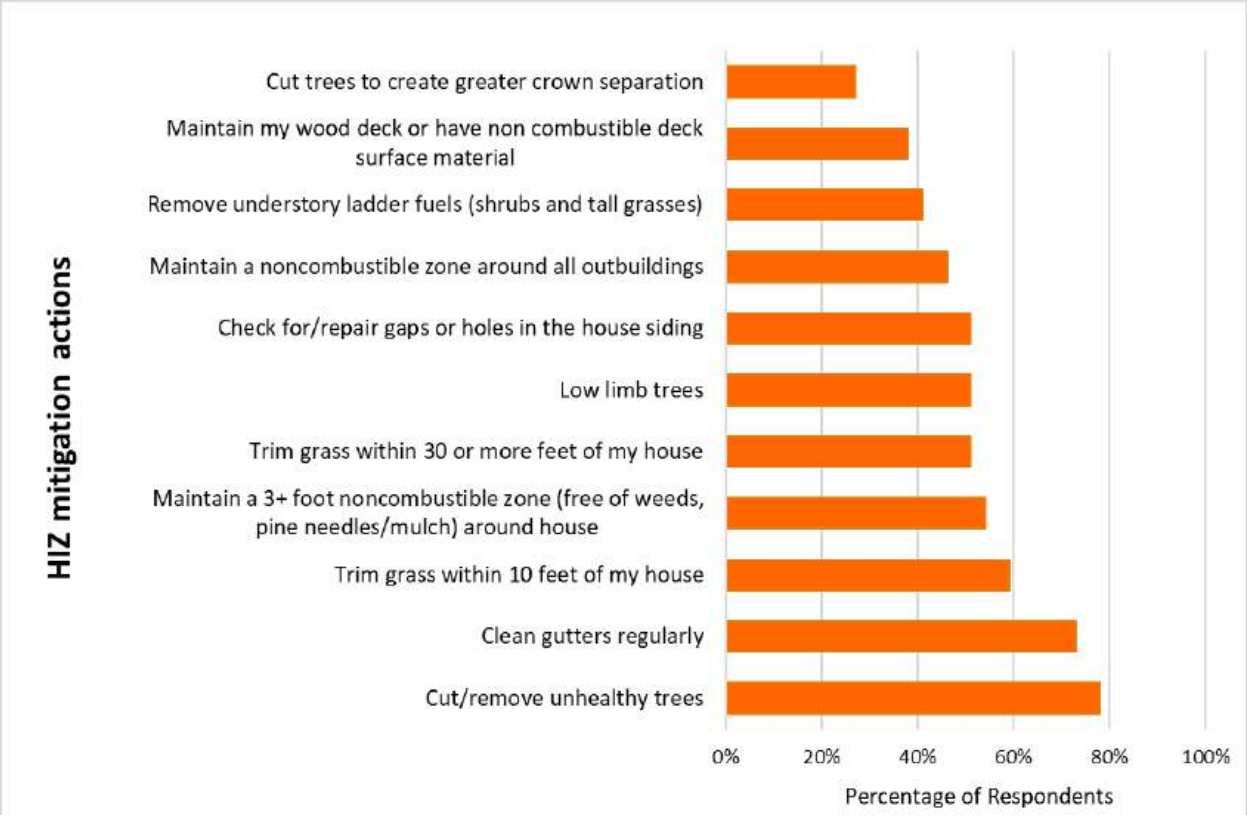


Figure 3.a.1. *Percentage of Rabun County residents who responded to the CWPP survey and have completed different actions to mitigate risk in their home ignition zone.*

See Appendix D for a full summary of survey findings.

Residents should follow the defensible space and home hardening recommendations outlined below to continue increasing their home's chances of surviving a wildfire.

Do not count on firefighters staying to defend your home—your home should be able to survive a wildfire on its own. There are never enough firefighters to stay and defend every single home during large incidents. Properties that are not defensible will not often receive firefighter resources due to unsafe conditions and the higher likelihood of home loss.

Defensible Space

Defensible space creates a buffer between your home and grass, trees, and shrubs that could ignite during a wildland fire. Defensible space can slow the spread of wildfire, prevent direct flame contact, and reduce the chance that embers will ignite material on or near your home (Hakes et al., 2017). Substantially reducing vegetation within the HIZ and removing vegetation that overhangs decks and roofs can reduce structure loss, especially for homes on slopes (Syphard et al., 2014).

Defensible space is divided into multiple zones around a home, and recommended practices vary among zones. The Georgia Forestry Commission (GFC) defines zone one as 0 to 5 feet from the home, zone two as 5 to 30 feet from the home, and zone three as 30 to about 100 feet from the home [**Figure 3.a.2**.]. Some organizations call zone one the "noncombustible zone" (0 to 5 feet from the home) and zone two the "lean, clean, and green zone" (5 to 30 feet from the home).

Property owners should establish defensible space around each building on their property, including campers and RVs, detached garages, storage buildings, barns, and other structures. RVs are highly flammable and can emit embers that might ignite nearby homes and vegetation. Removing all vegetation under and around campers in HIZ 1 is crucial. Campers and RVs, boats, detached garages, storage buildings, barns, and other large structures should be placed at least 50 feet away from primary structures to prevent structure-to-structure fire spread (Maranghides et al., 2022).

Homeowners living in the WUI in Rabun County typically underestimate the level of risk their home is at due to wildfire, and tend to overestimate the amount of work they have done to protect their property. Make sure you are informed about best practices for protecting your home. See **Table 3.a.3** and the Georgia Forestry Commission's publication *Be Firewise* for recommendations. **Section 4.c.** includes specific defensible space recommendations by forest type for HIZ zone 3.

Some homes in Rabun County have exemplary defensible space with mowed grass near structures, trees limbed and not overhanging roofs, non-flammable barriers, within Zone 1.

Photo credit: SafeScapes,LLC

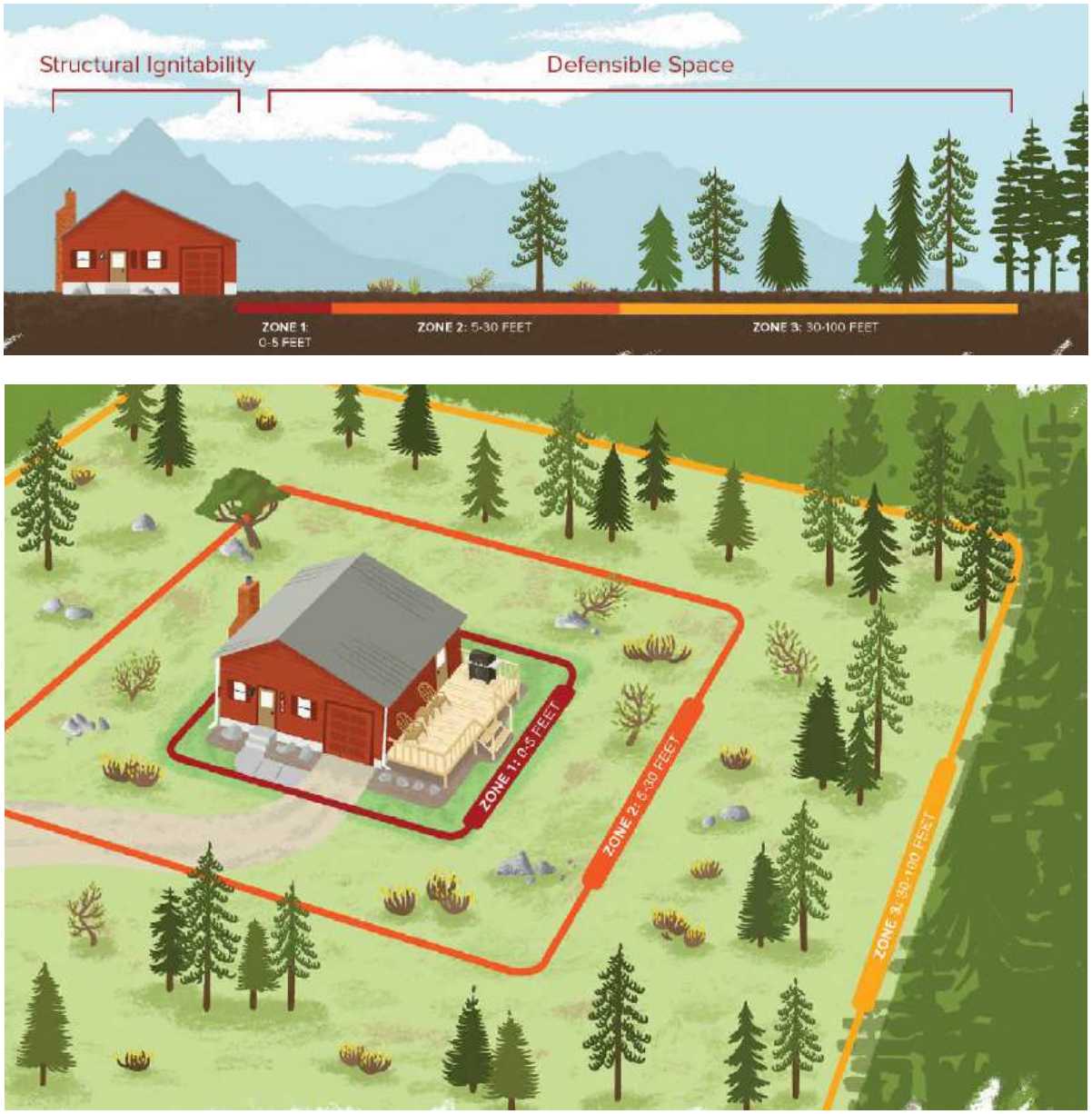


Figure 3.a.2. *Home ignition zones recommended by Firewise.org. Using ignition-resistant building materials and removing burnable fuel around primary structures, outbuilding such as sheds, and campers / RVs is crucial for increasing your home's chance of surviving a wildfire and creating safe conditions for wildland firefighters.*

Source: Firewise.org, The Home Ignition Zone.

Table 3.a.3. *Home ignition zone recommendations based on the GFC publication, Be Firewise*

This is not an all-inclusive list of activities.

Zone 1: 0 to 5 feet from your home – the noncombustible zone.
Goal: Prevent flames from having direct contact with your home.
• Create a noncombustible border 5 feet around your home (aka, hardscaping). Replace flammable wood chips with alternatives like dirt, stone, or gravel. • Remove branches that hang over your roof and drop needles onto your roof and remove all fuels within 10 feet of the chimney. • Remove combustible materials (dry vegetation, wooden picnic tables, juniper shrubs, etc.) from underneath, on top of, or within 5 feet of decks, overhangs, windows, and doors. • Annually remove dead or dry leaves, pine needles, and dead plants within 5 feet of your home and off your deck, roof, and gutters. Farther than 5 feet from structures, raking material will not significantly reduce the likelihood of ignition and can negatively affect other trees. • Move firewood or other combustible materials to Zone 3. • Do not use space under decks for storage.
Zone 2: 5 to 30 feet from your home – the lean, clean, and green zone.
Goal: Slow the movement of flames approaching your home and lower the fire intensity.
• Irrigate and mow grasses to 4 inches tall or less. If you are unable to irrigate, replace dry grasses with Firewise Plant Materials that are more drought tolerant and less flammable. • Remove any accumulated surface fuels such as logs, branches, slash, and mulch. • Remove all common junipers because they are highly flammable and tend to hold a layer of flammable material beneath them. Landscape with plants that have more fire-resistant attributes, like short-statured deciduous leaves, and higher moisture content. See Firewise Plant Materials from University of Georgia Cooperative Extension for suggestions. • Remove enough trees to create at least 10 feet of space between crowns. Measure from the outermost branch of one tree to the nearest branch on the next tree. Create even more space between trees if your home is on a slope. See Figure 3.a.4 for how to measure crown spacing. • Remove ladder fuels under remaining trees. This is any vegetation that can bring fire from the ground up into taller fuels. • Remove limbs so branches do not hang below 6 feet above the ground, ideally not below 10 feet above the ground. See Figure 3.a.4 for a depiction of how to measure limb height. • Keep spacing between shrubs at least 2-3 times their height. • Relocate wood piles and propane tanks to Zone 3. • Remove stressed, diseased, dead, or dying trees and shrubs. This reduces the amount of vegetation available to burn and improves forest health. • Keep shrubs at least 10 feet away from the edge of tree branches.

(Table 3.a.3 continued on next page)

Zone 3: 30 to 100 feet from your home

If you live on a slope, this zone should be larger due to the greater potential for extreme fire behavior.

Goal: Slow movement of flames, move fire to the ground, reduce ember production.

- Store firewood and propane tanks at least 30 feet away and uphill from your home and away from flammable vegetation. Store even farther away if your home is on a slope.
- Move campers / RVs, boats, detached garages, storage buildings, barns, and other large structures at least 50 feet away from your home.
- Mow or trim grasses to a maximum height of 6 inches. Grasses can be taller in zone 3 than zone 2 because of the greater distance from your home, but shorter grass is always better for reducing potential flame lengths and therefore radiant heat exposure.
- Remove enough trees to create at least 6- to 10-foot spacing between the outermost branches of remaining trees. Create even more space between trees if your home is on a slope (Table 3.a.2). See Figure 3.a.4 for a depiction of how to measure crown spacing.
- Remove limbs so branches do not hang below 6 feet above the ground, ideally not below 10 feet above the ground. See Figure 3.a.4 for a depiction of how to measure limb height.
- Remove shrubs and saplings that can serve as ladder fuels.
- Remove heavy accumulations of dead trees and branches and piles of fallen leaves, needles, twigs, pinecones, and small branches. Thin trees to increase spacing and remove ladder fuels to reduce the likelihood of torching, crown fires, and ember production.
- Consult with a qualified forester to develop a plan to manage your property to achieve fuel reduction and other goals, such as creating wildlife habitat. Follow principles of ecological restoration as outlined in Section 4.c.

In Rabun County, many homes are built on steep mountain slopes, where homeowners, if possible, should create even more space between trees in HIZ 2 and HIZ 3.

Photo credit: SafeScapes,LLC

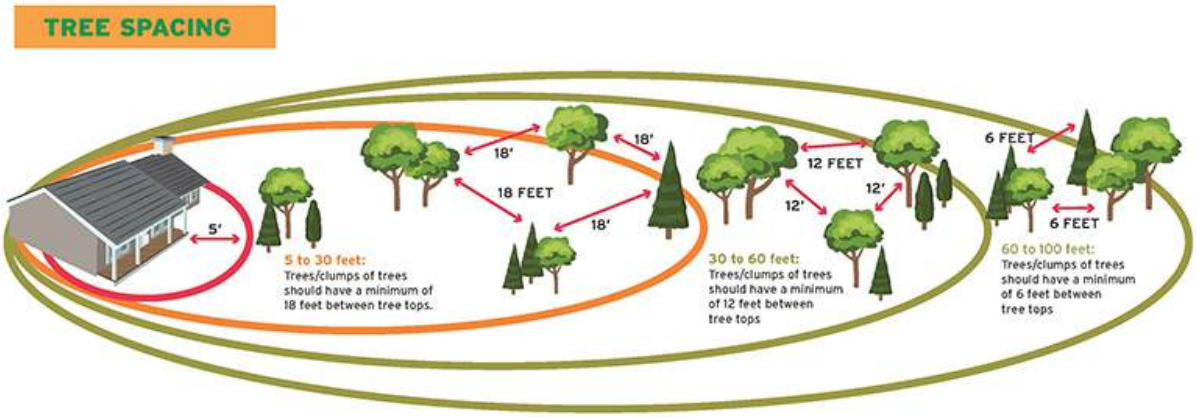


Figure 3.a.4. *Spacing between tree crowns is measured from the edge of tree crown to tree crown, NOT from tree stem to tree stem. Height of limbs above the ground is measured from the ground to the lowest point of the limb, NOT from where the limb attaches to the tree.*

SOURCE: NFPA National Fire Protection Association

Some homeowners in the WUI are concerned that removing trees will destroy the forest and reduce the aesthetic and monetary value of their property. In Rabun County there are many dense hemlock and white pine stands that are unhealthy. Insect infestation has greatly contributed to fuel loading in forested areas of Rabun County. The wooly adelgid and pine beetle infestation have killed hemlock and various pine species adding both standing dead timber and downed timber that can potentially intensify wildfires around homes of Rabun County. The reality is that nothing will decrease the aesthetic and monetary value of your home as much as a high-severity wildfire burning all the vegetation in the community, even if your home survives the fire. Forest management can look messy and destructive in the first years following treatment; however, grasses, shrubs, and wildflowers will respond to increased light availability after tree removal and create beautiful ecosystems with lower fire risk (**Figure 3.a.5**). It might even be said that the more trees you cut, the more trees you save from wildfire.

Many property owners enjoy their land even more after conducting effective fuel treatments. Removing trees can open incredible views of mountains, rivers, and rock formations, and wildlife are often attracted to forests with lower tree densities and a greater abundance of understory plants. Reducing fuel loads and increasing the spacing between trees increases the chance that your home and your neighbors' homes will survive a wildfire, and most importantly, it increases the safety of wildland firefighters working to protect your community**.**

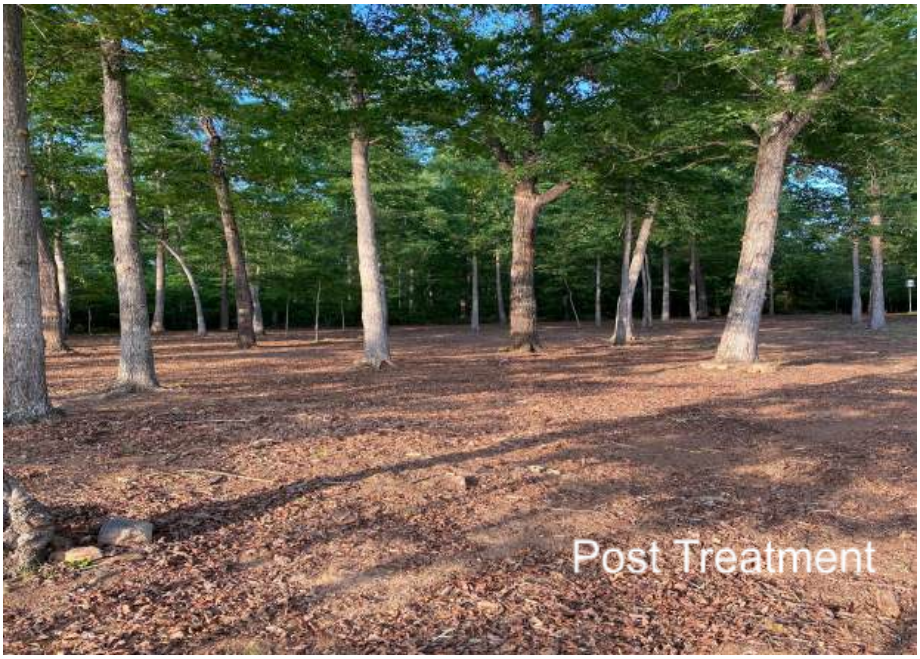


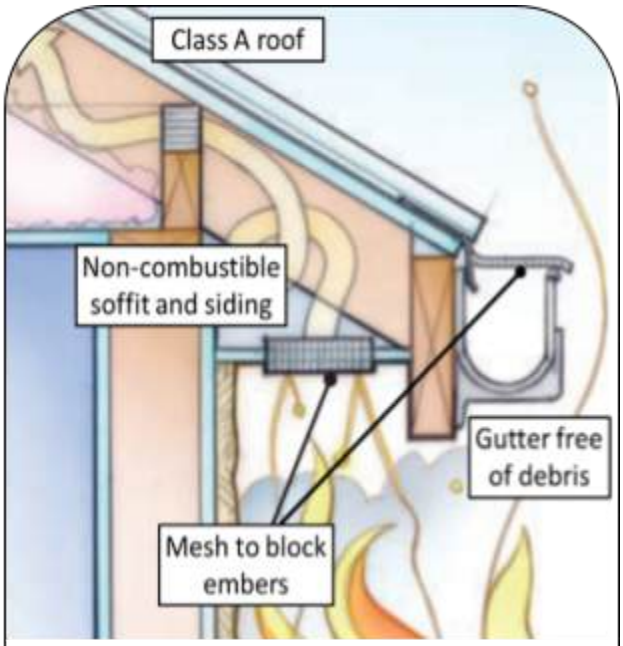
Figure 3.a.5. *Grasses, shrubs, and wildflowers will quickly respond to increased light availability after tree removal, resulting in beautiful ecosystems with lower fire risk. Photo credit: SafeScapes,LLC*

Home Hardening

Home hardening involves modifying your home to reduce the likelihood of structural ignition. Fire not immediate to a home can still threaten the structure as long-range embers travel. Homes in denser neighborhoods are also at risk of short-range embers from nearby homes, which could lead to structure-to-structure ignitions.

Buildings cannot be made fireproof, but the chance of your home surviving wildfires increases when you reduce structural ignitability through home hardening in tandem with the creation and maintenance of defensible space. Figure 3.a.6 depicts important home hardening measures.

Roofs, vents, windows, exterior siding, decks, and gutters are particularly vulnerable to wildfires. Research on home survival during wildfires demonstrates that enclosed eaves and vent screens can reduce the penetration of wind-born embers into structures (Hakes et al., 2017; Syphard and Keeley, 2014). According to the CWPP survey, 38% of respondents are cognizant of fire risks and are taking steps to harden their homes against the dangers of wildfire. As a part of this CWPP, action steps will include outreach to educate homeowners of the importance of home hardening.

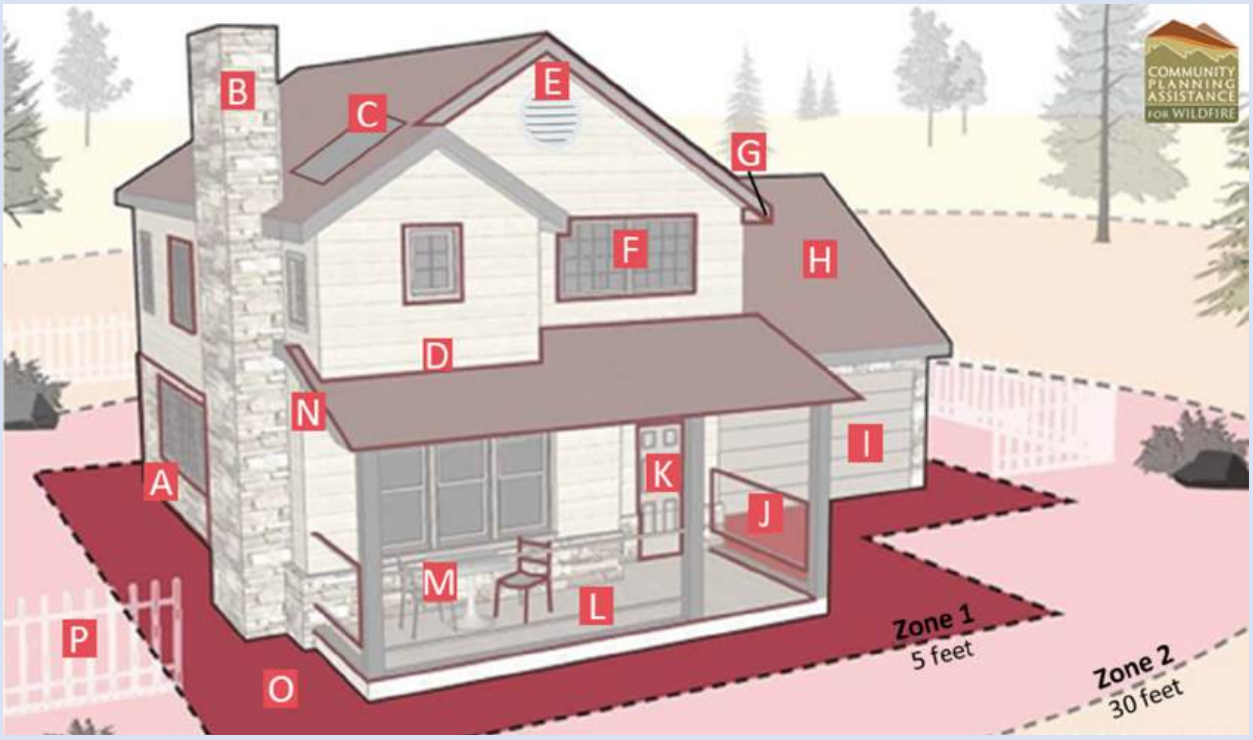


Residents can increase their homes' chance of survival by making it harder for embers to enter and ignite their homes (image from *Healthy Building Science*).

Multi-pane windows have greater resistance to radiant heat. Windows often fail before a home ignites, providing a direct path for flames and airborne embers to enter a home.

It is important to replace wood or shingle roofs with noncombustible materials such as composite, metal, or tile. Ignition-resistant or noncombustible siding and decking further reduce the risk of home ignition, particularly when homes also have a 5-foot noncombustible border of dirt, stone, or gravel. Non-wood siding and decking are often more durable and require less routine maintenance.

There are many low-cost actions you can start with to harden your home (see **Table 3.a.6**). Keep home-hardening practices in mind and use ignition-resistant materials if you replace a hail-damaged roof or remodel your home.



Low-cost actions:

- Cover chimneys and stovepipe outlets with 3/8th to ½ inch corrosion-resistant metal mesh.
- Minimize debris accumulation under and next to solar panels.
- Cover vent openings with 1/16th to 1/8th inch corrosion-resistant metal mesh. Install dryer vents with metal flappers and keep closed unless in use.
- Clear debris from roof and gutters regularly.
- Install metal flashing around and under garage doors that goes up at least 6 inches inside and outside the door.
- Use noncombustible lattice, trellis, or other decorative features.
- Install weather stripping around and under doors.
- Remove combustible materials from underneath, on top of, or within 5 feet of deck.
- Use noncombustible patio future.
- Cover all eaves with screened vents.
- Establish and maintain a 5-foot noncombustible buffer around the home.

Actions to plan and save for:

B. Use noncombustible or ignition resistant siding and trim (e.g., stucco, fiber cement, fire-retardant treated wood) at least 2 feet up around the base of your home.

E. Use multipaned glass for skylights, not materials that can melt (e.g., plexiglass), and use metal flashing.

F. Install a 6-inch vertical noncombustible surface on all gables above roofs.

G. Install multi-pane windows with at least one tempered-glass pane and metal mesh screens. Use noncombustible materials for frames.

H. Install noncombustible gutters, gutter covers, and downspouts.

I. Install ignition-resistant or noncombustible roofs

J. Install 1-hour fire rated garage doors.

A. Install a 1-hour fire rated doors.

B. Use ignition-resistant or noncombustible decking. Enclose crawl spaces.

C. Use noncombustible eaves.

F. Replace wooden fences with noncombustible materials and keep at least 8 feet away from the home.

Figure 3.a.6. *A home can never be made fireproof, but home hardening practices decrease the chance that flames, radiant heat, and embers will ignite your home. Infographic by Community Planning Assistance for Wildfire with modifications to include information from Maranghides et al. 2022.*

Annual Safety Measures and Home Maintenance in the WUI

Reviewing safety protocols, creating defensible space, and hardening your home are not one-time actions, but part of *annual* home maintenance when living in the WUI. During a wildland fire, homes that have clear defensible space are identified as sites for wildland firefighters to engage in structure protection, and homes that are not safely defensible will not usually receive firefighter resources.

The **Georgia Forestry Commission** provides the following recommendations for annual activities to mitigate risks and increase your wildfire preparedness:

- ✔ Check fire extinguishers to ensure they have not expired and are in good working condition.
- ✔ Review your family's evacuation plan and practice family fire and evacuation drills.
- ✔ Verify that your home telephone number, cell phone, and/or email are properly registered for emergency notifications. Visit the Rabun County Office of Emergency Management website on emergency notifications for more information.
- ✔ Review the contents of your "go-bag" and make sure it is packed and ready to go. Visit the "*Ready, Set, Go*" website at iafc.org to learn about preparing go-bags. Your go-bag should include supplies to last at least three days, including cash, water, clothing, food, first aid, and prescription medicines for your family and pets. Keep important documents and possessions in a known and easily accessible location so you can quickly grab them during an evacuation.
- ✔ Pay attention to red flag-day warnings from the National Weather Service and stay vigilant. Ensure your family is ready to go in case of an emergency.
- ✔ Walk your property to identify new hazards and ways to maintain and improve current defensible space. Take pictures of your defensible space to help you monitor regrowth and determine when additional vegetation treatments are necessary.
- ✔ Clear roofs, decks, and gutters of pine needles and other debris. Remove all pine needles and flammable debris from around the foundation of your home and deck. Remove trash and debris accumulations within 30 feet of your home. Repeat throughout the year as necessary.
- ✔ Properly thin and prune trees and shrubs that have regrown in home ignition zones 1 and 2 (0-5 feet and 5-30 feet from your home). Remove branches that overhang the roof and chimney. Prune trees and shrubs that are encroaching on the horizontal and vertical clearance of your driveway.
- ✔ Mow grass to a height of 4 inches or less within 30 feet of your home, camper / RV, sheds, and barns. If possible, keep your lawn irrigated, particularly within 30 feet of your home. Consider replacing dry grasses with Firewise Plant Materials that are more drought tolerant and less flammable.
- ✔ Check the visibility of your address and remove vegetation that obscures it.
- ✔ Dispose of leaves, needles, and branches. This debris can be dropped off at the C & D landfill for a fee per ton. More information can be found at Rabun County's website rabuncounty.ga.gov/recycle solid waste
- ✔ Check screens over chimneys, eaves, and vents to make sure they are in place and in good condition.
- ✔ Ensure that an outdoor water supply is available for responding firefighters. Put a hose and nozzle in a visible location. The hose should be long enough to reach all parts of your home.

Mitigation Barriers and Opportunities

Homeowners and residents in the WUI share concerns about mitigating risk and maintaining safe conditions in their home ignition zone. **Table 3.a.7**. proposes several opportunities to address these challenges.

Table 3.a.7. *Common concerns from Rabun County residents in the WUI, and potential solutions to encourage mitigation measures in the home ignition zone.*

Concern	Potential solutions
I don't have the resources to invest in defensible space.	Creating adequate defensible space can take years and a significant financial investment. Fortunately, there are **effective, low-cost measures** that residents can start with: ✔ Annually remove leaves, needles, and other vegetation from roofs, gutters, decks, and around the base of homes ✔ Use hand tools like a pole saw to remove tree branches that hang less than 10 feet above the ground ✔ Remove combustible materials (dry vegetation, wooden picnic tables, juniper shrubs, etc.) from underneath, on top of, or within 5 feet of decks ✔ Remove downed logs and branches within 30 feet of all structures ✔ Participate in community slash pickup dates organized by local homeowners' associations ✔ Apply for cost-sharing grants with your neighbors to subsidize the creation of defensible space (see **Section 3.f.** for potential funding sources). ✔ Encourage your community to become Firewise certified. Grant funding is available through the Georgia Forestry Commission's Firewise Hazard Mitigation Grant for all certified Firewise communities. ✔ Research tax credits that will offset the costs or the work you want to do.
I am afraid that removing trees will destroy the forest and reduce the aesthetic and monetary value of my property.	The reality is that nothing will decrease the value of your home as much as a high-severity wildfire burning all the vegetation in the community, even if your home survives the fire. ✔ Drive around the community and look for homes that have followed the guidelines in **Figure 3.a.2** and **Table 3.a.3**. Some properties in Rabun County have exemplary defensible space and beautiful landscaping at the same time. ✔ Read Master Gardener Laura Anderson's lists of "Georgia's Most Flammable & Less Flammable Plants, Shrubs, Grasses, Ground Covers and Trees" at https://www.wildcatcommunityga.org/

	✔ Read "Firescaping" from firesafemarin.org for suggestions on beautiful, fire-resistant landscaping. As an added benefit, fire-resistant landscaping is often more drought tolerant. ✔ Learn more about the role of fire in Rabun County's ecosystems at https://gatrees.org/resources/ . Restored ecosystems can be aesthetically pleasing, benefit wildlife and light-loving wildflowers and grasses, and protect your home from high-severity wildfires.
My neighbors haven't mitigated risk on their property.	Some residents in Rabun County are rightfully concerned about high hazards on their *[ex: neighbors' properties, surrounding public land, HOA open space, etc.*] Your home ignition zone might overlap with your neighbor's property. Given the high fire risk in the area, it is important that residents across Rabun County create defensible space and harden their homes. Ideas to inspire action by your neighbors include: ✔ Working with your Community Ambassador, your HOA, and other community groups to help educate your community about the benefits of defensible space and home hardening. ✔ Encourage the community to take part in the national Firewise Program. This program will help unify community members and encourage a safer landscape for all. ✔ Organizing walking tours to visit the property of residents with exemplary defensible space. Witnessing the type of work that can be done, and seeing that a mitigated property can still be aesthetically pleasing, can encourage others to follow suit. ✔ Inviting your neighbors over for a friendly conversation about the risk assessment in this CWPP. Review resources about defensible space together, discuss each other's concerns and values, and develop joint solutions to address shared risk.

Fire-resistant landscaping in zone 1 can be aesthetically pleasing and more drought tolerant, requiring less watering during the summer. Limbed and thinned trees in zone 2 (as seen in the background of this photo) can create beautiful, open conditions that allow understory vegetation to flourish under higher light conditions and provide habitat for wildlife.

Photo credit: National Master Gardener Program

Evacuation Preparedness

The best way to get out quickly and safely during an evacuation is to be prepared with a go-bag and have a family emergency plan **before** the threat of wildfire is in your area. Talk to children and elderly family members about what they are expected to do and make necessary plans for pets and/or livestock. Visit the CodeRED Service for information on go-bags and evacuation planning. Signing up for local emergency notifications can also help you leave quickly. Residents should register their cell phones and email addresses through CodeRED Service, the official emergency notification system for Rabun County[1]. See the Rabun County Emergency Management Office website for more information on emergency notifications and CodeRED service at https://rabuncounty.ga.gov/ema

Evacuation preparedness is the responsibility of each resident in Rabun County. Unfortunately, only 11% of respondents to the CWPP survey have evacuation plans for their family and only 3% have go-bags at the ready. These are simple and crucial actions that can save lives.

Understand the types of emergency communications you might receive during an incident. The following definitions are provided by the Rabun County Emergency Management Office.

> ***Advisory messages*** will *provide information but do not require any action on your part*.
>
> ***Instruction messages*** provide information *AND require you to take some action to be safe.* There are *three types* of standard instructions:

- ***Shelter in place:*** *There is a hazard in your area, and you should remain or go indoors; you should not go outdoors, and not evacuate the area. This may be the safest strategy for hazardous materials, law enforcement, or other incidents wherein an evacuation could actually increase the danger to you and others.*
- ***Pre-evacuation:*** *There is a hazard in your area that may require you to evacuate soon. Everyone should be prepared to leave at a moment's notice. If you feel you are in danger and want to leave, do so. If you need additional time to evacuate, you should consider leaving now. If you need to arrange for transportation assistance, you should do so immediately. If you have livestock or other large animals, you should consider removing them from the hazard area now.*
- ***Evacuation:*** *There is a hazard in your area and you have been ordered to evacuate immediately. If you need assistance evacuating yourself or need help evacuating animals, call 911. You will be provided with the safest escape routes known, so make sure you follow the instructions as other routes may be closed or unpassable. You will also be told where an evacuation point has been established to provide information and a safe place if you have nowhere else to go.* ***Do not delay – evacuation means you need to leave immediately!***

Some residents have family members or neighbors with physical limitations who might struggle to evacuate in a timely manner. Family members or individuals living alone also need to address the unique needs and vulnerabilities that arise from mobility or hearing impairments during an evacuation. Other residents are concerned about school-aged children who might be home alone during an evacuation.

[1] Code Red is the official emergency notification system for Rabun County as of the writing of the RCFPD CWPP in 2024.

Parents should work with their neighbors to develop a plan for how their children would evacuate if they were to be home alone. Families with these concerns should put extra time into having go bags ready

and using the earliest evacuation warnings to leave in the event of a wildfire, rather than waiting for mandatory evacuation orders. Having a plan in place ahead of time can ensure prompt evacuations and save lives during wildfires.

Residents with livestock trailers or large camper vehicles should plan to leave during voluntary evacuation notices to allow time for their preparations and create more space on the roads for other residents during a mandatory evacuation. It is important to have a plan for where to take livestock to reduce some of the chaos and uncertainty created by wildfire evacuations.

Follow evacuation etiquette *to increase the chance of everyone exiting the RCFPD in a safe and timely manner during a wildfire incident:*

- Rabun County uses CodeRED and asks residents to register for emergency notifications through CodeRED for timely information about evacuations.
- See the https://rabuncounty.ga.gov/ema for details.
- Leave as quickly as possible after receiving an evacuation notice.
- Have a go-bag packed and ready during the wildfire season, especially on days with red flag warnings.
- Leave with as few vehicles as necessary to reduce congestion and evacuation times across the community.
- Drive safely and with headlights on. Maintain a safe and steady pace. Do not stop to take pictures.
- Yield to emergency vehicles.
- Follow directions of law enforcement officers and emergency responders.

Photo Credit: Georgia Forestry Commission

Accessibility and Navigability for Firefighters

Address signs

Installing reflective address numbers can save lives by making it easier for firefighters to navigate to your home at night and under smokey conditions. Reflective signs are available from Rabun County, making it an easy and inexpensive action you can accomplish to protect firefighters and your family. Mount reflective address signs on noncombustible posts, not on stumps, trees, wooden posts, or chains across driveways. Chains and cables across driveways, as well as gates should be removed or opened during wildfire suppression to facilitate access to your property. Make sure the numbers are clearly visible from both directions on the roadway.

Driveways

It is important to ensure emergency responders can locate and access your home. Narrow driveways without turnarounds, tree limbs hanging over the road, and lots of dead and down trees by the road may make firefighters choose to not defend your home during a wildfire event (Brown, 1994).

Some roads in Rabun County have accessibility and navigability issues, such as [*ex: narrow widths, inadequate vertical clearance for engines, and heavy fuel loading on the sides of the road*]. These unsafe road and driveway conditions could turn firefighters away from attempting to defend homes. According to the National Fire Protection Association, driveways and roads should have a minimum of 20 feet of horizontal clearance and 13.5 feet of vertical clearance to allow engines to safely access the roads (O'Connor, 2021).

Many driveways within Rabun County do not meet current access requirements and pose safety issues that are difficult to mitigate. [ex: long, narrow, steep curvy driveways lacking turnarounds with dense trees on the sides of the road, etc.] can create challenges for emergency response vehicles during wildfires. Home hardening and fuel mitigation are particularly important to reduce wildfire risk around homes with accessibility issues.

Photo credit: SafeScapes, LLC

Where possible, residents should improve roadway access, and where this is not feasible, it is vital that homeowners take measures to harden their home and create defensible space. Some actions to increase access to your home are simple, such as installing reflective address numbers, and others take time and investment, such as widening driveways to accommodate fire engines.

Private Water Resources

Rabun County Fire Service has access to a wide array of water resources throughout Rabun County. Many of these water resources are located on private property and require clear and passable access for the fire engines. Dry hydrants can be found in ponds and lakes throughout the county, many of which can be accessed by helicopter in aerial wildfire defense. Fire Boats are staged at all of the Georgia Power lakes that have dense populations of homes, such as Lake Burton, Lake Seed and Lake Rabun. These boats can access homes located near the lakes for timely fire defense. There are some of the communities throughout the county that have pressurized fire hydrants which will flow sufficient amounts for water for fire fighting efforts (mostly urban cities and towns).

Most importantly, create defensible space around your home and buildings so that water resources can be used effectively. [*Ex: In the Rabun County foothills and mountains, water is not a reliable resource.]* Maintaining a property that requires less water and resources to defend is more likely to survive a fire. See **Table 3.a.3** and **Figure 3.a.6** for guides on defensible space and home hardening recommendations.

Steps to enhance firefighter safety and access to your home:

- Install reflective address numbers on the street to make it easier for firefighters to navigate to your home under smokey conditions and at night. Make sure the numbers are clearly visible from both directions on the roadway. Use noncombustible materials for your address sign and sign supports. **Installing reflective address numbers can save lives and is inexpensive and easy to accomplish.**
- Address roadway accessibility for fire engines. Long, narrow, steep, and curving private drives and driveways without turnarounds significantly decrease firefighter access to your property, depending on fire behavior.
- Fill potholes and eroded surfaces on private drives and driveways.
- Increase fire engine access to your home by removing trees along narrow private drives and driveways so the horizontal clearance is 20 feet wide, and prune low-hanging branches of remaining trees so the unobstructed vertical clearance is at least 13.5 feet per the National Fire Protection Association (O'Connor, 2021).
- Park cars in your driveway or garage, not along narrow roads, to make it easier for fire engines to access your home and your neighbors' homes.
- Clearly mark septic systems with signs or fences. Heavy fire equipment can damage septic systems.
- Clearly mark wells and water systems. Leave hoses accessible for firefighters to use when defending your home, but **DO NOT** leave the water running. This can reduce water pressure to hydrants across the community and reduce the ability of firefighters to defend your home.
- Post the load limit at any private bridges or culverts on your property.
- Leave gates unlocked during mandatory evacuations to facilitate firefighter entrance to your property.
- Leave exterior lights on to increase visibility.
- If time allows, leave a note on your front door confirming that all parties have evacuated and providing your contact name and phone number.

3.b. Neighborhood Recommendations

The CWPP is a useful planning document, but it will only affect real change if residents, neighbors, Rabun County officials, other community groups, and agency partners come together to address shared risk and implement strategic projects. This section of the CWPP discusses the concept of linked defensible space and mosaic landscapes and provides relative hazard ratings and specific recommendations for CWPP plan units in Rabun County. CWPP plan units are groups of neighborhoods with shared fire risk. We encourage residents within CWPP plan units to organize and support each other to effectively reduce wildfire risk and enhance emergency preparedness.

Linked Defensible Space

The home ignition zone of individual residents can overlap that of their neighbors, so wildfire hazards on one property can threaten adjacent properties. Structures that are on fire can emit significant radiant heat and embers and endanger homes and structures near them**.**

Neighbors can increase their homes' chances of survival during a wildfire if they work together to create linked defensible space. Linked defensible space also creates safer conditions and better tactical opportunities for wildland firefighters. According to James White, the Prescribed Fire and Fuels Specialist with the USDA Forest Service, "Broadcast burning, mechanical thinning, and other treatments are proven to mitigate wildfire risk, but they are even more effective when we work together to integrate treatments across the landscape, across borders and ownerships" (Avitt, 2021). Defensible space projects that span ownership boundaries are better candidates for grant funding due to their strategic value.

How can you help inspire action by your neighbors? Start by creating defensible space and hardening your own home. Then try the ideas below:

- Invite your neighbors over for a friendly conversation about the risk assessment in this CWPP. Review resources about defensible space together, discuss each other's concerns and values, and develop joint solutions to address shared risk.
- Volunteer with the Rabun County Fire Departments, the Georgia Forestry Commission and the USDA Forest Service to help educate your community about the benefits of defensible space and home hardening.
- Help organize walking tours in your neighborhood to visit the property of residents with exemplary defensible space. Witnessing the type of work that can be done, and seeing that a mitigated property can still be aesthetically pleasing, can encourage others to follow suit.

Mosaic Landscapes

Varied fuel types are known to slow the spread of fire, and heterogeneous landscapes (landscapes with multiple fuel types and trees of different sizes and ages) are more typical of historical forest conditions (Duncan et al., 2015). Creating a mosaic landscape in neighborhoods can help slow fire spread by changing the fuel types as it moves across a hill or valley. A mosaic landscape can be created in many ways. For example, a neighborhood could have a few acres of old growth conifer trees next to a couple acres of oak and hickory stands, and a few acres of young regenerating conifer trees by a large grassy meadow. This can be arranged in many ways for aesthetic and tactical purposes, and will resemble a patchwork quilt or mosaic art. The homes in these patches still need to have adequate defensible space, but this would create a more diverse landscape where fire may move slower as it transitions between forest types and unforested locations like shrublands or meadows. Slower fire movement means firefighters have time to defend more homes in the neighborhood.

CWPP Plan Units: Relative Risk Ratings and Priority Action

CWPP plan units are areas with shared fire risk where residents can organize and support each other to effectively reduce wildfire risk and enhance emergency preparedness. Rabun County Fire Services delineated 12 plan units by considering clusters of addresses, connectivity of roads, topographic features, land parcels, and local knowledge of community organization (**Figure 3.b.**). Topographic features were considered by utilizing sub-watershed boundaries to guide plan unit boundaries. We included topographic features into the delineation process to ensure that different units encompass areas with similar fire behavior. Land ownership also played a role in establishing unit boundaries. No plan unit splits a land parcel, ensuring that fuel treatment recommendations within each plan unit can be realistically implemented by landowners. Amendments were made to boundaries based on local knowledge from Rabun County Fire Services.

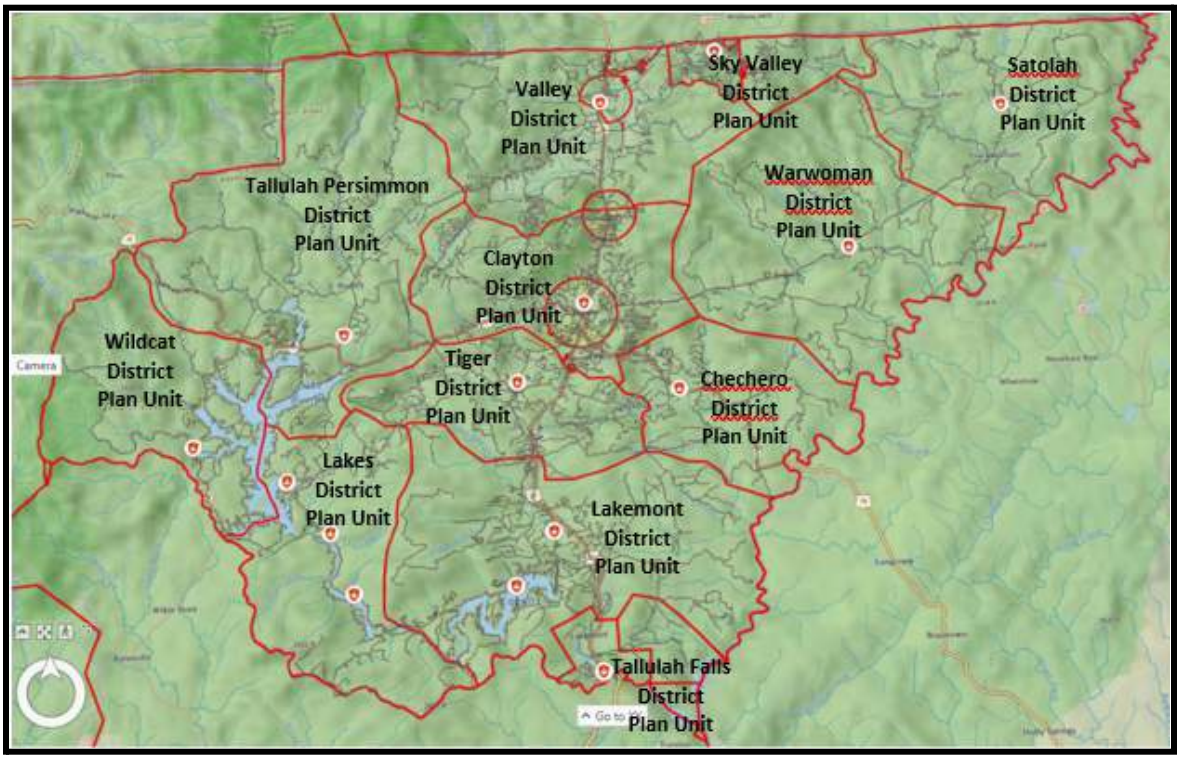


Figure 3.b. CWPP Plan Units in Rabun County.

The potential for wildfires to pose a threat to lives and property is moderate to extreme across Rabun County, but risk is relatively higher in some parts of the district than others. Plan units with higher relative risk are strong candidates for immediate action to mitigate hazardous conditions. However, plan units with moderate relative risk still possess conditions that are concerning for the protection of life and property in the case of a wildfire. Appendix B gives a description of how the relative risk ratings were determined for each plan unit.

CWPP plan units in Rabun County show higher hazard ratings because of road access, secondary road characteristics; lack of defensible space; slope of property; vegetation; excessive fuel accumulations; surrounding environment; and building construction hazards. (**Figure 3.b.1i. to Figure 3.b.12iii.**).

UNIT 1 CLAYTON – Moderate relative risk rating

Predicted wildfire risk:

Wildfire risk: Moderate

Wildfire risk to homes: Homes in the valley/town region have slight risk from embers. Homes located in steeper terrain are at extreme risk

Dominant Fire Type: Surface to passive, with some of the regions on upper slopes experiencing active crown fires

Plan Unit 1 includes the City of Clayton and its surrounding areas. (see ***Figure 3.b.1.i.***) This district/plan unit is unique in that most of the area is in the city limits and is considered to be at "low risk" due to the lack of vegetation and solid infrastructure. However, the city sits in a valley that is surrounded by mountains that are densely forested. Clayton is at the southern base of 3,640-foot Black Rock Mountain. Immediately to its east is 3,000-foot Screamer Mountain. Other Blue Ridge Mountain peaks between 2,500 and 3,500 feet surround the city. In the event of a large wildfire in the surrounding mountain areas, there is a risk for ember showers raining down on the valley below. Captain Andy Beck, along with Clayton Fire Station 1 members, accessed their district and found that the areas of most concern are those mountainous areas just outside the downtown area and rated four communities as being at "high to extreme risk". Plan Unit 1 Chart (***Figure 3.b.1.ii.)*** outlines the home around the city as well as the neighborhoods of Screamer Mountain, Black Rock Estates/Germany Road, Pinnacle Knob and homes located off of Georgia Highway 76.

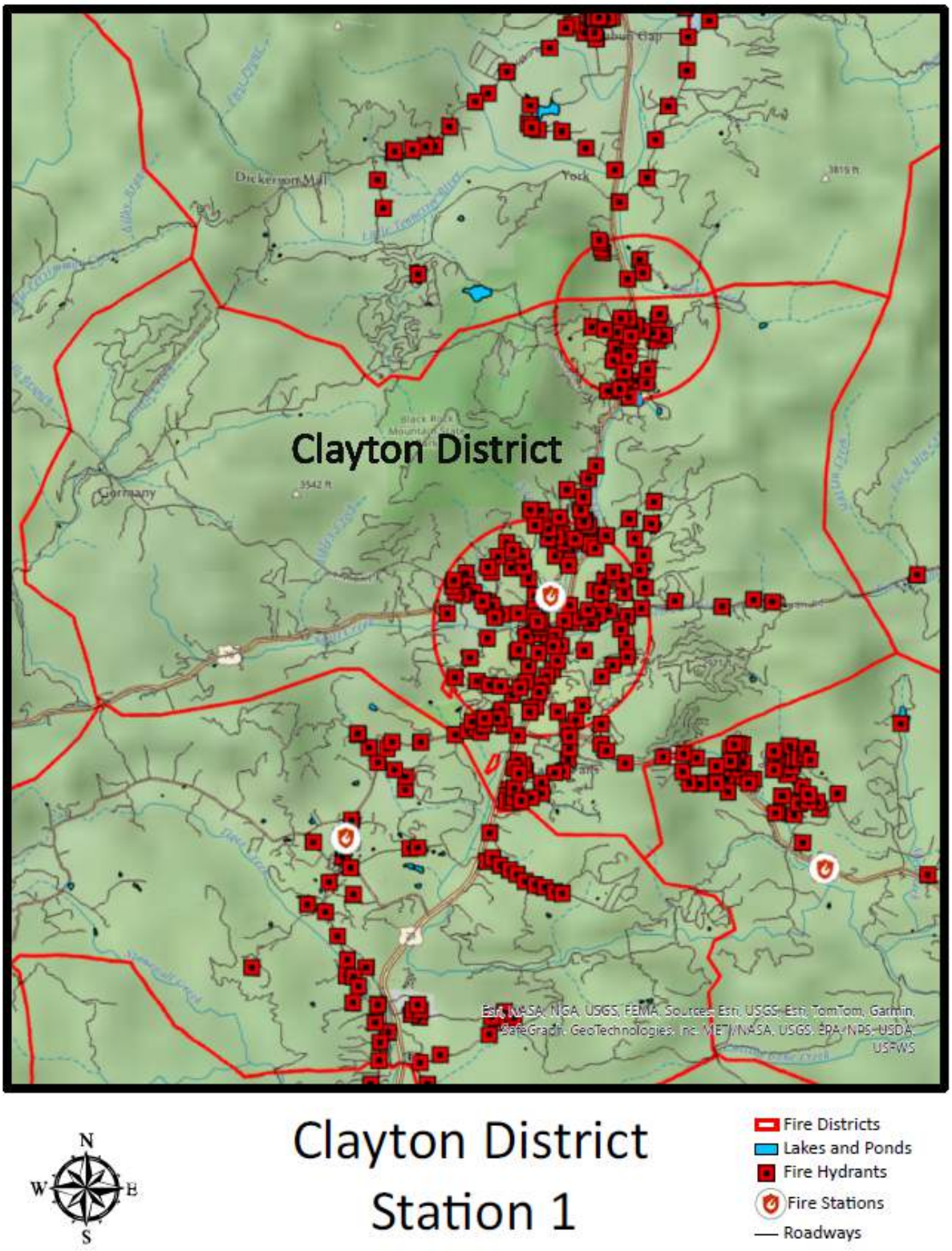


Figure 3.b.1.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 1 - Clayton District*

District/Plan Area 1 Clayton			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
City of Clayton Five Points Mountain City-Old 441	46 61 83	Low Risk Low Risk Low Risk	● Solid infrastructure ● Very little vegetation ● Homes have defensible space ● Accessible Roadways ● Easy access to pressurized hydrants ● Areas sits in a valley surrounded by mountains that are densely forested ● Risk of ember showers in the event of wildfire in surrounding mountains
Blackrock Estates Germany Road	148	Extreme Risk	● Germany Road is a paved two-lane road forested on both sides ● Heavy fuel accumulation from beetle infestation ● Narrow secondary roads with steep grade and no outlet ● Steep narrow driveways; some gated and locked restricting access for firefighters ● Borders un-thinned unmanaged US Forest Service property ● A private air strip, "Angel's Landing", could possibly be used in the event of a wildfire disaster
76 West	153	Extreme Risk	● Highway 76 runs along Timpson Creek in a dell with secondary roads leading uphill to private property and homes ● Secondary roads are narrow and dead end with little turn around space ● Dense vegetation; little to no defensible space ● Obstructing overhead branches in driveways ● Homes in the dell are at lower risk ● Open valley area could serve as a safety area for evacuees
Screamer Mountain	148	Extreme Risk	● Extremely steep, curvy, and narrow roadway up to homes atop Screamer Mountain ● Community bridge at base of mountain could restrict access for emergency vehicles-appears to lack metal reinforcement ● Locked gates restrict access to some homes ● Lack of defensible space around many homes with thick tress with touching crowns ● Home addresses clearly marked ● Water Sources are available (pressurized hydrants) ● FireWise Community Designation o Pull out areas on narrow roadways to allow for passing traffic o Evacuation routes with clear signage
Pinnacle Knob	148	Extreme Risk	● Pinnacle Road leads to several secondary roads that are very narrow with no outlets ● Heavily forested, dead hemlock and pine accumulations ● Vacant lots with thick vegetation ● Driveways with extremely steep inclines ● Abandoned structures surrounded with heavy fuel ● Small bridge over Norton Creek that could be a concern for heavy fire suppression vehicles ● In addition to private homes, area includes Camp Pinnacle Women's Ministry ● Pond at Camp Pinnacle serves as a water source for community; however, entrance is gated limiting access

Figure 3.b.1.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 1 - Clayton District*

Recommendations for collective action in Unit 1 Clayton:

- Designation of open areas in **Clayton** that can serve as safety zones should catastrophic wildfire occur
- Identification of and taking steps necessary for creating an adequate defensible space around structures
- Secure grant funding to off-set the cost of creating this defensible space for citizens in extreme areas
- Access roads or drives leading to these extreme risk areas in Blackrock Estates/Germany Road area would benefit from roadway widening, or pull offs to accommodate fire fighting responders and the ability to evacuate citizens if necessary
- Provide easy access to community water source at **Camp Pinnacle** for firefighters (gated roadway to Camp Pinnacle pond)
- Assess Norton Creek bridge in **Pinnacle Knob Community** to determine weight limits and add reinforcements if needed to ensure that it will support heavy fire suppression vehicles
- Assess **Screamer Mountain Community** bridge at the base of the mountain to determine weight limits and add reinforcements if needed to ensure that it will support heavy fire suppression vehicles (This bridge is a concrete slab that appears to lack any metal reinforcement)
- Educate community members on the benefits of becoming a Firewise Community, using Screamer Mountain as an example
- Add evacuation plans and signage in Pinnacle Knob Neighborhoods and **Black Rock Mountain Estates/Germany Road** (**Screamer Mountain** has done this and can be used as an example)

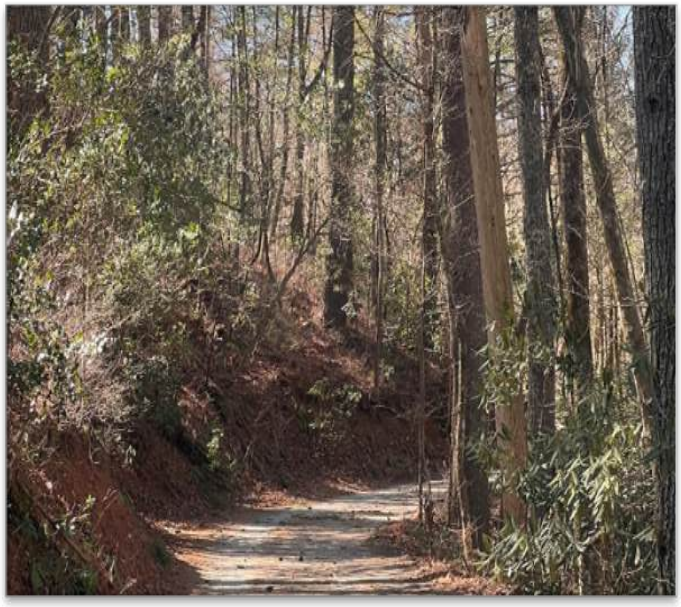
Bridge at the Norton Creek in Pinnacle Knob needs to be assessed for weight limits and improvements made if necessary

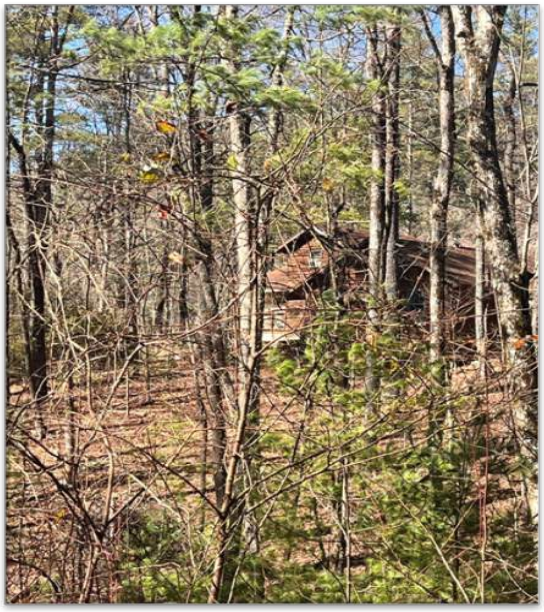
Photo credit: SafeScapes, LLC

Evacuation Plan and Signage at Screamer Mountain
Photo credit: SafeScapes, LLC

Example of home on Screamer Mountain that needs to create defensible space around home and propane tank Photo credit: SafeScapes, LL

UNIT 2 WARWOMAN – Extreme relative risk rating





Predicted wildfire risk:

Wildfire risk: Extreme	Dominant Fire Type: Active canopy fires in most areas
Wildfire risk to homes: Extreme	

Warwoman District/Plan Unit 2 Dell is located in ***Rabun County*** east of Clayton, ***Georgia***. It includes a wooded valley or dell with ***Warwoman*** Creek flowing through the valley. Warwoman Rd runs from Clayton, GA on GA 23 14 miles east till it intersects with the GA 28. See map in ***Figure 3.b.2.i.*** This road hugs the rolling foothills of the Blue Ridge Mountains with dense National Forest Land, State Wildlife Management Areas as well as private property with homesites and farm pastures. Warwoman District (Plan Unit 2) includes a large portion of the Chattahoochee National Forest, and is heavily laden with fuels that amplify the risk levels in this district. There have been some fuel reduction projects conducted, such as prescribed burning, but more remains to be done. The narrow dell running through the Warwoman district offers some solace to the fire problem, and adds some water sources for fire fighters with small ponds and dry hydrants. The structures in the dell areas have good defensible space and could offer safety zones in the event of a catastrophic wildfire. Roads leading off of Warwoman road in either direction have steep slopes and entrenched one lane roadways abound. Homes with little to no defensible space are abundant. Measures should be taken to widen road ways and driveways to allow for ingress and egress should fire response and evacuation be necessary. County officials should seek funding to assist in these wildfire mitigation practices. Individual homeowners should be contacted and their property assessed in order to address the mitigation needs in creating the defensible space where practical. The fire district should be equipped to help in mitigation projects with apparatus that can navigate the slopes. Figure ***3.b.2.ii*** provides more details about each community within the Warwoman District Plan Unit 2.

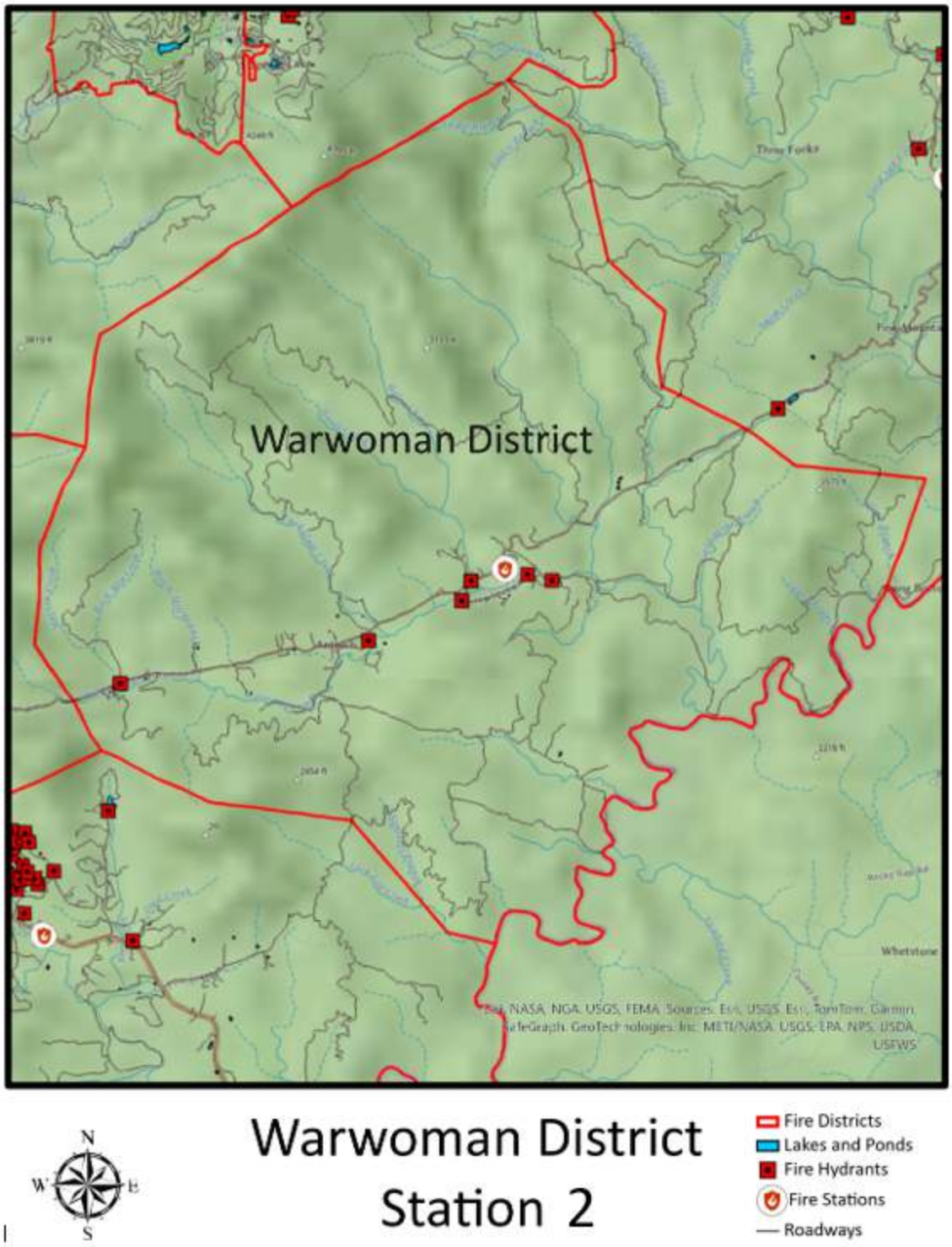


Figure 3.b.2.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 2 - Warwoman*

District/Plan Area 2 Warwoman			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Doug Bleckley Lane and Jasper Ridge	151	Extreme Risk	● 7 homes, most have some defensible space within the 30 feet zone ● steep narrow paved road with no outlet ● community is surrounded by large forested areas
Jasper Lane	178	Extreme Risk	● 3 Homes ● Dense fuel extremely close to homes ● Touching crowns and vegetation within mere inches ● Extremely rough unmaintained driveways ● Very steep, narrow roads
Cliff Speed Lane	138	High Risk	● 7 Homes surrounded by large forested areas ● narrow, but maintained gravel roadway with secondary roads/driveways ● Inadequate turn around space ● Abandoned structures with ladder fuels ● pine needles and mixed stands of hardwoods and pines
Sandy Ford Road	175	Extreme Risk	● 6 homes with Moderate defensible space ● Inholdings within a large remote area of USFS land ● Addresses are marked ● Winding five miles leading to rough dirt road ending at Chattooga River/SC Border ● Low weight bridges ● Creek fords on main road and one driveway ● Water sources are marked and accessible
Joe Speed Road, Speed Hill, Precision Lane, Sentinel, Cobb	165	Extreme Risk	● 26 Homes, most have defensible space within 30 feet ● Steep driveways ● Recently 2 homes were completely destroyed by fire ● Water sources (dry hydrants) along Warwoman Creek running parallel to main road ● Limited visibility along narrow roadways ● Restricting bridges ● Surrounded by large forested areas
I Farmer Lane	157	Extreme Risk	● 5 Homes lacking defensible space ● Abandoned structures ● Dead-end unmaintained road; Low clearance with overhanging branches ● Steep embankments on each side ● No space at the dead end for turn around
Seven Winds	187	Extreme Risk	● 7 Homes lacking defensible space ● Many built of fire-resistant materials ● half-mile narrow dead-end gravel road that leads to USFS property ● Heavy fuel accumulation; Dead and downed hemlocks; Excessive ladder fuels ● Dense forests adjoin three sides of community ● Previous homeless encampments were noted
Willis Knob	175	Extreme Risk	● 2 inholdings within USFS land with heavy vegetation and no defensible space ● curvy dirt and gravel forest service road ● many hiking and equestrian trails, ● campground and horse camp

***Figure 3.b.2.ii**. Assessment ratings and notes for Plan Unit 2- Warwoman District*

Recommendations for collective action in Unit 2 Warwoman:

- **Doug Bleckley Lane** and **Jasper Ridge** should have roadway widening, or pull outs created to enable emergency vehicle ingress and evacuation egress.
- **Jasper Lane** is very narrow, rutted and in need of grading, as well as widening. The three homes in this region of the community have very little defensible space, with excessive ladder fuels, and should consider establishing defensible space of 30 feet at a minimum.
- **Cliff Speed Lane** is very narrow and should be widened to allow for emergency vehicle ingress and evacuation egress. The expansion of a turn around area at the end of the roadway is necessary to accommodate emergency equipment in the event of a wildfire.
- **Sandy Ford Road** contains homes that are in holdings surrounded by USDA Forest Service (Chattahoochee National Forest), some of this federal forest expanse has been prescribed burned in the past to mitigate fuel accumulations, this prescribed burn regime should continue, and be expanded to take in more of the region. There were several locked gates leading to properties that could hamper firefighting efforts. The road bed was well maintained at the time of inspection.
- **Joe Speed Road, Speed Hill, Persian Lane, Sentinel and Cobb** are narrow and in need of expansion to allow for emergency vehicle ingress and evacuation egress. The bridges in this region should be evaluated for tonnage capacity and upgraded as needed. Consideration should be made to the installation of more dry hydrants in the creek as needed, as well as other water sources.
- **I Farmer Lane** is in need of grading and widening to allow for emergency vehicle ingress and evacuation egress. The dead end roadway is in need of a sufficient turn around area to accommodate emergency vehicles. Abandoned structures should be removed.
- **Seven Winds** is in need of expansion to accommodate ingress and egress. Removal of excessive fuels due to insect infestations should be removed.
- Since the **Willis Knob** area contains a USFS campground and horse camp, outreach and education of campers and outdoors enthusiasts is recommended to reduce wildfire start from forest visitors. These private inholding within the Chattahoochee National Forest appear to have some defensible space, but prescribed fire will be necessary to reduce fuel on federal lands to reduce the risk.
- Mitigation of fuels within 20 feet of the roadways across the entire plan unit will enable safer evacuations as fire intensity in these areas will be reduced should a wildfire occur.
- Many homes across the plan unit are in need of fuels mitigation to expand the defensible space to a minimum of 30 feet where practical.
- The USDA Forest Service fire program managers should continue and expand their prescribed fire program within the Warwoman Fire District.

Photos L-R: Roadways in Jasper Ridge area are in desperate need of widening and maintenance; Creek flows over driveways in the Sandy Ford area

Photo Credit: SafeScapes, LLC

UNIT 3 TALLULAH PERSIMMON – Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Passive to active canopy fires

Fire Chief Jeff Hooper along with members of Rabun County Station 3 gave the Tallulah Persimmon District/Plan Unit 3 a relative risk rating of high to extreme. This covers five communities including Persimmon and its surrounding neighborhoods, along with Tate City in Towns County. (See map illustration in ***Figure 3.b.3.i.)*** Due to the remoteness and road accessibility, Rabun County County Station 3 can respond much more quickly to Tate City than the Towns County Unit. The Tallulah Persimmon District (Plan Unit 3) is no stranger to wildfire. This area experienced one of the largest wildfires in recent history for Rabun County back in the autumn of 2016. The wildfire burned through much of the Chattahoochee National Forest in this area, and threatened many of the structures of the people who call this area home. The narrow dell that runs through the center of this district offers some refuge, as well as water resources for firefighters. This region is accessed by Persimmon Road, and offers great ingress and egress, although roads to the east and west of Persimmon Road are steep and entrenched. Figure ***3.b.3.ii*** provides more details about each community within the Tallulah Persimmon District Plan Unit 3.

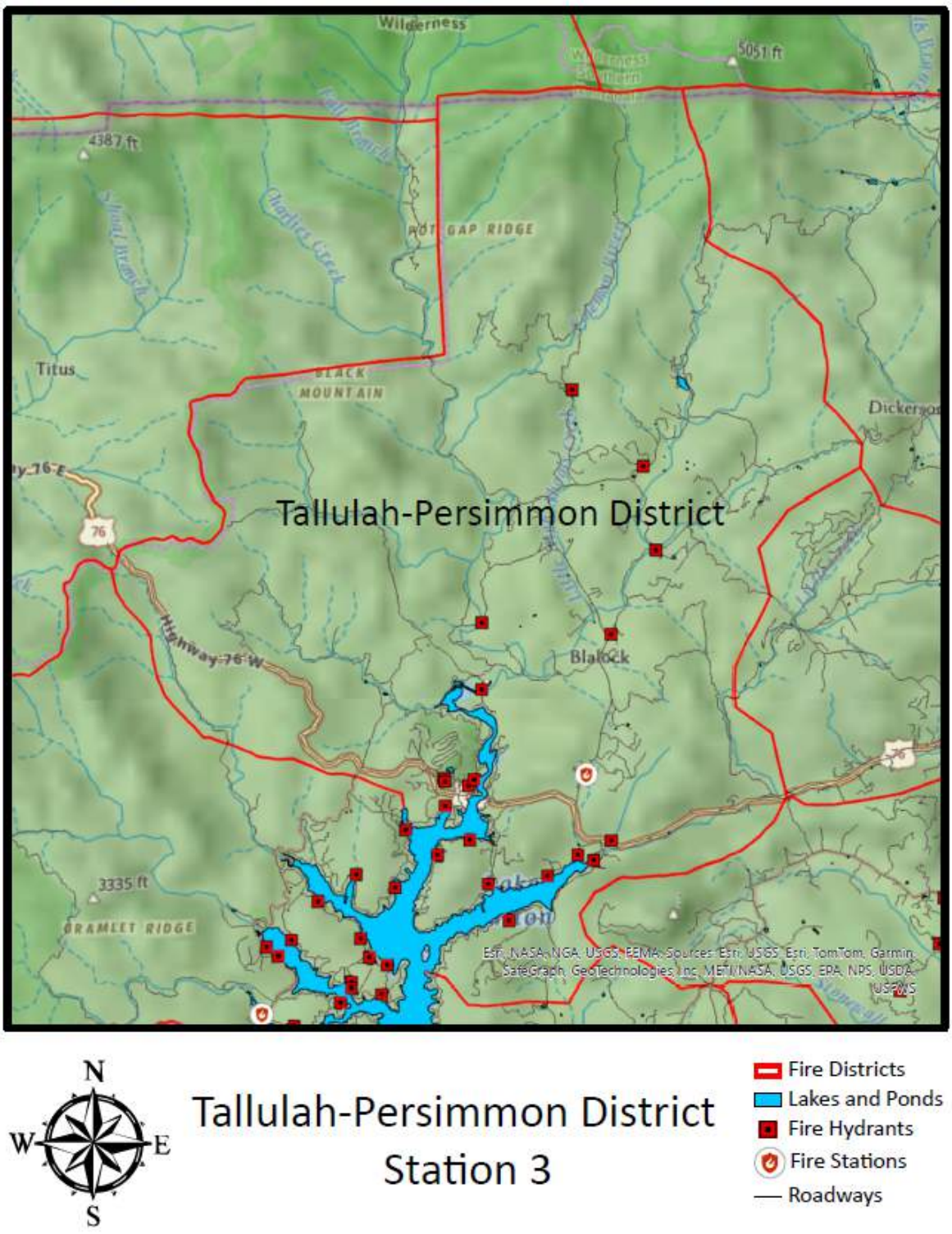


Figure 3.b.3.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 3 - Tallulah Persimmon District*

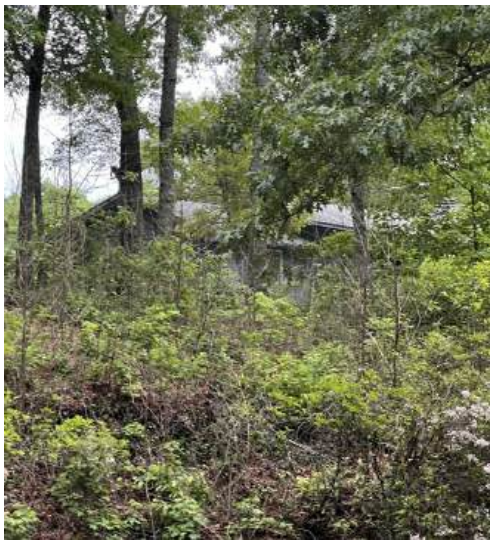
District/Plan Area 3 Tallulah Persimmon			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Persimmon Community Lookout Ridge	169	Extreme Risk	● 10 homes surrounded by thick forests ● gravel one-lane road has pavement in some of the steepest areas dead ending with no turn around space ● Beetle damage has contributed to the fuel load with many dead and dying white pines on vacant lots between homes ● No water source, however community is located within a mile of the fire station
Plum Orchard	137	High Risk	● Very remote and hard to access ● Conservation community and is protected by a conservation easement through Georgia-Alabama Land Trust ● Broad knolls and ridge tips with large densely forested acreage are around the privately-owned inholdings ● Almost completely surrounded by U.S. Forest Service Lands ● Remnants of the original settler's cabins and home sites on still on the property ● Evidence of the 2016 wildfires with many dead trees standing and downed
Silverado Road	174	Extreme Risk	● 7 Homes ● Thick vegetation and lack of defensible space ● Single lane narrow roadway steeply descends to a dead-end with a small cul-de-sac ● Hair pin twists and turn, along with low hanging branches make this uneven, rutted road nearly impassable for fire trucks and equipment ● No water sources within four miles of these homes
Coleman River Area	174	Extreme Risk	● County road starts as a somewhat narrow paved county-maintained road. ● Quickly become a very narrow dirt unmaintained road that is bordered by Forest Service property on one side and privately-owned property on the other side ● Inholdings in the forest service property; homes completely surrounded by large forested areas creating a high fire hazard with heavy dead and downed vegetation. ● Lack of accessible water sources ● Homes with siding and soffets that are not fire resistant
Tate City	180	Extreme Risk	● Very remote and hard to access ● Tate City is actually in Towns County, however the only access to Tate City is via Tallulah River Road in Rabun County. Due to this unique situation, Towns County relies heavily on Tallulah-Persimmon Station 3 ● Occasional pull offs, traffic is heavy with outdoor enthusiasts ● Several narrow bridges on Forest Service Road ● Private driveway bridges with weight limitations ● The homes of Tate City are completely surrounded by thick unmanaged forests ● Dead standing and downed fuel from 2016 fire ● One dry hydrant water source at Tate City Community Center ● Several ponds in the area could potentially be water sources ● Tate City is a FireWise community

Figure 3.b.3.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 3 - Tallulah Persimmon District*

Recommendations for collective action in Unit 3 Tallulah Persimmon:

- **Although the Persimmon Community/Lookout Ridge Community** is located within a mile of the fire department, the ten homes of this neighborhood could benefit from a water source.
- Removal of fuel accumulation from beetle damage
- Water Sources need to be added to the area of **Silverado Lane**
- Low hanging branches along **Silverado Lane** need to be removed to provide better road accessibility for emergency vehicles.

- Homes on private inholdings in the **Coleman River Area** need to create good defensible space within 100 feet of structures due to the close being completely surrounded by densely fuel ladened US Forest Service Lands.
- Homeowners in the **Coleman River Area** should consider using fire resistant siding and soffits as home improvements are made.
- Bridges along the rugged **Tallulah River Road** should be assessed and upgraded if necessary to ensure safety for heavy weight tankers and trucks.
- **Tate City Area** property owners may need to reinforce driveway bridges to accommodate emergency vehicles.



- For the most part, homes throughout Plan Unit 3 have little to no defensible space, and could benefit from individual assessments to determine their risk factor.
- Roads throughout this plan unit should be widened to allow for ingress and egress should evacuation become necessary during a wildfire.
- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.

- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Photos- Top to Bottom
Coleman River homes are surrounded by dense National Forest lands; Homes across the unit lack defensible space; Roadways need pull offs for meeting oncoming traffic
Photo Credit: SafeScapes, LLC

UNIT 4 LAKEMONT WILEY – High to Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: High

Wildfire risk to homes: High to Extreme

Dominant Fire Type: Passive canopy to active canopy fire

Lakemont Wiley District (Plan Unit 4) consists of the densely populated communities of Lakemont and Wiley, and is interlaced with the Chattahoochee National Forest, as well as Georgia Power property. Located in the mountainous area near Lake Rabun and along U.S. Route 213/441 (see map illustration ***Figure 3.b.4.i**.)* Fire Chief Captain John Murray rated seven neighborhoods as being at high to extreme risk of wildfire disaster. There has been very little fuel reduction on Georgia Power land that surrounds Lake Rabun, with heavy fuel accumulations in and around homes that have been constructed in these lakeside communities. Most structures in this district, whether along the lake, or on steeper grades have little to no defensible space. Road accessibility is a major concern with steep grades and entrenched one lane roadways. Figure ***3.b.4.ii*** provides more details about each community within the Lakemont Wiley District Plan Unit 4.

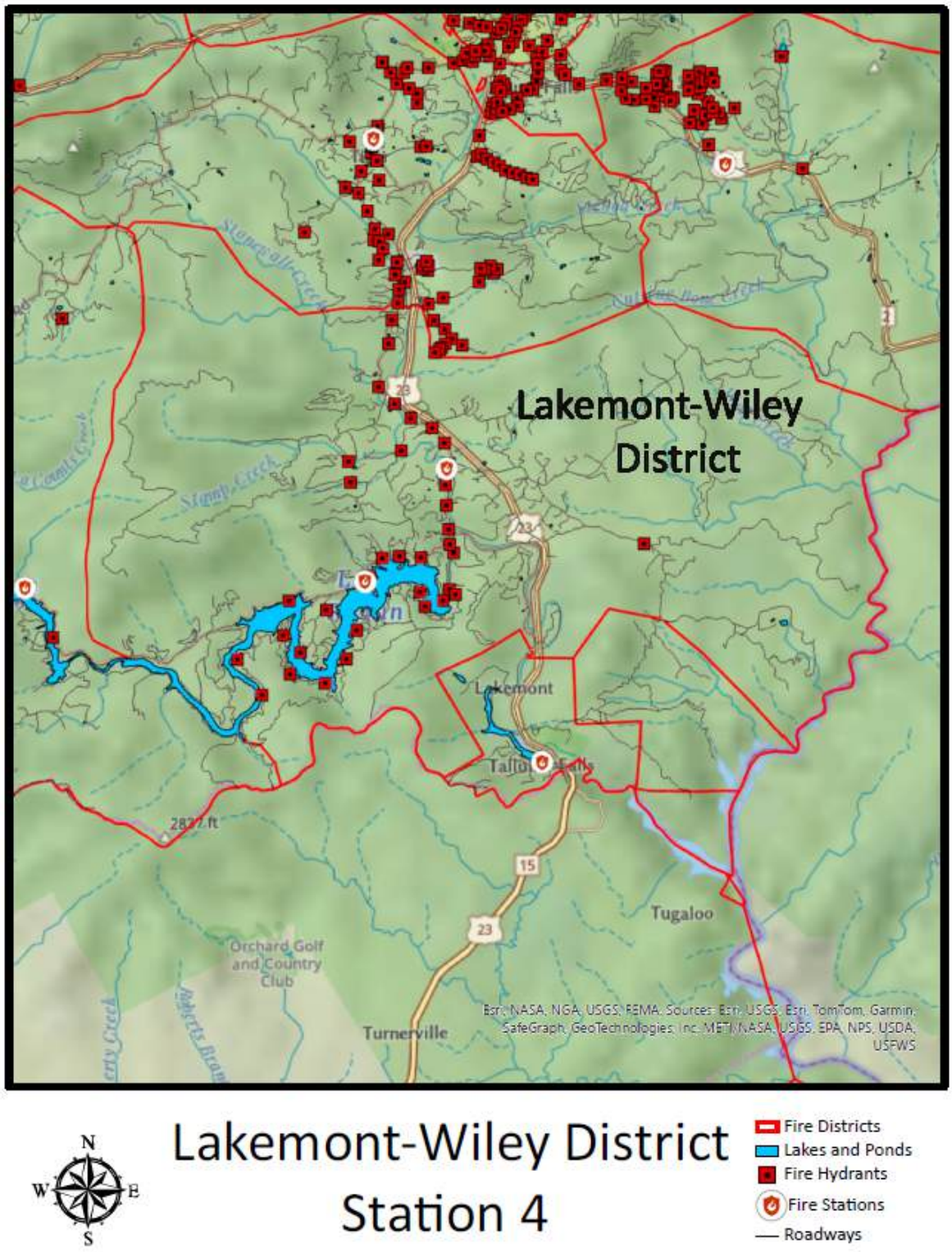


Figure 3.b.4.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 4 - Lakemont Wiley District*

District/Plan Area 4 Lakemont-Wiley			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Communities around Lake Rabun including Rabun Bluffs	154	Extreme Risk	● 400+ Homes ● Thick forested slopes on one side of the road (both private and US Forest land) with Georgia Power's Lake Rabun on the other side ● Lake Rabun Beach Recreation Area and Campground within the National Forest (potential increase of wildfire hazard with campers in forest) ● Rabun Bluffs: Gated/locked community of 15 homes atop a bluff ● Steep slopes, thick vegetation and lack of defensible space throughout
McCrackin Road	134	High Risk	● 65 homes ● Community's roadways all dead-end with limited navigation space for emergency vehicles ● Abandoned overgrown structures ● Stacked firewood against structures ● Lack of water sources
Spruce Creek Subdivision: Spruce Creek Road/Greely Ridge Long Mountain Road	 196 163	 Extreme Extreme	● Spruce Creek/Greely Ridge - 40 homes o Part of a historic boys' camp with several original camp structures o pond with dry hydrant water source o steep, gravel roadways, very narrow with no shoulder ● Long Mountain - 35 homes o Several small dead-end secondary roadways o Densely forested areas with dead hemlock and pine accumulation
Lakemont Highlands	169	Extreme Risk	● Firewise Community of 88 homes ● Very steep and narrow drive leading to the heavily populated summit ● Cautionary signage and few turn outs for meeting oncoming traffic ● Driveways are narrow and steep, one with a low weight bridge crossing ● Dense vegetation; pines with wisteria vine potentially weakening the trees ● Majority of homes have appropriate defensible space ● Limited water sources, with a couple of dry hydrants within four miles
Laurel Ridge	163	Extreme Risk	● 65 homes ● Winding one lane dead end roadways to homes on a high ridge ● steep switchbacks rising to overgrown, wooded homesites ● Water sources are limited with no hydrants in the neighborhood.
Wolf Creek	149	Extreme Risk	● 250 homes ● Dense stand of pines with heavy dead and downed vegetation ● Majority of the homes have touching crowns and tall grasses and shrubs, as well as clutter within the 30-foot defensible space zone ● No water sources within four miles of the community ● Unmaintained right of way for electric and above ground gas utilities
Camp Creek	146	Extreme Risk	● 59 homes - many lack defensible space ● Good road access ● Community is completely surrounded by large forested areas ● Secondary roads off of Camp Creek lead to USFS roads with inholdings ● Homesites have thick vegetation within the 30-foot zone ● Many inhabited homes that look abandoned have flammable clutter and debris stacked within just a few feet

Figure 3.b.4.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 4 - Lakemont Wiley District*

Recommendations for collective action in Unit 4 Lakemont-Wiley:

- Across all of **Plan Unit 4**, mitigation of fuels within 20 feet of the roadways will enable safer evacuations as fire intensity in these areas will be reduced should a wildfire occur.
- Where practical, homes throughout **Plan Unit 4** should establish a minimum of 30 feet of defensible space around the perimeter of each structure.
- **Communities around Lake Rabun, including Rabun Bluffs** are in close proximity to heavy fuels on both USDA Forest Service and the Georgia Power properties. Thinning is recommended to reduce the wildlife potential on those properties.
- Educational outreach is recommended for the visitors of **Lake Rabun Beach Recreation Area and Campground** to inform them of the dangers of escaped campfires as wildfire ignition sources since this region contains campgrounds and hiking trails.
- **Rabun Bluffs**, as well as some of the other private properties should be informed that locked driveway gates can hamper firefighting efforts.
- **McCrackin Road** needs to create sufficient turnaround areas at the end of the roadways to accommodate emergency vehicles. Abandon structures should be mitigated or removed to decrease fire intensity should a wildfire occur.
- **Spruce Creek Subdivision, Spruce Creek Road, Greely Ridge and Long Mountain Road** contains all roads in need of widening to accommodate ingress and egress should evacuation become necessary. Dead end roadways should be expanded to accommodate emergency vehicle navigation. Prescribed burning regime should be incorporated in the community to reduce fuels within the community.
- **Lakemont Highlands**, a Firewise community is in need of roadway expansion, or the installation of pull outs to accommodate ingress of emergency vehicles and egress of evacuees should a wildfire occur. Evacuation signage should be posted to help evacuees find their way out of the community. Consider a prescribed fire regime within the community to reduce fuel accumulations.
- **Laurel Ridge** is in need of roadway widening to allow for emergency vehicle ingress and evacuee egress in the event of a wildfire. This community should consider a prescribed fire regime to reduce fuel accumulations throughout the community.
- **Wolf Creek** Powerline right of way in need of maintenance. Community should consider a prescribed burn regime to reduce fuel accumulations.
- **Camp Creek** Fuel reduction efforts in this area may include a prescribed burning regime to reduce fuel accumulations within the community. The USDA Forest Service should also consider more prescribed burning on their lands in this area to reduce risk.

Locked gates can slow down firefighting efforts Photo Credit: SafeScapes, LLC

UNIT 5 VALLEY – Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Surface to Passive canopy fires in most areas

The Valley District (Plan Unit 5) is located in Dillard, Georgia only two miles from the North Carolina border in the northern parts of Rabun County. (see map illustration in ***Figure 3.b.5.i**.)* The three areas of greatest concern according to Fire Chief Gordan Jenkins and his fire crew are: Ledford Road/Wynngate Community; Rabun Gap; and Sylvan Lake Falls Community. Roads leading to the summit homes of Beaver Mountain and Lookoff Mountain are extremely steep and narrow. These homes lack defensible space with touching crowns and tall grass within the 30-foot zone. There is a large amount of standing dead timber; downed timber; and debris between and around homes adding to the fuel load. Dead hemlock is noted with insect infestation likely being the cause. Dense stands of pines with ladder fuel is also predominant throughout the community. Sylvan Lake Community is in the Wolffork Valley at the base of Black Rock Mountain. There are many homes around the lake and park as well as many homes in the surrounding twist and turns of interconnected private roads. Figure ***3.b.5.ii*** provides more details about each community within the Valley District Plan Unit 5.

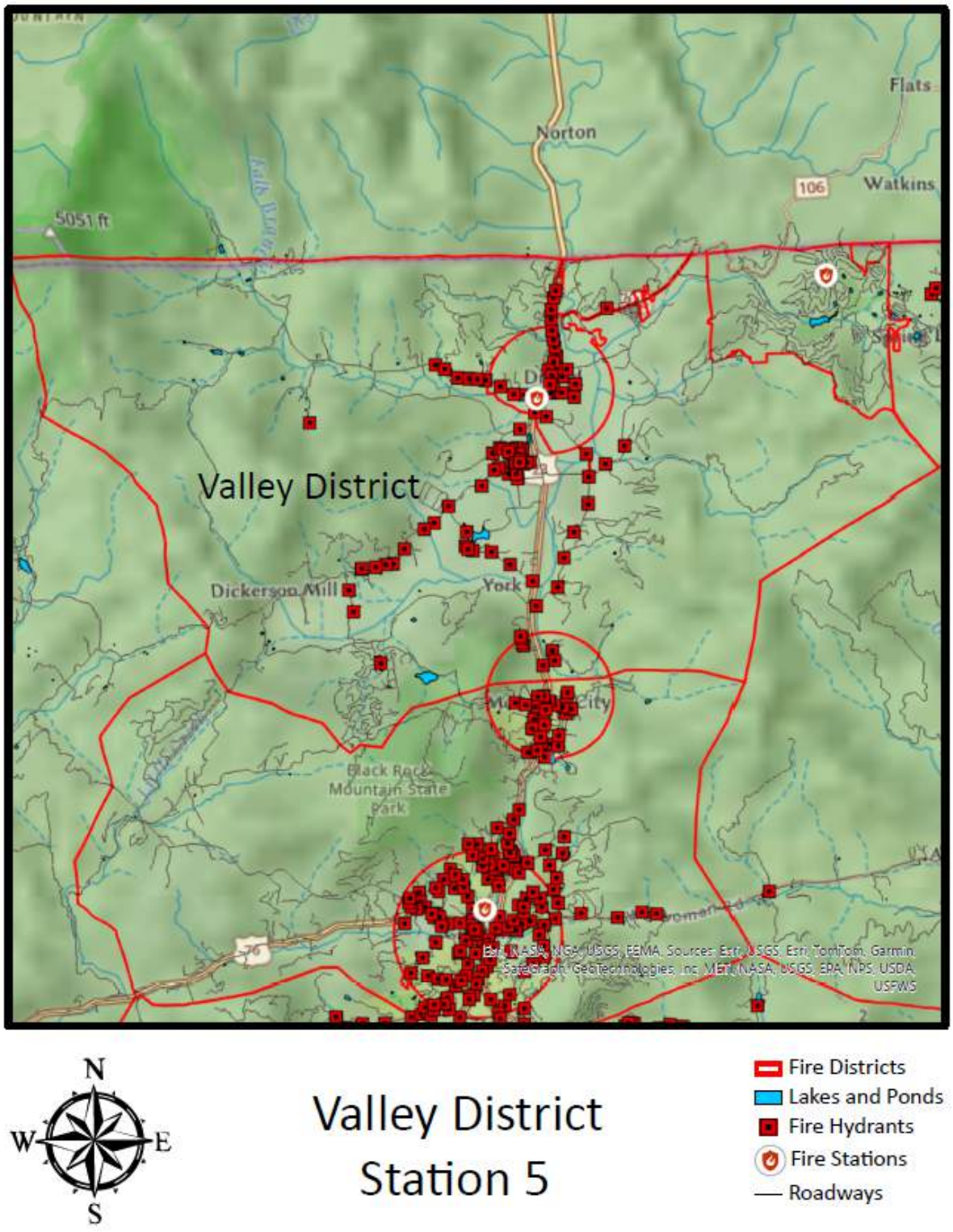


Figure 3.b.5.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 5 - Valley District*

District/Plan Area 5 Valley			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Ledford Road and Wynngate Community	183	Extreme Risk	● 39 homes ● Active construction of new homes ● Two-lane paved road with many narrow secondary roads and driveways leading to the summit of Beavert Mountain (elevation 2815 ft.) ● The higher the elevation, the narrower the road becomes ● No pull offs for meeting oncoming traffic ● Unmaintained private roads ● Some gravel on shoulders of road in places ● Many homes gated ● Some homes have defensible space ● Community is completely surrounded by large forested areas ● Numerous hallows than can cause a chimney effect (potential of fire traveling up to 16 times faster and hotter
Rabun Gap: Hawkeye Trail; Lucky Lane; and Boulder Lane	201	Extreme Risk	● 20 homes on Lookoff Mountain (elevation 3140 ft.) ● narrow gravel roads extremely steep and narrow in some places ● Occasional pull off areas for passing traffic ● Homes lack defensible space with touching crowns and tall grass within the 30-foot zone ● Large amount of standing dead timber; downed timber; and debris between and around homes (dead hemlock with insect infestation) ● Dense stands of pines with ladder fuel is predominant throughout the community
Sylvan Lake Falls Community	176	Extreme Risk	● 200+ homes ● Dead end roads with little to no space for passing traffic or turnarounds ● Steep long driveways with obstructing overhead branches with inadequate turnaround space ● Locked gates and unmarked addresses ● Dense vegetation throughout the community with downed hemlock and other timber ● Most homes do not have defensible space with touching crowns within the 30-foot zone ● Un-thinned, unmanaged timber within 100 feet of most of the homes ● Water sources are available in the community.

Figure 3.b.5.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 5 - Valley District*

Recommendations for collective action in Unit 5 Valley:

- In the **Ledford Road/Wynngate Community,** the narrow secondary roads leading to the top of Beavert Mountain need pull offs for meeting oncoming traffic

- Private secondary roads in **Wynngate Community** are in need of maintenance
- Additional buildup and/or gravel on shoulders of roadways is needed in areas
- Homes in the **Rabun Gap** area could benefit from creating defensible space in zones 1, 2, and 3

- Clean-up of downed timber and debris is needed in the **Lookoff Mountain** area
- **Sylvan Lake Falls Community** homeowners should trim obstructing overhead branches along driveways
- Many homes in **Sylvan Lakes Falls** need to add address signage for that is visible for emergency personnel

- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.
- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Photos - Top to Bottom:
Roadways in the Wynngate Community in need of repair; standing dead timber; downed timber; and debris between and around homes in Rabun Gap area; Sylvan Lake Falls Community home *Photo Credit: SafeScapes, LLC*

UNIT 6 CHECHERO – High to Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: Extreme

Dominant Fire Type: Passive to active canopy fire

Wildfire risk to homes: Extreme

Chechero Fire District (Plan Unit 6) has a major roadway, Georgia Highway 76, running through the center of the district with smaller, less maintained, and in some cases single lane roadways running off of the main roadway to the northeast and southwest. (see map illustration in ***Figure 3.b.6.i.)*** Homes found on these secondary roadways have little to no defensible space, with limited ingress and egress. The chart (Figure ***3.b.6.ii)*** on this district plan unit outlines the roadways identified by Fire Chief Mike Hopkins as regions of high to extreme risk. The roadways should be widened where practical, or pullouts established for easier ingress and egress. Bridges on county roadways, as well as those on private roads should be rated to support the weight of the tankers and pumpers that are responsible for fire fighting efforts in the area. Many of the dead-end roadways had little to no turn around areas at their end.

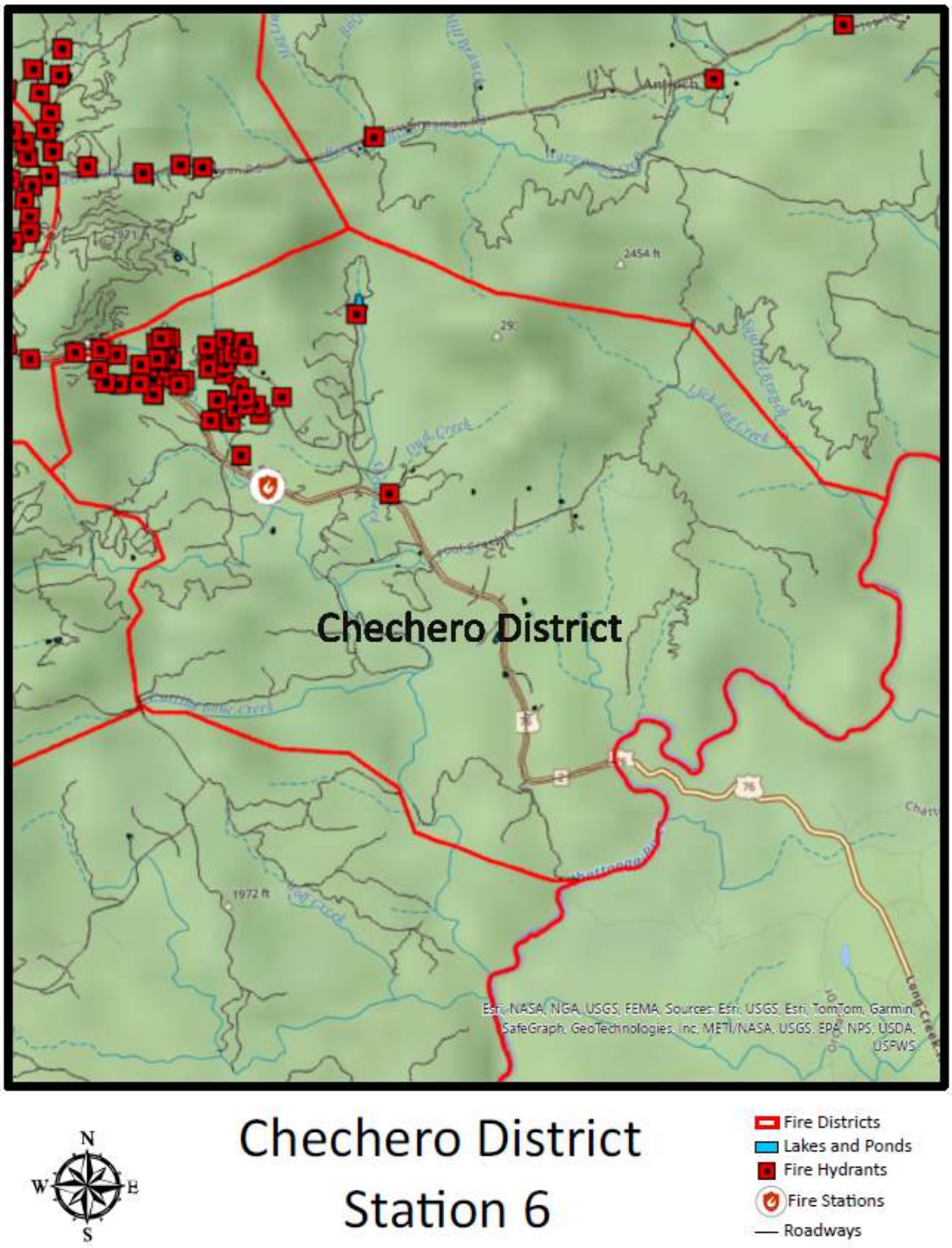


Figure 3.b.6.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 6 - Chechero District*

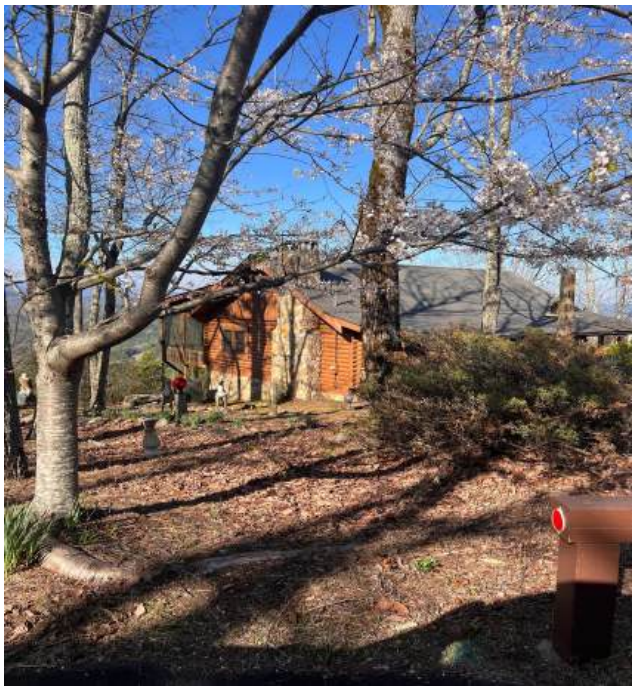
District/Plan Area 6 Chechero			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Underwood Lane	151	High Risk	● 4 homes with dense vegetation within the 30-foot zone ● Entrenched one lane dead end road ● Completely surrounded by large un-thinned forested areas ● Hallows and ravines where wildfire could potentially intensify
She Creek Neighborhood She Creek Lane; Sherwood Lane; and Woods Road	145	Extreme Risk	● 26 homes nestled among heavy forest, many with gated driveways ● She Creek runs throughout the area and through culvert pipes under the road ● Open spaces along the creek that could provide a barrier/safety area ● Dead-end curvy lanes with limited visibility ● Downed timber, both white pine and hemlock add to the fuel load ● Steep narrow driveways are predominant throughout the neighborhood ● Woods Road bridge crossing not wide enough to accommodate passing traffic
Pool Creek Neighborhood	138	High Risk	● Approximately 45 homes along Pool Creek Road, Hampton Place Lane, Marigold Lane, Doc B Trail, Misty Morning Lane, Muscadine Lane and Daffodil Lane ● Pool Creek Road leads into a U.S. Forest Service road ● Thick ladder fuels, hardwoods/conifers throughout community bordering USFS ● Private secondary roads are steep and narrow with little to no turn around space ● Roads cross over the creek via low weight bridges and culvert pipes
Dud Creek Neighborhood	134	High Risk	● 38 homes on Dud Creek Road, Piedmont Lane, Dud Creek Spur and Jake Field ● Dead-end narrow gravel roadways; passable and well maintained ● Heavy fuel accumulation and low hanging branches near homes ● Dry hydrant water sources are within four miles of the community
Rainey Mountain Neighborhood	156	Extreme Risk	● About 130 homes on Rainey Mountain Road and its eleven secondary roads ● Includes Boy Scout Camp atop Rainey Mountain ● Rainey Mountain Road is a well maintained paved two-lane road ● Secondary roads are less accessible, steep and narrow with curvy switchbacks ● Gordon and Concord Lanes nearly impassable for fire trucks ● Vacant lots between homes covered in dense rhododendron and mountain laurel ● Thick hardwoods, downed white pine and hemlock throughout neighborhood ● Accessible dry hydrants are available in the area
Claude Smith Road	146	Extreme Risk	● 50+ homes ● Limited access on Annie Perry, Begonia, Jocassee and Timber Bluff ● Annie Perry Lane has abandoned farm structures surrounded by fuel ● Timber Bluff climbs to Eastman Mountain (2,375 feet) with thick forested areas ● Many gated driveways, one crossing Stekoa Creek with a low weight bridge
Seed Tick Road; Mattie McCall Lane; and Pleasant Hill Lane	148	Extreme Risk	● 33 homes on East Seed Tick, Mattie McCall and Pleasant Hill ● Mattie McCall and Pleasant Hill are both private dead-end gravel roadways ● Trailer and camper homes between vacant lots of thick vegetation and debris ● Limited water sources, gated driveways, steep slopes ● Lack of defensible space and ladder fuel present
The Kingwood Golf Club and Resort including The Overlook at Kingwood	175	Extreme Risk	● 100+ homes, apartments/condos around the golf course and the adjacent areas ● Homes around golf course are at moderate risk ● Homes on secondary roads climbing steeply from golf course are at extreme risk: ● Roadways are paved, most are extremely narrow, steep and curvy ● Thick dead fuel accumulations are predominant and kudzu throughout ● Houses are on the ridge of summits with no defensible space ● Both pressurized fire hydrants and dry hydrants are accessible

Figure 3.b.6. ii. *Assessment ratings and notes for Plan Unit Plan Unit 6 - Chechero District*

Recommendations for collective action in Unit 6 Chechero:

- Across all of **Plan Unit 6**, mitigation of fuels within 20 feet of the roadways will enable safer evacuations as fire intensity in these areas will be reduced should a wildfire occur.
- Where practical, homes throughout **Plan Unit 6** should establish a minimum of 30 feet of defensible space around the perimeter of each structure.
- **Underwood Lane** eroded road bed needs grading and the road needs to be widened to accommodate emergency vehicles.
- **She Creek Neighborhood** has narrow roads that need to be expanded to accommodate passing traffic of fire response and evacuees. Turn around areas are needed at dead-end secondary roadways. The Woods Road bridge needs to be evaluated for its weight and width capacity and upgraded if needed.
- The eroded secondary road beds of **Pool Creek Area** need to be graded and widened.
- Narrow bridges crossing **Pool Creek** need to be upgraded to facilitate the width and weight of fire fighting vehicles.
- Where possible dry hydrants should be installed in **Pool Creek** to enhance fire fighting efforts.
- The narrow roads in the **Dud Creek Neighborhood** need to be widened to accommodate two way traffic. Road with no outlets need adequate turn around space for fire trucks.
- All secondary roads leading off of **Rainey Mountain Road** should be widened to allow for ingress and egress of two way traffic.
- Fire teams need smaller 4 wheel drive vehicles for access to **Gordon and Concord Lanes**.
- **Camp Rainey Mountain** is listed as a Firewise Community in this district, and could serve as an example for other organized communities.
- **Claude Smith Road** area consists of many secondary roads that need widening to accommodate two way traffic. Abandoned structures in this area need to be removed or defensible space established. This community should consider a prescribed burning regime to decrease fuels between structures.
- **Seed Tick Road, Mattie McCall Lane and Pleasant Hill Lane** all are narrow road ways in need of widening to allow for two way traffic flow. The termination of these roads are very abrupt and do not have sufficient area for turn around, therefore road ends should be expanded to allow for emergency vehicle navigation. Old abandoned campers on overgrown lots should be removed and fuel mitigation on these lots to reduce risk to adjoining developed lots.
- The **Kingwood Golf Club Community** needs to address the large area for dumping trees, limbs, etc. as wind and wildfire embers could pose a huge threat to these piles of debris.
- The USDA Forest Service should continue their prescribed fire efforts in this wildland urban interface of Plan Unit 6.
- Fire Fighting crews should be adequately equipped to handle mitigation projects within this district by acquiring an apparatus that can navigate the slopes in order to assist in prescribed burning and mastication projects within the district.
- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.
- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

UNIT 7 TALLULAH FALLS – Extreme relative risk rating



Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Surface to passive canopy fire

The small town of Tallulah Falls is in extreme southern Rabun County and is home to the beautiful Tallulah Gorge State Park. Tallulah Falls Fire Chief Mike Early completed a Woodland Community Wildfire Hazard Assessment for the 124 homes in the small area of Tallulah Falls in Rabun County finding it to be at "extreme risk". (see map illustration in ***Figure 3.b7.i****.)* Road Access is a major area of concern with many homes being located on narrow dead-end roads. Most driveways are on steep slopes with obstructing overhead branches. Dense stands of trees along with heavy dead and downed vegetation create a high fire hazard in the community. Most homes have well-spaced trees and shrubs within the 30-foot zone; however, within the 100-foot zone there are issues with un-thinned timber. Pressurized hydrants are located throughout the community, as well as a dry hydrant at Tallulah Falls Lake. Details for specific areas in Tallulah Falls are outlined in the chart (Figure ***3.b.7.ii****.)* labeled "District/Plan Unit 7 Tallulah Falls"*;* followed by recommendations for collective action.

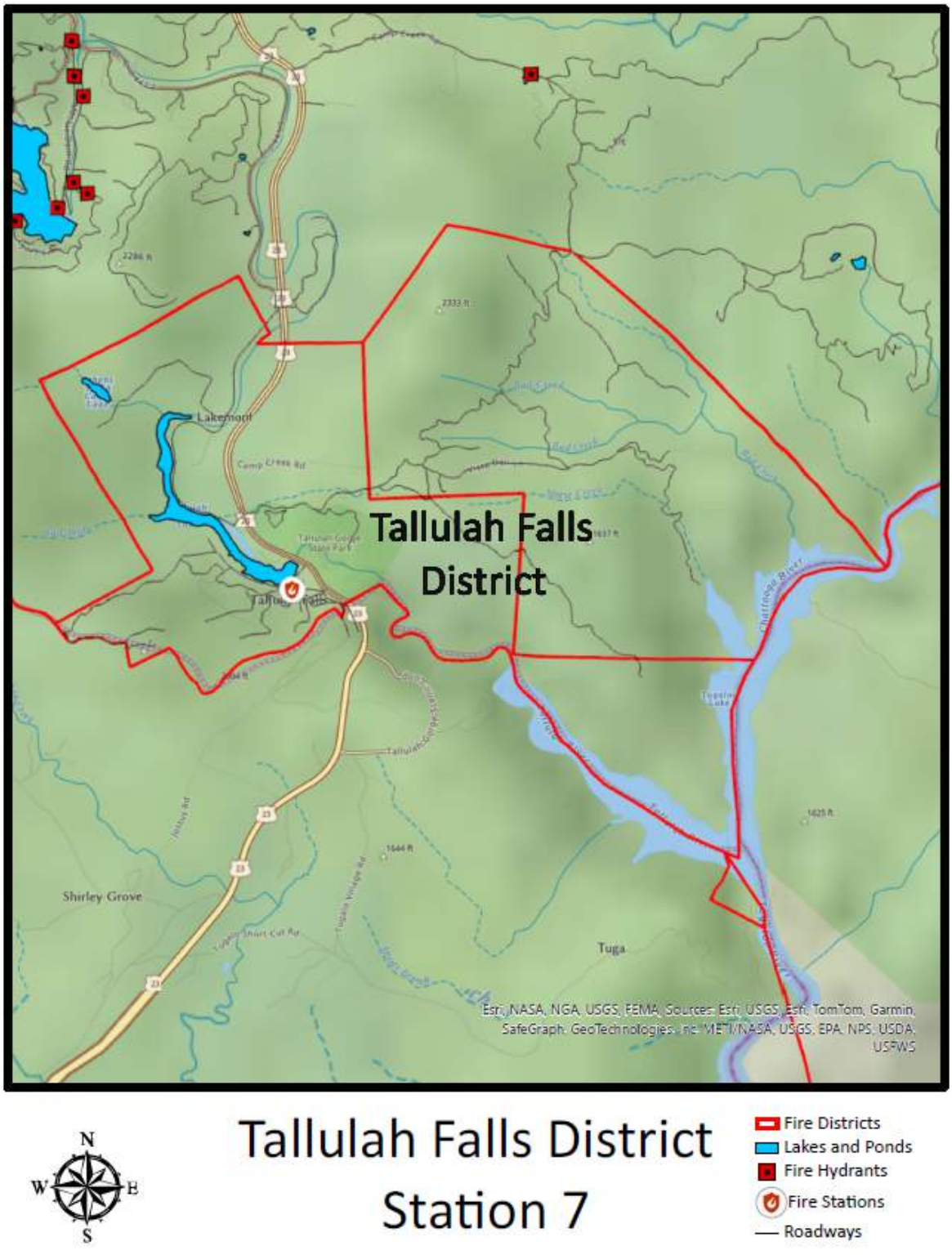


Figure 3.b7.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 7 -Tallulah Falls District*

District/Plan Area 7 Tallulah Falls			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Tallulah Falls	149	Extreme Risk	● Small town with population of 283 ● 124 homes
● Cartledge ● Vandiver ● Gorgeview			● narrow roadways with steep inclines ● steep slopes are on both sides of the roads ● narrow soft shoulders
● TF Railroad			● very steep grade with many undeveloped lots with much accumulated fuel
● River Street ● Tallulah View Road			● leads out of town and up Hickory Nut Mountain Estates (elevation 2,382 feet) ● Many newer homes and new construction sites are along the many switch backs leading to the top of the mountain ● Three hydrants were found in Hickory Nut Mountain Estates ● The final roadway to the top, Tallulah View Road, is extremely narrow with steep drop offs on both sides of the road with no space for turning around
● North Rock Mountain Road			● Including Tallulah Gorge State Park and Wildlife Management Areas ● North Rock Mountain Road leads to some private property and homes ● North Rock Mountain Road turns to a narrow one lane dirt road that leads to a few more the secondary private roadways of Vista Dell Lane, Vandiver Ridge and Old Stone Place Road ● These roadways are one lane dirt roads with dense undeveloped wooded areas between houses. These homes are completely surrounded by National Forest

Figure 3.b.7.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 7 - Tallulah Falls District*

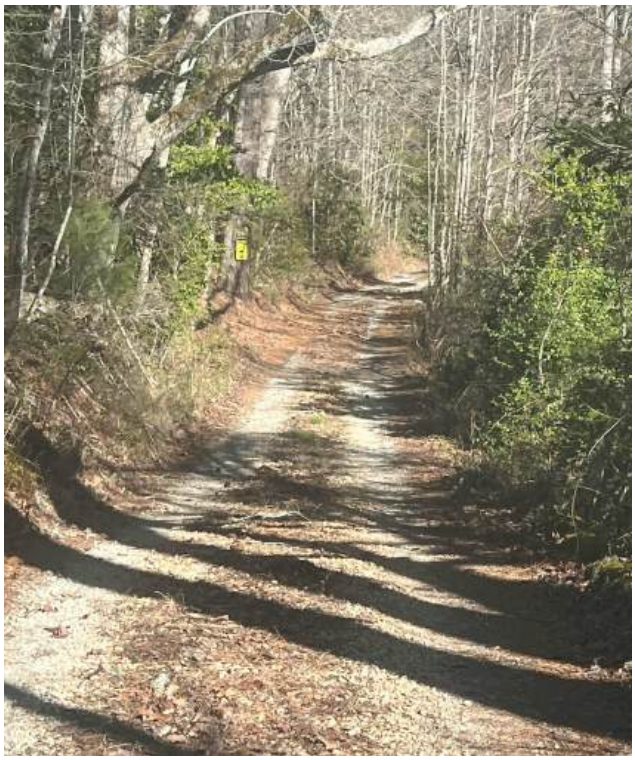
Photo Credit: SafeScapes, LLC

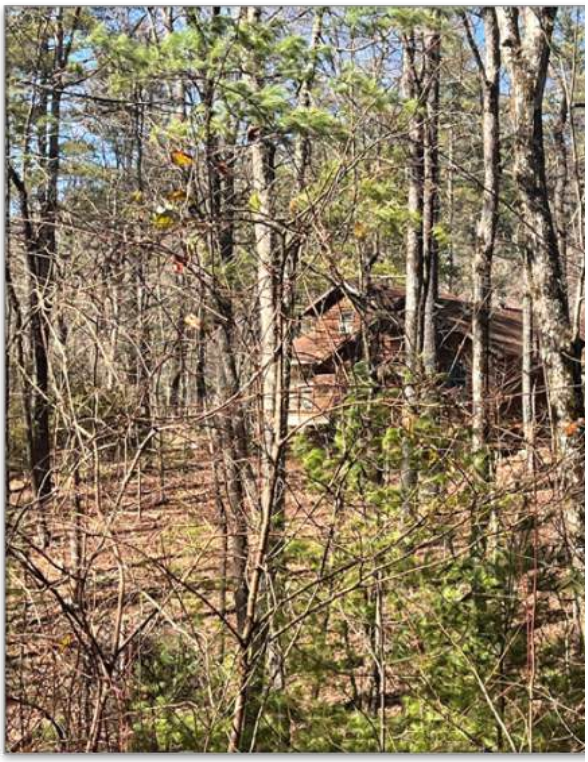
Recommendations for collective action in Unit 7 Tallulah Falls:

- **Cartledge Street, Vandiver Street and Gorge View Drive** have narrow roads with steep inclines, steep slopes are on both sides of the roads, with narrow soft shoulders. Efforts need to be made to widen and/or create pull offs if possible.
- In the **TF Railroad** area, action is needed to reduce the amount of accumulated fuel on the many undeveloped lots between homes.
- Many new construction sites are under development in the area, particularly in **Hickory Nut Mountain Estates**. Homeowners should consider using flame resistant materials roofing, siding and soffits.
- **Tallulah View Road** needs a turn around space created if possible.
- Off of **North Rock Mountain Road**, the secondary private roadways of **Vista Dell Lane, Vandiver Ridge and Old Stone Place Road** are all one lane dirt roads with dense undeveloped wooded areas between houses, and completely surrounded by State Park and National Forest lands. These roads should be widened and pull offs created if possible to accommodate passing traffic.
- Homeowners throughout this plan unit have defensible space in HIZ 1 and 2; however efforts should be made to create defensible space in HIZ 3 where there are issues with un-thinned timber.
- Obstructing overhead branches should be cut over driveways to ensure access for fire crews.


Clockwise: Dead-end roads need turnaround space; Driveways with obstructing hanging branches and home lacking defensible space Photo credits: SafeScapes, LLC

UNIT 8 SATOLAH – High relative risk rating





Predicted wildfire risk:

Wildfire risk: High

Wildfire risk to homes: High

Dominant Fire Type: Passive to active canopy fires in most areas

Plan Unit 8 Satolah is an unincorporated community in Rabun County, Georgia that borders the West Fork Chattooga River, Chattahoochee National Forest and the states of North Carolina and South Carolina. (see map illustration ***Figure 3.b8.i.)*** Fire Chief Seth Smith along with the members of the Satolah Fire Department completed Woodland Community Wildfire Hazard Assessment for areas in this plan unit that they considered to be high risk. Each of the seven assessed areas are in the Satolah Valley just off of Highway 28. These Statolah communities are considered to be of high risk due to accessibility and heavy fuel accumulations. Most secondary roads have no outlets and are narrow and steep and have no space for turning around. Most roadways lack any pull off places for evacuees to pass emergency vehicles in a wildfire situation. Many neighborhoods are overgrown with vegetation within the 30-foot zone and communities are surrounded by dense unmanaged forests. Figure ***3.b.8.ii*** provides more details about each community within the Satolah District Plan Unit 8, followed by recommendations for collective action.

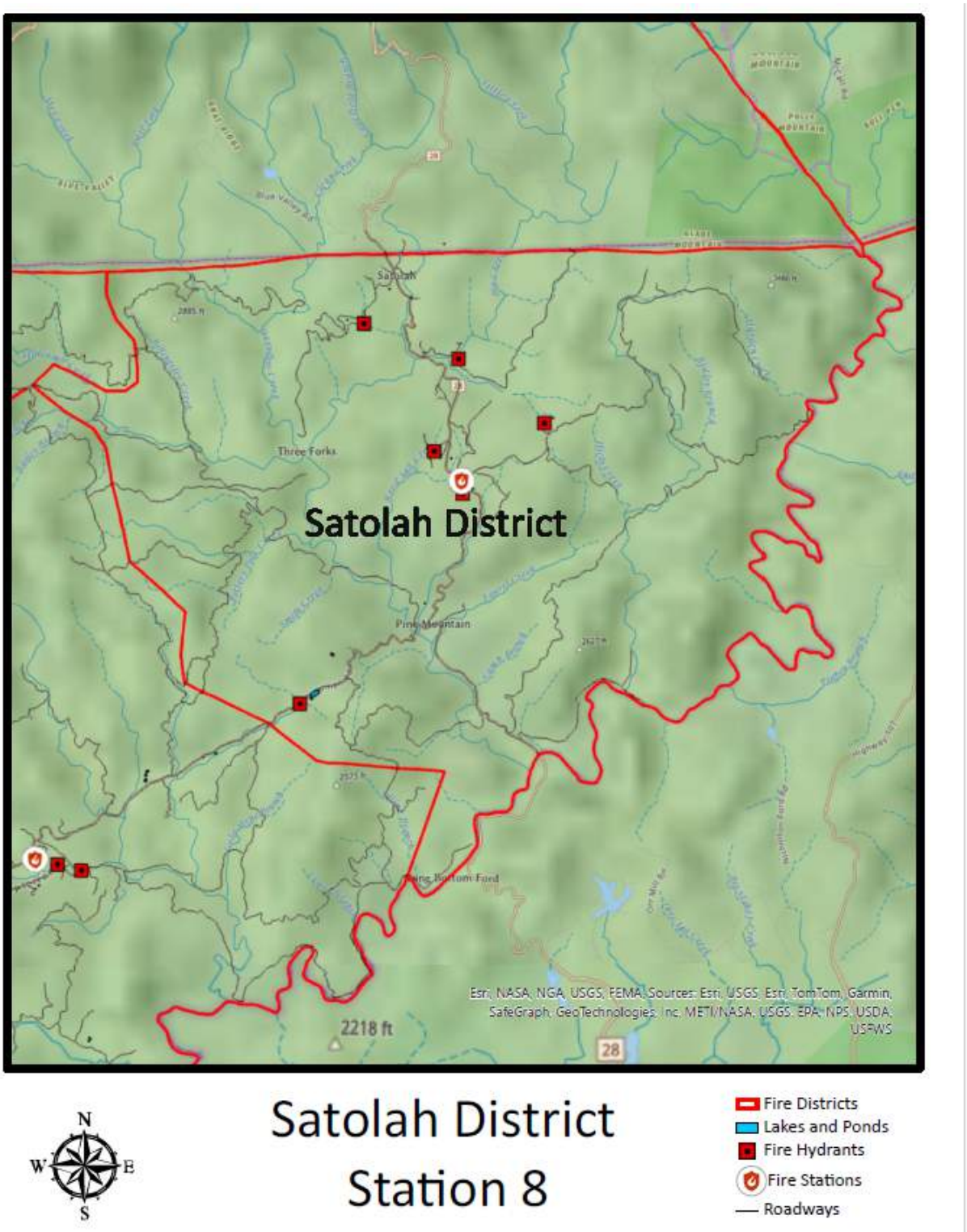


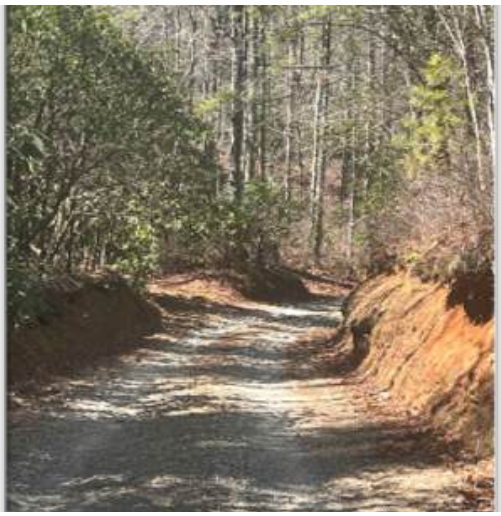
***Figure 3.b8.i**. Map illustration of water sources, station location, and major roadways for Plan Unit 8 -Satolah District*

District/Plan Area 8 Satolah			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Mack Reed	131	High Risk	● 6 homes ● only one narrow, steep gravel road in and out without pull off places for emergency vehicles to pass oncoming traffic ● Lack of defensible space around homes
Three Forks Trail	161	Extreme Risk	● 40+ homes, most lacking defensible space ● narrow dirt and gravel road is limited with one road in and out ● driveways are steep and narrow with obstructing overhead branches ● Many driveways have locked gates restricting access ● Many of the homes do not have addresses clearly visible from the road ● Dense stands of pines, moderate amounts of dead and/or downed vegetation ● Community members appear to have common goals with restrictions in place for no rent by owner activity ● Could greatly benefit from taking part and becoming a FireWise Community
Walking Stick	132	High Risk	● 14 homes ● Narrow paved road, narrows into a dead-end gravel road with no turnaround ● Homesites are overgrown with vegetation within the 30-foot zone ● Abandoned structures and ladder fuel ● Clearly marked water source accessible on the main paved road ● Helicopter landing zone in this community
Jerry Gap – Friendship Lane; Montana Lane	131	High Risk	● Jerry Gap Road is a one lane gravel road with many twists and turns that leads to the narrow private Friendship Lane to Montana Lane which is narrow dirt road with steep slopes on each side ● Jerry Gap Road is difficult to maneuver, eventually leads to Highway 28 ● Montana Road dead ends, no room to pass or pull off for oncoming traffic ● Dense vegetation and lack of defensible space around homes
Luther Owens Road	159	Extreme Risk	● 14 homes ● one lane road turns to deeply rutted dirt road with very steep inclines ● Dense vegetation and no defensible space ● Trees with touching crowns, dense shrubs and grasses are within 30 feet of most of the homes ● Water source (dry hydrant) within four miles of the community
Glade Road – Timberlane Road; Bee Gum Hollow; Copperhead Lane	160	Extreme Risk	● 25 homes with thick vegetation in the 30 foot zone ● Glade Road is a well maintained two-lane paved road ● The secondary roads are much narrower with steep inclines ● .Bee Gum Hollow Road and Copperhead Road are very narrow dirt roads with no turn around space ● Many homes have locked gates restricting access ● Water source is marked but would be hard to access ● *Woolly adelgid* infestation in the area has killed many hemlock trees creating a large accumulation of fuel
Norman Billingsly	129	Moderate Risk	● 7 homes most have good defensible space within 30 feet ● dead-end narrow gravel road ● Entire community surrounded by dense unmanaged forest

Figure 3.b.8.ii*. Assessment ratings and notes for Plan Unit 8 - Satolah District*

Recommendations for collective action in Unit 8 Satolah:

- **Three Forks Trail** should be widened if possible, adding pull off areas along the road were space permits
- **Three Forks Community** could greatly benefit from taking part of the Firewise Program creating an evacuation plan with signage; adding address signage and creating defensible space around homes
- **Walking Stick Community** homeowners need to create defensible space around their home in HIZ 1, 2, and 3. Old abandoned structures should be removed if possible.
- Jerry Gap Area consists of several narrow dirt roads that should be widened if possible with pull off areas added for meeting oncoming traffic.
- Maintenance on parts of **Luther Owens Road** need to take place to remedy the deep rutting that would make it difficult for emergency vehicles to reach the homes at the end of the road.
- Secondary roads in the **Glade Road Community** are narrow and steep, efforts should be made to make **Timberlane Road**, **Bee Gum Hollow** and **Copperhead Lane** more accessible. Increasing accessibility to the water source in this neighborhood should also be addressed.
- Dense vegetation and lack of defensible space in HIZ 1, 2, and 3 need to be addressed throughout the entire plan unit.



- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.

- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Photos from top to bottom: Three Forks community are united on common goals and should become "Firewise"; Walking Stick's Abandoned structures are a fire hazard; The narrow, entrenched Bee Gum Hollow Road creates accessibility issues; and portions of Luther Owens Road is in need of grading and graveling. Photo Credit: SafeScapes, LLC

UNIT 9 SKY VALLEY – Moderate to High relative risk rating

Predicted wildfire risk:

Wildfire risk: High	Dominant Fire Type: Passive to active canopy fires
Wildfire risk to homes: Moderate	in most areas

Sky Valley is the highest city in the state of Georgia, located between Dillard, Georgia, and Highlands, North Carolina, and surrounded by National Forest. (see map illustration ***Figure 3.b.9.i.)*** Sky Valley has a mountainous terrain featuring waterfalls, hiking trails with elevations ranging from 3,200 to 4,200 feet. Georgia highway 246 is the main highway zigzagging in and out of Georgia and North Carolina. This plan unit has a wide variety of property from the heavily populated Sky Valley Country Club homes, condominiums and timeshares to the remote private inholdings within the National Forest. Fire Captain Ken Zeigler, along with Station 9 members evaluated the communities in the Sky Valley area of Rabun County. Their risk assessments revealed that Sky Valley ranges from "moderate to extreme risk" for wildfire disaster. Areas of concern across the plan unit include road accessibility, road characteristics, slope of property, defensible space and trees and vegetation surrounding the community. The chart (Figure ***3.b.9.ii)*** provides more details and on-the-ground assessment notes from each community within the SKy Valley District Plan Unit 9.

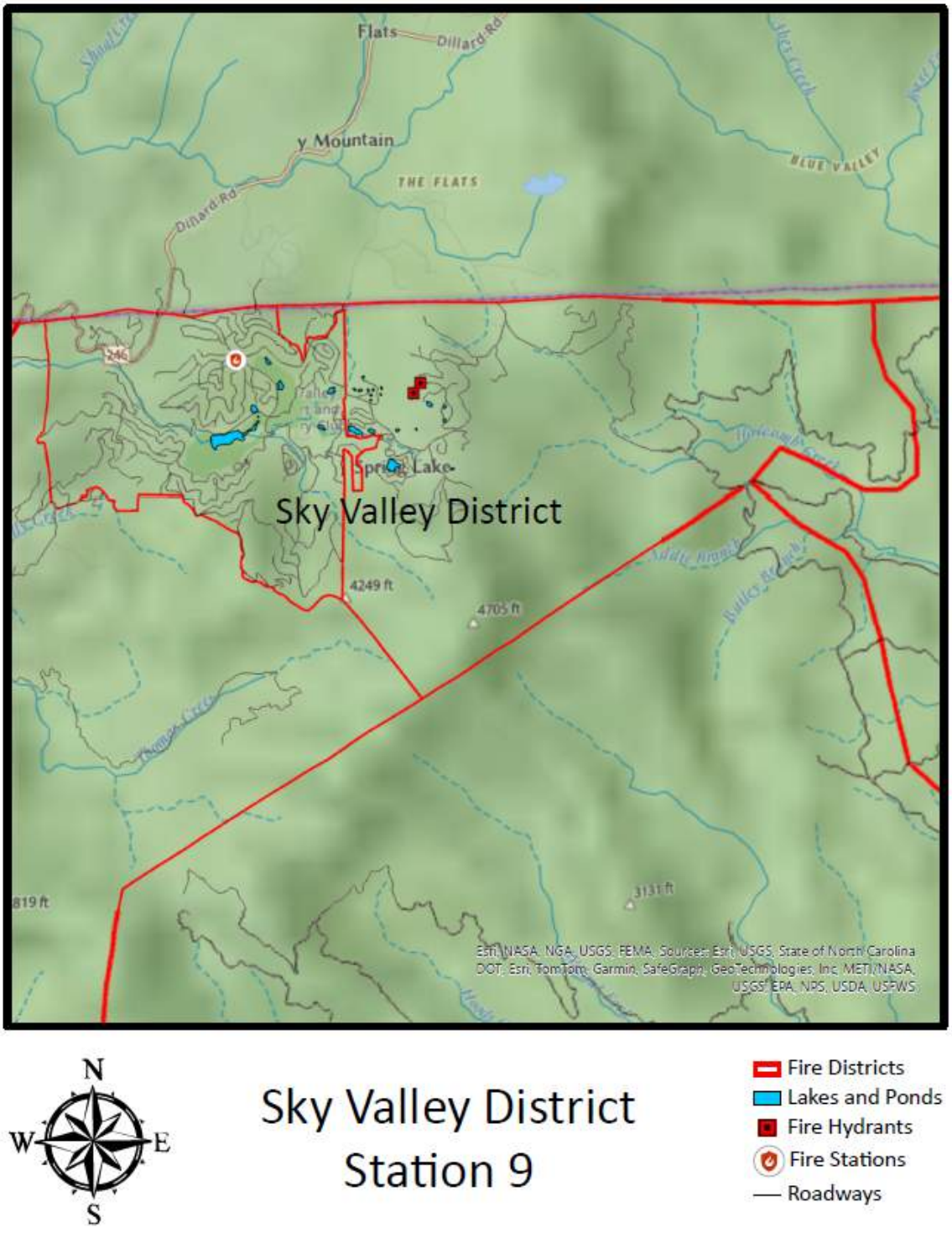


Figure 3.b.9.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 9 -Sky Valley District*

District/Plan Area 9 Sky Valley			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Winding Ridge Drive	124	Moderate Risk	● 17 homes + one under construction lacking defensible space ● Winding, curvy road that climbs in elevation with four secondary private drives ● All roadways in this area dead end with little to no turn around space ● Low hanging power lines ● Accessible pressurized hydrants spaced less than 1000 feet apart.
Sky High Drive Area	113	Moderate Risk	● 52 homes situated on ridges with no defensible space ● heavily populated with heavy laden fuel around the homes ● Inclined roadways are narrow with twists and curves ● Cedar shake roofing and stacked firewood noted ● Utilities, pressurized fire hydrants and home addresses are clearly visible
Ridgepole Area Alpine Alex Mountain	146	Extreme Risk	● 160+ homes; several under construction; most lack defensible space ● Long narrow drives, obstructing overhead branches, inadequate turnaround ● Surrounding environment consists of large forested areas on all sides ● Pressurized hydrants spaced less than 1000 feet apart
Sky Valley Country Club: -Sky Valley Way -Sugarbush Drive -Saddleback -Rebel Circle - Timeshares Condominiums	105	Moderate Risk	● 250+ homes, condominiums, and timeshare properties ● Heavily populated with dead-end road with no turn around space ● Slope of the properties is steep, most over 20% grade ● Pressurized hydrants and addresses marked throughout community ● Homes on some of the secondary roads lack defensible space ● Villas have grills, firepits and porch fireplaces (potential risk hazard) ● Accumulation of rooftop fuel on homes and abandoned structures
Four Ponds Community	128	Moderate Risk	● 7 homes on private roadway with poor access ● Dead end road is very narrow and in bad repair; no turn around space ● Steep slopes with heavy vegetation ● Some homes have locked gates at driveway entrance
Spring Lake Drive	159	Extreme Risk	● 26 homes surrounded by dead and dying white pine and hemlock ● A man-made clearance bar restricts access ● Road around the lake is extremely difficult to navigate ● Lake serves as a water source with a dry hydrant ● Thick Rhododendron and mountain laurel
Kelsey Mountain	123	Moderate Risk	● 11 homes on narrow secondary dead-end roadway ● Acute angle intersection makes right turn difficult for fire trucks ● Dense vegetation, Surrounding un-thinned, unmanaged timber ● Bartram Trail access brings potential fire risks from increased traffic (hikers)
Ford Mountain Honey Bear Lane	128	Moderate Risk	● 24 homes; Thick vegetation throughout; surrounded by large forested areas ● Narrow curvy dead-end roadway climbs up Ford Mountain (3,927 feet) ● Posted warning signage and occasional turn outs areas
Heatherstone Subdivision Lower Heatherstone Dam Lake Drive	145	Extreme Risk	● 24 homes in Lower Heatherstone are considered Extreme Risk; while homes in Upper and Middle Heatherstone have much less hazard risks ● Roads are rough, steep and dead end with no space for turnarounds ● Thick vegetation with dead and downed trees and ladder fuel ● Small lake provides a water source with a dry hydrant
Hale Ridge Road Extension Road	135	High Risk	● 13 homes completely surrounded by US Forest land ● Route through Warwoman Wildlife Management Area ● Embanked narrow portion leads to USFS with limited unmaintained access ● Numerous hiking trails in area can bring potential risks

***Figure 3.b.9.ii**. Assessment ratings and notes for Plan Unit 9 - Sky Valley District*

Recommendations for collective action in Unit 9 Sky Valley:

- If possible, **Winding Ridge Drive** along with four secondary roads should be widened and space for turnarounds should be created at the dead end of each road.
- Low hanging power lines should be assessed in the **Winding Ridge** area to determine if clearance is sufficient for emergency vehicles.
- **In the Ridgepole/Alpine/Alex Mountain area,** homeowners need to remove low hanging obstructing limbs over driveways, as well as touching crowns, tall grasses and shrubs within the 30-foot zone.
- Homeowners on **Rebel Circle, Sugarbush Drive Saddleback Circle** need to create good defensible space by reducing the thick vegetation in close proximity to the houses. Additionally, low obstructing limbs need to be cut over driveways of many homes in this area.
- **Brassy Knob Villas** needs to ensure that they have good defensible spaces between the cabins and the fire pits, grills and outdoor fireplaces.
- **Spring Lake Drive**'s man-made clearance bar restricts access for fire department vehicles, therefore its removal is recommended.
- Homeowners across the entire plan unit should be educated on defensible space and the dangers of stacked wood in HIZ 1 as well as debris accumulation in gutters and on rooftops.
- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.
- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Photo L-R: Clearance bar at Spring Lake restricts access; Stacked wood against house creates hazard; Obstructing limbs limit driveway access. Bottom: Homeowners across entire plan unit need defensible space Photo credits: SafeScapes, LLC

UNIT 10 LAKES – Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Passive to active canopy fire

Plan Unit 10 Lakes District covers southwest Rabun County around Lake Burton, Lake Seed and part of Lake Rabun. (see map illustration ***Figure 3.b.10.i**.)* This area is unique because many of the homes are situated between shores of a lake and a small narrow roadway adjacent to densely forested mountain land. In addition to the fire and rescue department, this area also includes marine stations on each lake with fire boats equipped for firefighting. Chief Matthew Wood and members of Lakes Fire Station 10 looked at seven areas within their district that they determined to be at extreme risk for wildfire disaster. See "District/Plan Area 10 Lakes" chart (figure **3.b.10.i**) for detailed concerns for each community within the plan unit, as well as notations from on-the-ground assessments.

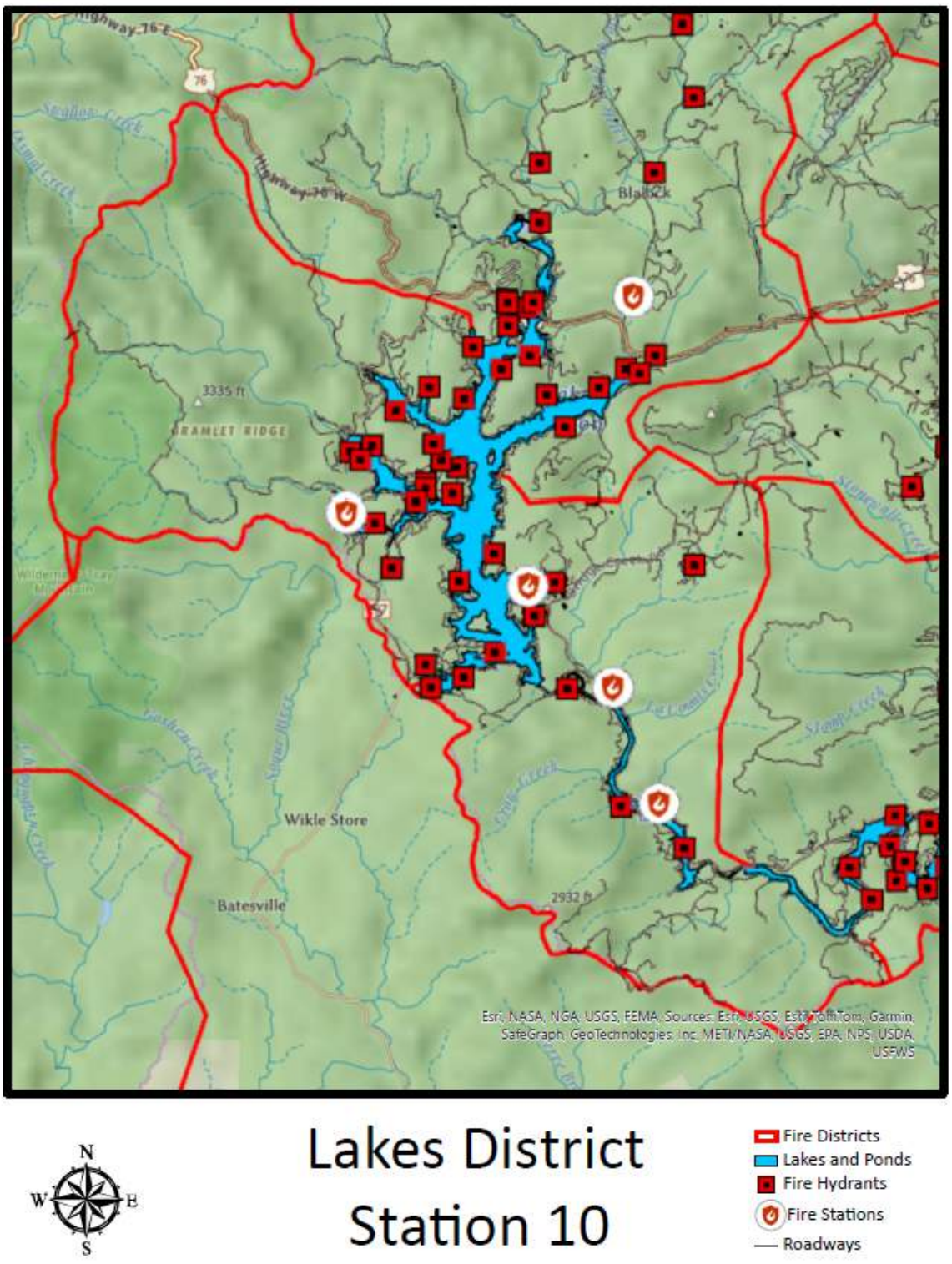


Figure 3.b.10.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 10 - Lakes District*

District/Plan Area 10 Lakes			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Bill Robinson Lane; Walnut Grove Community; Burton Ridge Community	164	Extreme Risk	● 12 homes, many constructed of fire-resistant materials/metal roofing ● Fencing and steep embankments make passing oncoming traffic difficult ● All roadways in this area dead end with little to no turn around space ● Steep narrow driveways difficult for fire personnel to navigate ● Undeveloped areas with dense thickets of mountain laurel and rhododendron ● Hypoxylon canker affecting red oak adding to the fuel load ● Nearly all addresses clearly marked on the road ● Some homes have locked gates restricting access
Murray Cove Community: Murray Cove Road; Parker Hollifield, Mindy Mountain; Boykin	157	Extreme Risk	● Densely populated 200+ homes around Georgia Power's Lake Rabun ● Parker Hollifield homes surrounded by thick forests ● Ravines and hollows are present creating potential chimney effect ● Mindy Mountain and Murray Cove Roads are narrow and entrenched ● Steep driveways and lack of defensible space was noted ● Boykin Road has wooden undeveloped lots interspersed between homes ● Station 10 has a boat house with fire-fighting boats and equipment in area
Perrin Cove Community	179	Extreme Risk	● Approximately 50 homes with little to no defensible space ● Dead-end road partially county maintained; steep, curvy, entrenched ● Many steep and lock gated driveways ● Extreme amounts of fuel between homes ● Several homes have debris buildup in their gutters ● Dry hydrant was recently installed by a homeowner
Covecrest Community	150	Extreme Risk	● 80 homes and a Catholic Teen Camp on approximately 300 acres ● Most of the homes appear to be seasonal vacation homes ● Many of the secondary roads are narrow and steep ● Dead-end roads, most have little to no turn around space ● Vacant lots between homes, densely forested areas with dead/downed timber ● Many homes lack defensible spaces and have leaves in gutters/roofs ● Camp structures of fire-resistant materials have good defensible space
Burton Mountain Area	153	Extreme Risk	● 22 Lake Burton homes with thick undergrowth within the 30-feet ● Limited road accessibility, with only one road in and out ● In areas, road have no shoulder, steep embankments and downward slopes ● Narrow, steep driveways with low hanging overhead branches ● Many homes lack defensible space with thick undergrowth within the 30-feet
LimberLost Road	157	Extreme Risk	● 18 lake homes, with thick trees and undergrowth in the defensible space zone ● Homes facing lake with road and forested mountains to the back of the home ● narrow gravel entrenched road that parallel to the lake until it dead ends ● About one-fourth of the homes in this community have locked gated driveways ● Thick growth around propane tanks was present in this community
Seed Lake Community: Seed Lake Road; Bear Gap; Low Gap; Crow Creek	162	Extreme Risk	● 300+ homes with steep winding driveways and little to no defensible space ● Homes on the lake side are densely populated ● U.S. Forest Service land and Georgia Power property borders many homes ● Scattered inholdings among a mosaic of forest service land ● Extremely narrow and curvy roadways (some isolated and unmaintained) ● Heavily forested mountainous land opposite of lake and road

Figure 3.b.10.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 10 - Lakes District*

Recommendations for collective action in Unit 10 Lakes:

- Across all of **Plan Unit 10**, mitigation of fuels within 20 feet of the roadways will enable safer evacuations as fire intensity in these areas will be reduced should a wildfire occur.
- Where practical, homes throughout **Plan Unit 10** should establish a minimum of 30 feet of defensible space around the perimeter of each structure.
- Communities throughout **Plan Unit 10** should consider a prescribed burn regime to help reduce the fuel loading beyond homes and their respective landscapes. This may require coordination with Georgia Power and the USDA Forest Service.
- Chippers and mulchers should be used to mitigate the heavy fuel accumulation from Insect infestations and storm damage throughout communities of **Plan Unit 10**.
- **Walnut Grove/Burton Ridge's** one lane road ways that need to be widened, fencing on the shoulder and embankment make passing oncoming traffic difficult on **Bill Robinson Lane**.
- The densely populated **Murray Cove Community** has narrow roads that need to be widened running between lakefront homes, and the steep heavily vegetated mountainside. Clean up of accumulated fuel needs to take place in areas around the community.
- **Perrin Cove Community** is accessed by a dead end county road which is in need of widening and expansion of sufficient cul-de-sacs for emergency vehicle navigation. Private driveways with multiple homes should be expanded to eliminate "bottle necking" of traffic when a quick escape is necessary.
- Leaders of the Catholic Teen Camp of the **Covecrest Community** need to be educated and have evacuation plans in place for summer camp attendees. Narrow roadways throughout this community need to be widened or pull outs should be created for passing traffic.
- Where possible **Burton Mountain Community's** narrow dead-end roadways need expansion to include widening, pull outs and sufficient turnaround space. Homeowners need to trim low hanging limbs over driveways to increase accessibility for fire trucks.
- **Limberlost** Road needs to be widened to accommodate two way traffic for emergency situations that may require evacuation. Homes in this community are bordered on one side by the lake and surrounded on three sides by heavily forested areas with thick underbrush.
- **The densely populated Seed Lake Community** includes some narrow winding mountainous roads that need maintenance and expansion for better access for fire response. Homesite tht are scattered inholdings among a mosaic of forest service land especially need to maintain good defensible space in HIZ 1, 2, and 3.

Unit 10 Photos L-R: Limberlost Trail is too narrow for meeting traffic; Covecrest seasonal homes needing debris cleaned from roof and gutters. Photo Credit: SafeScapes, LLC

UNIT 11 WILDCAT – Extreme relative risk rating

Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Surface Fire to Passive Canopy Fire

Plan Unit 11 Wildcat District covers homes and properties along US Highway 197 and its secondary roads. (see map illustration ***Figure 3.b.11.i.)*** Fire Chief Pat Thompson of Wildcat Station 11 completed five Wildfire Hazard Assessments for neighbors in his district that he considers to all be at "extreme risk" for a wildfire catastrophe. There is a wide variety of homesites in this plan unit that range from the upscale gated community of "Live at Burton" that is currently in development to the remote private inholdings surrounded by USFS lands of the extremely rugged Kennesaw Lane. On-the-ground assessments found that access to the Kennaway Lane seasonal cabins would be very challenging if not impossible. You will find more detailed concerns and issues in the chart for "District/Plan Area 11 Wildcat". (figure **3.b.11.ii.**)

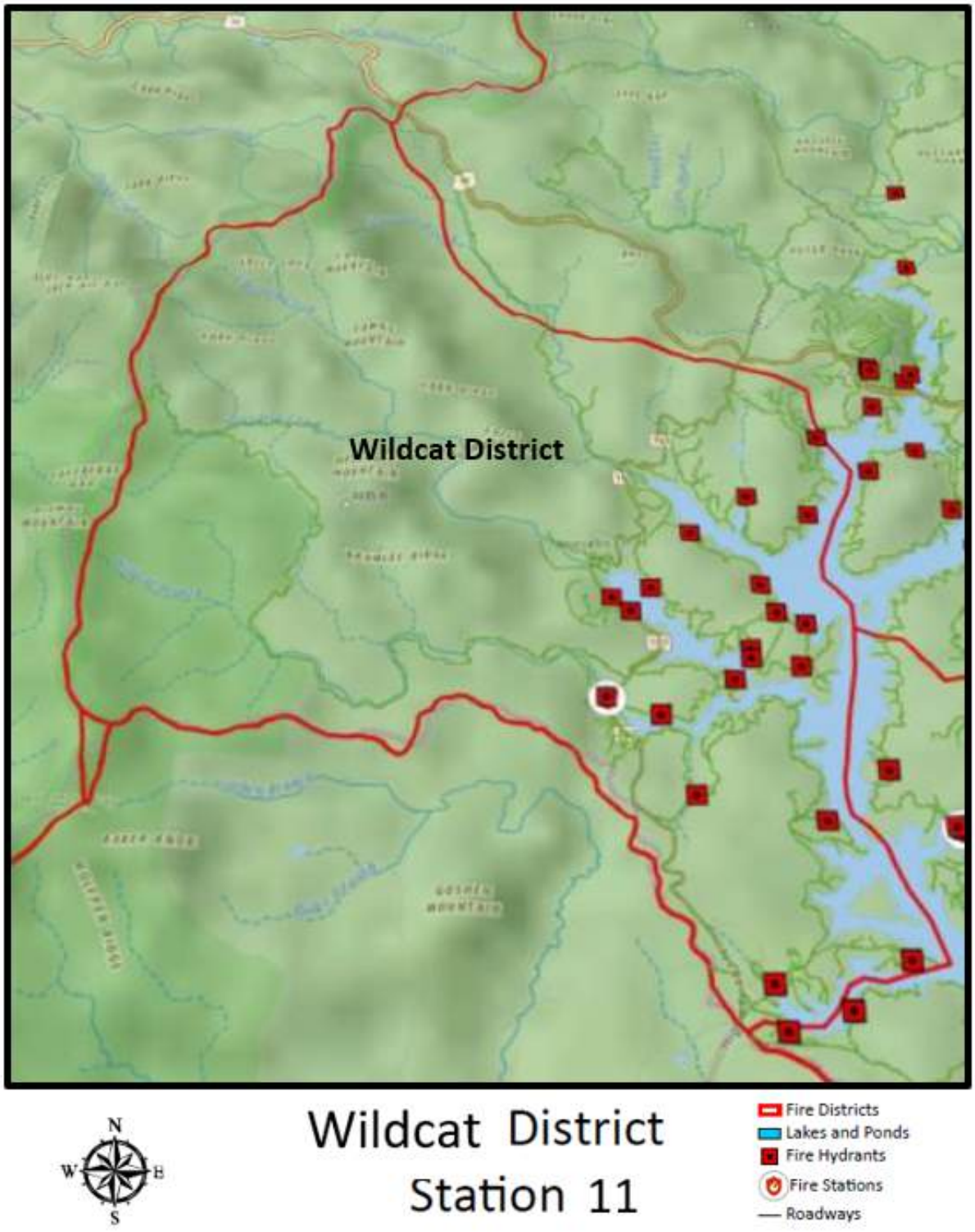


Figure 3.b.11.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 11 - Wildcat District*

District/Plan Area 11 Wildcat			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Live at Burton Subdivision	176	Extreme Risk	● New upscale gated community being developed adjacent to the fire department ● 2 homes currently occupied, 3 custom homes under construction; 7 spec homes ● Plans to construct many more homes ● Private narrow gravel road serves as entrance with only one way in and out ● Close proximity of the Wildcat Fire Station and the Helicopter Landing Zone
Moccasin Cove Moccasin Creek Road	179	Extreme Risk	● Most homes are situated between the lake shore and Moccasin Creek Road with dense forested with a few sporadically spaced homes on opposite side of road ● As road gets narrow as the pavement ends and it becomes entrenched ● Secondary roads and driveways are extremely narrow, many steep and/or gated ● Wooded vacant areas with fuel accumulation: dead white pine standing and on-the-ground (Beetle infestation and a recent tornado added heavy fuel) ● Most homes lack defensible space ● Building construction hazards, such as wood shake siding and roofing ● Pine needle mulch against many homes ● Dry hydrants are clearly marked and accessible throughout the neighborhood ● Nearby, Moccasin Creek State Park – campfires create potential wildfire risk
Hill Top Circle	172	Extreme Risk	● Small neighborhood around Dicks Creek Cove of Lake Burton ● Narrow gravel road leads to about 12 homes and circles back to Highway 197 ● Most homes are not visible from the road ● Long steep driveways, with a few locked gates ● Large amounts of mulch scattered along the roadway ● Forested areas in this community are relatively open and well-spaced
Kennesaw Lane	198	Extreme Risk	● Roadway is poorly maintained, and extremely rugged leading to a few inholdings and into USFS property ● Access to the two small seasonal cabins and one large home would be difficult ● Fording the creek in two places is necessary to reach the remote property of Kennesaw Lane that is surrounded by the dense USFS lands ● Thick vegetation is along both sides of the narrow road ● No turn around areas ● Locked gates ● Creek alongside of road and sheer hillside on the opposite side seeping water keeping the roadway wet and muddy
Blalock Goldmine Community	186	Extreme Risk	● Blalock Goldmine Road begins as a two-lane paved road with dense forests on both sides leading to a congested area around Dicks Creek Cove of Lake Burton ● Beetle damage has created heavy fuel accumulation ● Road leads away from lake, and homes are more spaced out in forested areas ● Some driveways are curvy, steep and gated limiting access ● Many homes do not have defensible spaces, some with roof debris Building construction hazards include wood shake siding and roofs ● Dry Hydrants are marked and accessible

Figure 3.b.11.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 11 - Wildcat District*

Recommendations for collective action in Unit 11 Wildcat:

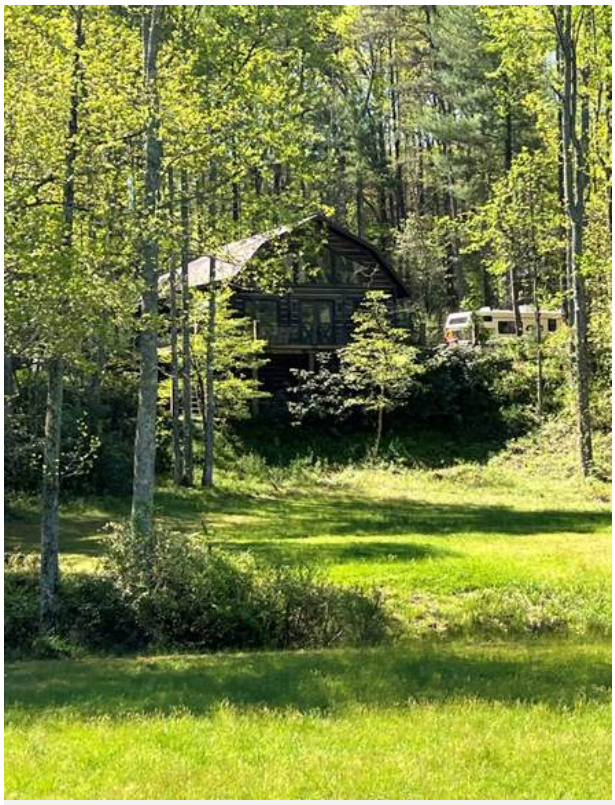
- With plans for new construction in the recently developed upscale community, **Live at Burton**, developers, contractors and new home owners should be educated and encouraged to build with fire resistant materials.
- Fire resistant landscaping should also be a part of the new development at **Live at Burton**
- Currently there is only one road in and out, as construction continues, **Live at Burton** developers should also consider creating an alternate route out of the subdivision.
- Parts of **Moccasin Creek Road** are narrow and entrenched, if possible, efforts should be made to widen these areas and create pullouts .
- In the **Hill Top Circle** area, efforts should be made to clean up the large amount of scattered mulch and roadways should be widened if feasible.
- **Kennesaw Lane**, the roadway leading to a few seasonal cabins and to USFS land is in severe need of repair. Maintenance on this roadway is recommended to allow access to the few inholdings as it is nearly impossible to navigate in a fire truck in its current condition.
- Homeowners across the entire plan area need to be educated and assisted in creating defensible space around their homes.
- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.
- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Unit 11 Photos Clockwise:

Construction at Live at Burton; Entrench portion of Moccasin Creek Road; Scattered mulch debris in Hill Top Area; Access to private property inholdings on Kennesaw Lane require fording the creek twice

Photo Credit: SafeScapes

UNIT 12 TIGER – High to Extreme relative risk rating



Predicted wildfire risk:

Wildfire risk: Extreme

Wildfire risk to homes: Extreme

Dominant Fire Type: Surface Fire to Passive Canopy Fire

Captain Boyce Speed, Assistant Captain Fred Beck and members of Station 12 Tiger Fire Department completed Wildfire Hazard Assessments for their jurisdiction, and found several areas that are at "high to extreme risk" for wildfire disaster. Tiger, located three miles south of Clayton, sits at the base of 2,856-foot Tiger Mountain and today is residence to approximately 574 people. (see map illustration ***Figure 3.b.12.i.)*** Within this small township, three communities were assessed: Liberty/Rocky Grove Community; Northridge Community; and Stonewall Estates. Assessment rating and site visit notes are outlined in the "District/Plan Area 12 Tiger" chart in figure ***3.b.12.ii***.

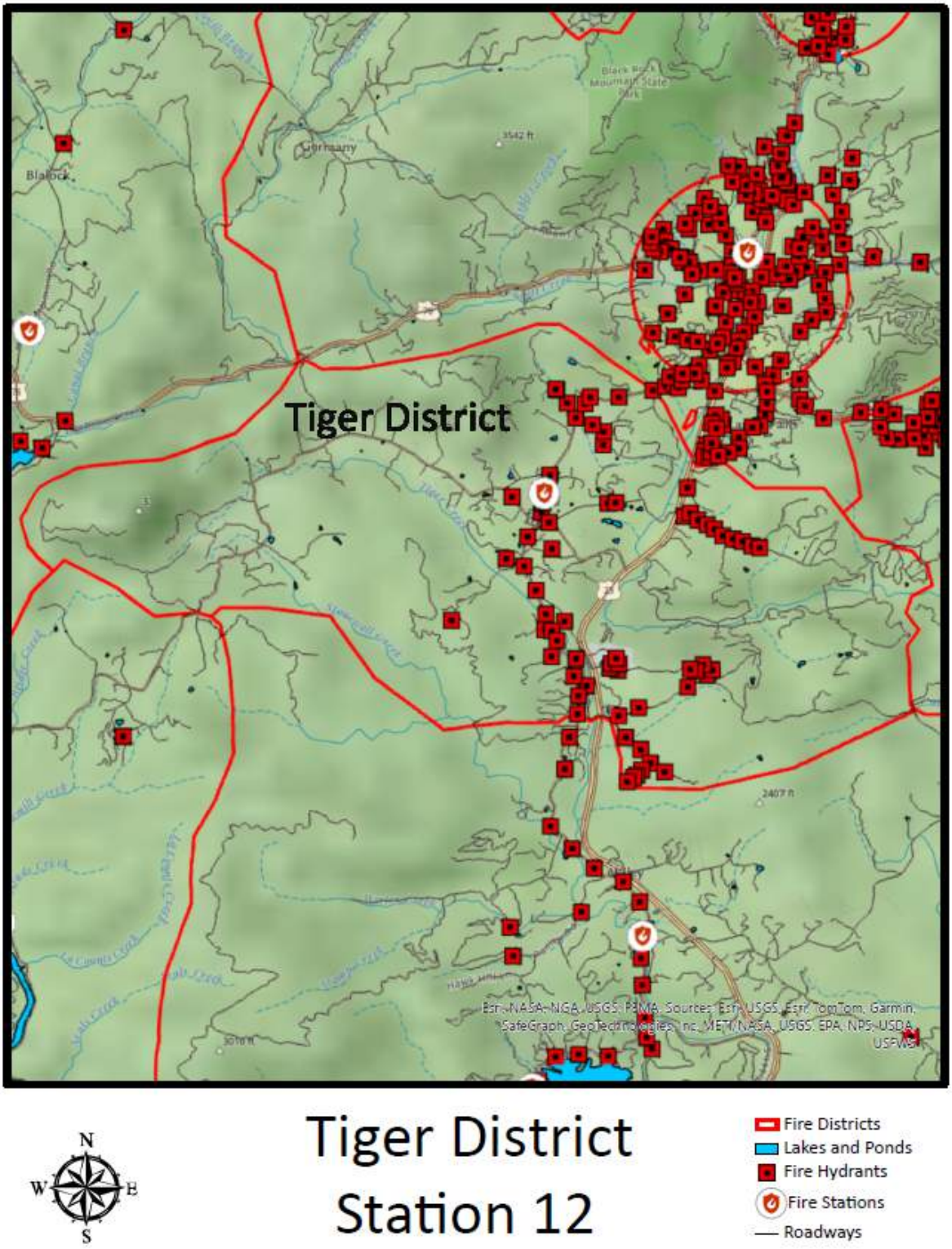


Figure 3.b.12.i*. Map illustration of water sources, station location, and major roadways for Plan Unit 12 - TigerDistrict*

District/Plan Area 12 Tiger			
Community Area	**Score**	**Risk Category**	**On the Ground Assessment Notes**
Liberty and Rocky Grove Communities: Crunkleton Lane and Pond View Drive; Apple Orchard Lane, Peach Orchard Way, and Standing Deer Lane	134	High Risk	● 16 homes, 2 under construction (new homes are being built with fire resistant materials, metal roofing) ● Narrow roads have embankments and fencing on the shoulders making passing oncoming traffic difficult ● Entrances and exits are the same for the roads, with no place cul-de-sacs or turn around space ● Driveways are steep and narrow ● Abandoned structures, thick forested areas with heavy downed fuel ● Home to the Stonewall Creek Vineyards, one of Tiger's most prominent attractions ● Structures at Stonewall Creek Winery are at lower risk due to clear open defensible space
Woodall/Northridge Community: Woodall Road; Standing Rock; Falling Springs; and Northridge Road	192	Extreme Risk	● 70+ homes, several new homes under construction ● Main road is a paved two-lane dead-end road with many secondary drives ● Secondary drives are steep and narrow with blind curves o Obstructing overhanging branches o Little to no space for turnarounds o Pull offs make it possible for emergency vehicles and evacuees to pass ● Majority of homes lack the safety zone of defensible space ● Thick vegetation is throughout this neighborhood with vacant forested lots before homesites at the top of the highland ● Building lots are heavily forested and 8-14 acres in size
Stonewall Estates/Potomac Drive	191	Extreme Risk	● 50+ homes ● Potomac and Stonewall Estate are two-lane paved roads with only one way in and out ● As these roadways ascend, they narrow with heavier population along the mountain ridge ● Secondary roadways which are much narrower climbing to more homes with limited road accessibility ● Majority of the homes have no defensible space with touching crowns and tall vegetation within the 30-foot zone ● Dead and dying timber and debris piles add to the fuel load around homes ● Large overhead power line runs through this area could potentially elevate fire risk in this neighborhood (arcing downed conductor can be a source of ignition) ● Hydrants are easy to locate throughout the neighborhood

Figure 3.b.12.ii*. Woodland Community Wildfire Hazard Assessment Risk Scores/Rating and On-the-Ground Assessment notes for Plan Unit 12 - Tiger District*

Recommendations for collective action in Unit 12 Tiger:

- Crunkleton Lane and Pond View Lane are steep narrow secondary roads of the **Liberty/Rocky Grove Community** that are maintained, however roadway fencing and embankments make meeting traffic difficult. Accessibility could be improved by widening and creating a shoulder for oncoming traffic to pull over.
- Clearing of abandoned structures could help reduce risks in the **Liberty/Rocky Grove Community,** as well as thinning the thick forested areas around homes**.**
- Homes on Standing **Deer Lane** and **Peach Orchard Way** could reduce hazard risks by creating good defensible space and creating better turn around space at dead ends.

- It is recommended that the homeowners of the secondary roadways of the **Northridge Community** cut overhanging branches that could limit accessibility for emergency vehicles. Several pull outs do make it possible for emergency vehicles and evacuees to pass.

- **Stovehaven** and **Rocky Ridge Road** of the **Stonewall Estates** area have limited accessibility; if possible, widening and creating pull outs on these steep narrow roadways is recommended.
- Removal of accumulated fuel (dead and dying trees and debris piles) in the **Stonewall Estates** area, especially in ravine areas where wildfire can travel at a much faster rate.
- Homeowners across the entire plan area need to be educated and assisted in creating defensible space around their homes.
- County officials should seek grant funding to equip fire officials in their ability to access the steeper slopes in an effort to reduce fuel buildup through prescribed burning, or fuels mastication.
- County officials should seek grant funding to help mitigate wildfire risk through roadway and driveway widening, as well as individual property assessments to help reduce fuels around homes and other structures.

Photos - Top to Bottom:

Abandoned structure surrounded and covered with thick vegetation create wildfire hazard in Liberty/Rocky Grove area; Fuel accumulation in ravines near Stonewall Estates make for a wildfire disaster; Example of no defensible space around home in Northridge Community, Lack of defensible space was noted around the majority of the homes in this plan unit.

Photo Credit: SafeScapes

3.c. Community-Wide Recommendations

Slash Management Recommendations

Residents in Rabun County have experienced difficulties with slash management, like many other communities in Georgia. During the community engagement process for this CWPP, residents shared that access to inexpensive/easy means of slash disposal would help enable them to do more work to reduce wildfire risk on their property. Rabun County currently accepts limbs, grass clippings, leaves, and brush at the designated drop-off area in the C & D Landfill. There is a charge per ton for the disposal of this material.

The USDA Forest Service Cross Boundary Wildfire Mitigation Grant allows property owners in Rabun County construction of fireline and prescribed burn assistance at no charge for fuel reduction efforts throughout Rabun County. More information on the Cross Boundary Wildfire Mitigation Grant can be obtained from the Georgia Forestry Commission at 706-754-2354.

The Georgia Firewise Hazard Mitigation Grant is also a source of funding for fuels management in communities who are designated as Firewise Communities in Rabun County. This program will help fund slash management programs up to $5,000.00 per community.

WUI Building Regulations

There are no current WUI building regulations in Rabun County, however the county may consider adopting the International Wildland Urban Interface Code to support home hardening. Consider amending of the code recommendations to match current research recommendations (Maranghides et al., 2022):

- Home and structure setbacks should be structure-centric, not parcel-centric. Cross-boundary structure separation should always be a consideration.
- Existing high-density housing areas should prioritize home hardening as opposed to defensible space.
- New high-density developments should have complete defensible space and buildings that are extremely resistant to ignition. They should have HOAs or other forms of financial and regulatory collaboration set up to maintain community wildfire protection.
- Combustible fences should not be double-wide or placed less than 3 feet apart in parallel.

Evacuation Planning and Capacity

There is a high likelihood of evacuation congestion and long evacuation times during a wildfire in Rabun County due to narrow one lane roads that are steep and entrenched roadways, as well as heavy fuels along these roadways. Much of the fuels along these roadways is dense, overgrown and filled with dead and dying trees due to insect infestations. (**Figure 3.c.1**). **Mitigation actions along sections of road with high risk for non-survivable conditions during a wildfire can increase the chances of survival for residents stranded in their vehicles during and decrease the chance that roadways become impassable due to flames.**

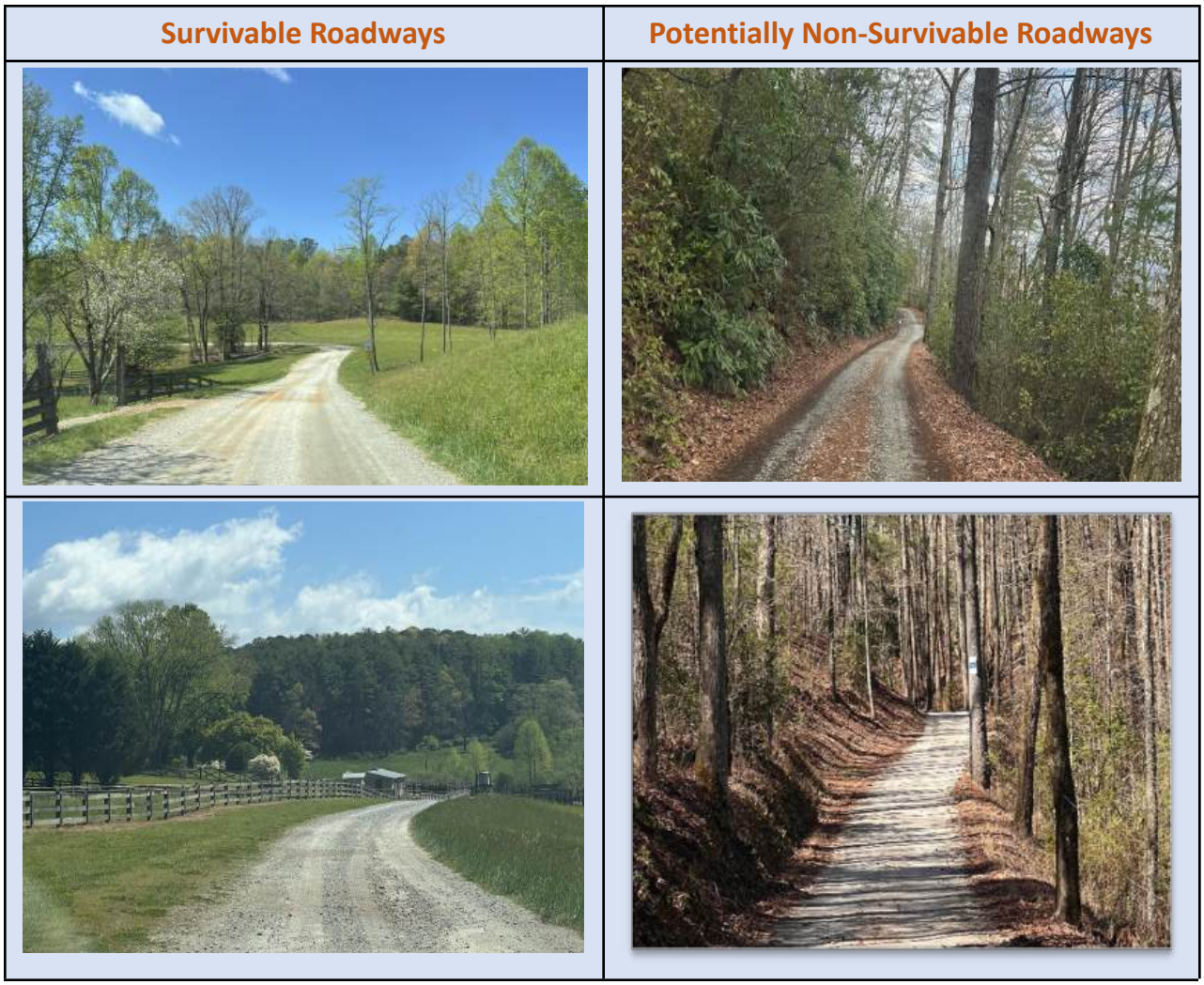


***Figure 3.c.1**. Some roads in Rabun County have been well mitigated by removing tall trees and saplings, removing limbs on the remaining trees, and keeping grass mowed (left images). Other roads could experience potentially non-survivable conditions because they are lined by thick forests that have an abundance of ladder fuels (right images).*

Photo credit: Safescapes

CodeRED is the official emergency alert system used by Rabun to contact residents during emergencies, including during wildfire evacuations. [*Ex: Residential landlines are automatically registered unless their phone uses VoIP (voice-over internet protocol).*] Residents should register their cell phones and email addresses with Rabun County E911. Learn more about Lookout Alert and emergency notifications at E911 | Rabun County Georgia (ga.gov)

Reliable technology to provide warnings and information about evacuations can help residents feel confident in their ability to evacuate during a wildfire. The Rabun Communications Center Authority uses CodeRED to communicate evacuation orders to residents. HOAs, and residents should actively extend awareness about the CodeRED program to neighbors that are unaware of the program.

We recommend the following steps for residents, HOAs, community groups, Rabun County, and the Rabun County Office of Emergency Management to address evacuation concerns in Rabun County:

- Conduct tree removal, cut low limbs, and mow grass along roadways to increase the likelihood of survivable conditions during a wildfire. Prioritize the roads with the most traffic and congestion and work out to the less congested roads [**Figure 3.c.2**]. See **Section 4.d.** for recommended approaches to reduce wildfire risk along roadways.
- Coordinate with the Rabun County Sheriff's Office to conduct evacuation drills to practice safe and effective evacuation for the entire Rabun County.
- Coordinate with the Rabun County 911 Director to increase participation in the local emergency alert system, CodeRED across Rabun County. Approximately 82% of the residents in Rabun County have signed up for CodeRED, but this number should ideally be 100%.
- Regularly test the CodeRED system to ensure timely and accurate communication could occur during an evacuation.
- Educate residents about warning systems, protocols for evacuation orders, and evacuation etiquette prior to the need to evacuate the community. Communicate the importance of following evacuation orders; **failing to leave the community in a timely manner during a wildfire emergency can put first responders at risk.**
- Encourage residents to leave with one vehicle per household to reduce congestion for everyone.
- Encourage all households to develop family evacuation plans and to pack go-bags that are ready. Currently, 11% of respondents to the CWPP survey have evacuation plans for their family and 3% have go-bags ready.
- Encourage residents to work with their neighbors to develop a plan for helping each other with evacuation if a resident is not at home, school-aged children or pets might be home alone, or residents have mobility impairments and need special assistance.
- Encourage residents to evacuate whenever they feel unsafe, even before receiving mandatory evacuation orders. All residents should leave promptly when they receive a mandatory evacuation order. This means having a family emergency plan already in place and having go- bags prepacked.
- Evaluate the efficacy of alternate methods of warnings and alerts, such as warning sirens. Research suggests that individuals trust and are more likely to respond to sirens than other warning systems like social media (National Academies of Sciences, Engineering, and Medicine, 2018).
- Make sure warnings and alerts can be understood by all residents, including those with English as a second language and with hearing impairments.

Accessibility and Navigability for Firefighters

Shared Driveways and Community Roads

Residents, Rabun County, HOAs, and Rabun can work together to ensure emergency responders are able to locate and access everyone's home. Narrow roads without turnarounds, tree limbs hanging over the road, and lots of dead and down trees by the road may make firefighters choose to not defend your home during a wildfire event (Brown, 1994). More than half the plan units in Rabun County have some roads that are inaccessible to fire engines.

Where feasible, Rabun County and HOAs should improve roadway access by widening road networks in filings with narrow roads and creating turnarounds and pullovers to accommodate fire engines and two-way traffic during evacuation. The community can apply for grants and work with the Rabun County Road Department and the Rabun County Sheriff's Office to remove trees from along roads to reduce the chance of non-survivable conditions occurring during wildfires. Residents can remove trees along driveways and prune low-hanging branches to increase horizontal and vertical clearance. According to the National Fire Protection Association, driveways and roads should have a minimum of 20 feet of horizontal clearance and 13.5 feet of vertical clearance to allow engines to safely access the roads (O'Connor, 2021).

Working with the Rabun County Road Department and local companies such as private contractors, residents of Rabun County can improve roadways and driveway conditions. This can be time-consuming and expensive, but this work is vital for the safety of residents and first responders. Residents, community leaders, Rabun County, and county agencies can work together to share costs and apply for grants to facilitate this important work.

3.d. Outreach and Education

Rabun County should continue to engage with community members using a variety of methods, including [ex. *community ambassadors, social media, and education materials for visitors of short-term rentals*]. The following priority recommendations may fall to different entities or partners within and around Rabun County.

As your community makes progress on the top-priority actions outlined below, refer to the fire adapted communities' "wheel" (**Figure 3.1**) and seek additional ideas and resources from the Fire Adapted Community Learning Network and local state resources such as, [*ex: Fire Adapted Community (FAC)*]. Visit their websites for more information on their programs and upcoming events.

Firewise Communities

There are currently 10 communities throughout Rabun County that have been designated Firewise communities since 2013. This is a great foundation to build off for planning community outreach and education events. The Rabun County Fire Department, along with the Georgia Forestry Commission and the USDA Forest Service hosts events throughout the year to talk to residents about wildfire preparedness and mitigation. These agencies also partner with local businesses such as Home Depot and Ingles to promote wildfire prevention/mitigation awareness, and to enroll communities in the Firewise Program.

Wildfire Prevention and Education Teams

The Georgia Forestry Commission and the USDA Forest Service have been very focused on the potential wildfire risk in Rabun County, and in an effort to reduce risk have hosted several Wildfire Prevention and Education Teams in Rabun County over the past few years. These teams have worked to expand the Firewise Program throughout the county and have achieved in acquiring 10 communities in the program to date. The teams also work to promote wildfire prevention through educational outreach to homeowners and tourists who visit the area. These teams have proven to be essential in reducing wildfire starts by helping homeowners understand the wildfire threat to their home. They use several different methods to provide information on how to prepare homes to withstand ember attacks and minimize the likelihood of flames or surface fire touching the home or any attachments.

North Georgia Wildfire Prevention and Education Team
Photo L-R: Matt Derstine, Dequincy Gordon, David Kuykendall, Lisa Blackmon, Beryl Budd and Mark Wiles
June 2016 Photo Credit: Georgia Forestry Commission

Neighborhood Ambassador Program

Expanding and providing resources for a *Neighborhood Ambassador Program* could help residents better understand wildfire risks and spark coordinated action that affects positive change in Rabun County. The neighborhood ambassador approach requires engaged volunteer ambassadors and a dedicated lead coordinator. See **Table 3.d.1** from the guide Fire adapted communities neighborhood ambassador approach: Increasing preparedness through volunteers for effective activities that neighborhood ambassadors can undertake (Wildfire Adapted Partnership, 2018).

Example activity	Ambassador responsibility	Coordinator responsibility
Educational programs about defensible space and home hardening	Gauge interest of neighbors and select topics. Find a meeting location. Encourage neighbors to attend.	Arrange for specialists to make presentations. Advertise programs through HOA newsletters, social media, etc.
Emergency planning	Organize an event for people to ask firefighters and law enforcement personnel about emergency planning and evacuation. Encourage residents to work with their neighbors to develop a plan for evacuation if a resident is not at home, school-aged children or pets might be home alone, or residents have mobility impairments and need special assistance.	Provide information to residents about emergency planning and go-bags. Arrange for specialists to make presentations. Advertise program through HOA newsletters, social media, etc.
Community chipping day	Secure HOA buy-in and request financial support. Select a date and organize event logistics. Encourage neighbors to attend.	Secure fuels module availability and grants or other financial support. Address liability and safety concerns. Advertise programs through HOA newsletters, social media, etc.
Defensible space projects	Work with neighbors to identify high-priority project locations using insights from this CWPP. Secure HOA buy-in and request financial support. Select contractors and solicit bids. Oversee project completion.	Work with a certified forester for insights about effective treatment location and prescriptions, following guidelines in this CWPP. Identify potential contractors. Write scope of work for contract. Inspect project upon completion. Celebrate success through social media posts and newspaper articles.

***Table 3.d.1**. Potential activities for the neighborhood ambassador program. Table adapted from (Wildfire Adapted Partnership, 2018).*

3.e. Considerations for Vulnerable Populations

Social factors influence how impacted an individual or a community may be in the event of wildfire. This so-called social vulnerability is due to a lack of access to resources. The resources that are lacking can include infrastructure, social support, health, and financial means (Cutter et al., 2003). While Rabun County at large may be well prepared for wildfire after engaging in this CWPP planning process, there is potential for some to fall through the cracks or struggle to engage in necessary mitigation and preparation work which makes them more at risk in the event of a fire. The Rabun Aid Program will be invaluable in helping to locate and provide care for these vulnerable populations.

Poverty, racial and ethnic discrimination, age, and physical ability are frequently factors that are associated with social stratification and result in resource inequity (Crowley, 2020; Cutter et al., 2003; Davies et al., 2018; Emrich et al., 2020; Hewitt, 2013; Ojerio et al., 2008). Thus, it is important to consider how to ensure that all community members can participate in the wildfire preparedness actions outlined in this CWPP.

Pre-fire

Before a fire, it is important to ensure that preparation and potential evacuation communication materials are available in other languages spoken in Rabun County. Sole use of English in materials makes it difficult for people with lower proficiency in English to understand. This includes children, people with low literacy, and people who primarily speak other languages. Materials that use images and diagrams rather than words can make sure the broadest audience can understand any materials that Rabun County distributes about wildfire.

Another major barrier is the ability to do the work recommended in this plan. Populations that may be impacted by this include those in lower income brackets who don't have the resources to harden their homes (i.e., by replacing their roofs, siding, and decks with non-combustible construction materials) and those with physical disabilities or impairments that keep them from doing the physical labor often involved in preparation and mitigation actions themselves. This CWPP is a great way to begin addressing economic disparity because it can provide a basis for Rabun County to apply for grant funding to support mitigation work on behalf of the community.

To truly reduce the economic barrier at a community level, community leaders must design programs that are accessible for all income brackets. For example, providing mitigation services such as a community chipping program that is free for residents who fall within lower income brackets can encourage those residents to mitigate their properties when they may have otherwise found it inaccessible. Similarly, volunteer days can help those who are not physically able to engage in pre-fire protection of their home by connecting physically able community members with them to help do home hardening work.

Post-fire

Following a fire, households are often solely responsible for their own recovery. While challenging for everyone, this is a particular issue for those without equal access to the social aid that is available like FEMA recovery funds, information on the internet, and claims for insurance (Laska and Morrow, 2006; Méndez et al., 2020). Groups impacted by this can include older adults, undocumented folks, and those who speak English as a second language or not at all.

While planning for post-fire is less of a focus of this CWPP, it is worth mentioning that community ties are as important after a fire as they are in trying to reduce the impact of potential fire. Communities that consider who will need the most assistance after a fire ahead of time are better able to get those folks the help they need quickly.

3.f. Recommendations to Enhance District Capacity

District Capacity Assessment

Mutual aid agreements exist with all adjoining county fire departments (Habersham County to the south, Towns County to the west, Macon County North Carolina to the north, Oconee County South Carolina to the east and Clay County North Carolina to the northwest). There is also mutual aid through the USDA Forest Service and the Georgia Forestry Commission. The Georgia Forestry Commission has the ability to provide firefighting resources from throughout the State of Georgia and the USDA Forest Service can provide firefighting resources from throughout the nation.

Recommendations

1. All fire districts are lacking in the ability to help their community members to mitigate the fire risk in each district. Each fire district is lacking the equipment required for the task of fuels mitigation, and should be equipped accordingly.
    - Installation of dry hydrants and cisterns
      (Cisterns for Stations 3 and 8; most of the cost is grading and tank costs see attached), remaining for dry hydrant projects
    - Personal Protective Equipment (Brush pants, coat, helmet, gloves, goggles, boots)
    - Wildland hand tools: fire rakes, McCleod tools, Pulaski, hoe, swatter
    - Backpack (cordless) leaf blowers with spare batteries
    - Chainsaws (cordless) with spare batteries
    - Wildland hose (cloth; non weeping) 6000’ (500’ per station)
    - Firefighting 4 door UTV Side by Side climate controlled cab with forestry tank, pump, hose and trailer package for (One for each of the 12 stations)
    - UTV Helmets
    - Forestry firefighting nozzles (adjustable stream/fog)
    - Forestry firefighting nozzles (break a part with tips)
    - Lightweight booster hose 5000’ feet / 100 50’ sections
    - Flashlights 100
    - Misc. adapters/ wrenches/ tools and carriers for any above items
    - Misc. safety/first aid/incident command tent/safety vests/chainsaw chaps/traffic cones/traffic management signage/AED/rehab area tent
2. Recommend that Rabun County Fire Department create four Wildfire Mitigation Specialist positions to access, educate and advise mitigation for the citizens and business owners of Rabun County. Each Wildfire Mitigation Specialist would be responsible for three fire districts within Rabun County. These employees would be responsible for overseeing the mitigation and grant distribution for mitigation projects within their respective fire districts.
3. Subsidize property owners for various fuels mitigation projects on private property to decrease risk to lives and property, and to create a safer working environment for firefighters responsible for defending these properties.

4. Subsidize Rabun County government for roadway and driveway widening to eliminate dangerous ingress and egress situations in emergency situations. Widening roadways would allow for safer evacuation and emergency response when wildire occurs. This project would include fuel reduction along roadways through mastication and herbicide application to decrease fuel loading in these high traffic areas. These projects may be conducted by the county or may include contractors to complete the task. Roadways to be widened and fuel mitigation completed can be found in the charts provided in this CWPP, and are not limited to these locations.
    - Purchase a MowerMax mulching machine (Skid steer with a mulching head)
    - Contract with private companies to assist with the right of way clearing and mulching, as well as roadway and driveway widening.

3.g. Funding Opportunities for Wildfire Hazard Mitigation and Emergency Preparedness

There are many funding opportunities from federal, state, and local agencies as well as non-profits to assist in forest health and wildfire mitigation projects. These funds can increase capacity but cannot cover all the costs of fire mitigation needed within the valley. Residents and partners must put forth funds and time to complete this work.

Opportunities from Local and State Agencies in Georgia

- Georgia Firewise Hazard Mitigation Grant can be acquired through the Georgia Forestry Commission for all certified Firewise communities in Georgia. Funding is to be used to mitigate fuels and reduce wildfire hazards in Firewise communities in Georgia.
- Cross Boundary Wildfire Mitigation Grants provided for all communities in Rabun County through the USDA Forest Service and the Georgia Forestry Commission. Grant funding pays 100% of prescribed burn and fuels mitigation costs within Rabun County.

Funding from Federal Agencies

- **Building Resilient Infrastructure and Communities (BRIC) grant program** supports states, local communities, Tribes, and territories as they undertake large-sale projects to reduce or eliminate risk and damage from future natural hazards. Homeowners, business operators, and non-profit organizations cannot apply directly to FEMA, but they can be included in sub-applications submitted by an eligible sub-applicant (local, tribal and state agencies).
- **Hazard Mitigation Assistance Grants Program (HMGP)** provides funding to state, local, Tribal, and territorial governments so they can rebuild in a way that reduces, or mitigates, future disaster losses in their communities. This grant funding is available after a presidentially declared disaster.
- **Assistance to Firefighters Grants (AFG)** help firefighters and other first responders obtain critical resources necessary for protecting the public and emergency personnel from fire and related hazards.
- **Fire Prevention & Safety (FP&S) Grants** support projects that enhance the safety of the public and firefighters from fire and related hazards.
- **Staffing for Adequate Fire and Emergency Response (SAFER)** grants directly fund fire departments and volunteer firefighter organizations to help increase their capacity.
- **Community Wildfire Defense Grants** (CWDG) are funded annually through the National Forest Service and help communities take action on implementation projects outlined in recent CWPPs.

Opportunities from Non-Governmental Organizations

- Coalitions and Collaboratives, Inc. manages the **Action, Implementation, and Mitigation Program (AIM)** to increase local capacity and support wildfire risk reduction activities in high-risk communities. AIM provides direct support to place-based wildfire mitigation organizations with pass-through grant funding, on-site engagement, technical expertise, mentoring, and training on mitigation practices to help high-risk communities achieve their wildfire adaptation goals.

Supporting the Fire Protection District

Rabun County Fire Department works diligently to provide the public with information on mitigating fire risk, while promoting wildfire prevention throughout Rabun County. The dedicated men and women are acutely aware of the potential risk and have partnered with the Georgia Forestry Commission and the USDA Forest Service to create a safer environment for all of the citizens of Rabun County, however there is still room for improvement and funding is a vital way to increase the wildfire mitigation and prevention efforts in the county. The following sources of funding can prove to be beneficial in making for financial shortfalls in the fire department's budget:

The Community Wildfire Defense Grant (CWDG) provides for the funding of wildfire mitigation projects throughout the county. This program will also fund staffing of Wildfire Mitigation Specialists to provide educational outreach and assessment services to the public. The grant can also supply services through equipment and contract services for reducing fuel accumulations throughout Rabun County creating a safer environment for all.

- The **Staffing for Adequate Fire and Emergency Response (SAFER)** grants can help fund staff capacity for fire departments.
- The **Assistance to Firefighters Grants (AFG)** can provide critical response resources for firefighters and emergency responders.
- Community support is also vital to the success of the fire stations:
    - Rabun County is supported by 165 volunteer firefighters who respond to fires, medical emergencies, and rescues every day of the year. Learn more about how you can volunteer by contacting your local fire department.
    - Financial support in the form of Rabun County tax dollars for Rabun County is vital to their success in responding to residents in their time of need.
    - Attend events hosted by Rabun County. Seeking out information to protect your home from fire danger can also help protect your local firefighters. Sharing this information within your community can build community resilience and can help lower implementation costs for individual homeowners for many projects.

4. Implementation Recommendations for Fuel Treatments and Ecological Restoration

4.a. Objectives and Benefits of Fuel Treatments and Ecological Restoration

Fuel Treatments

Fuel treatments are a land management tool for reducing wildfire hazard by decreasing the amount and altering the distribution of wildland fuels. Common goals of stand-scale fuel treatments are to reduce the risk of active or passive crown fires and to reduce fire intensity. This is achieved by removing trees, increasing the distance between tree crowns, removing small trees, shrubs, and low branches to increase the distance between surface fuels and tree crowns, and removing downed trees and other dead vegetation (Agee and Skinner, 2005). Fuel treatment methods include tree thinning, pruning, pile burning, broadcast prescribed burning, and fuel mastication.

> "Given the right conditions, wildlands will inevitably burn. It is a misconception to think that treating fuels can 'fire-proof' important areas... Fuel treatments in wildlands should focus on creating conditions in which fire can occur without devastating consequences, rather than on creating conditions conducive to fire suppression" (Reinhardt et al. 2008).

Strategically located, high-quality fuel treatments can create tactical options for fire suppression (Jolley, 2018; Plucinski, 2019). Fuel treatments along trails, ridgelines, and other features can allow firefighters opportunities to use direct or indirect suppression techniques to contain fire spread. USDA Forest Service is working annually, along with the Georgia Department of Natural Resources and the Georgia Forestry Commission on fuel reduction projects throughout Rabun County.

Ecological Restoration

Ecological restoration is the process of assisting the recovery of an ecosystem that has been damaged, degraded, or destroyed (SER, 2004). Many forests in the western United States have been damaged, degraded, or destroyed because of changes to their historical fire regimes following Euro-American colonization.

Many of the prescribed fire projects conducted by the USDA Forest Service and the Georgia Department of Natural Resources have multiple objectives. The primary objective is to reduce forest fuels and decrease the probability of a catastrophic wildfire, the second objective is to restore ecological habitat for a healthier forest and a better wildlife habitat.

In some cases, fuel treatments can achieve both ecological objectives and wildfire risk reduction. Restoration treatments in dry-mixed conifer and ponderosa pine forests tend to achieve both fuel treatment and ecological restoration objectives. In contrast, a treatment that creates a forest with widely, evenly spaced trees could serve as an effective fuel treatment but would not achieve ecological objectives in most forest types.

Treatment Types Covered in the CWPP

This CWPP covers fuel treatments in the home ignition zone 3, stand-level fuel treatments, and roadside fuel treatments, each with their own objectives and benefits:

Fuel Treatment Category	Primary Objectives and Benefits
Defensible space in home ignition zone 3 (30-100 feet away from the home)	Reduce surface fuels, reduce tree density, and increase the distance between surface and canopy fuels. Moderate fire behavior near structures and increase their chance of surviving a wildfire. Increase safety and access for wildland firefighters. Increase the visibility of structures from roadways to assist wildland firefighters with locating and accessing your home. Coordinate with partners when home ignition zone 3 overlaps neighboring properties to address shared wildfire risk. Linked defensible space creates safer conditions and better tactical opportunities for wildland firefighters. Defensible space projects that span ownership boundaries are better candidates for grant funding due to their strategic value.
Stand-level ecological restoration / fuel treatments	Reduce surface fuels, reduce tree density, and increase the distance between surface and canopy fuels. Restore ecological conditions to create more fire-resilient ecosystems. Reduce the likelihood of high-severity wildfires near communities. Create tactical opportunities for fire suppression.
Roadside fuel treatments	Dramatically reduce or eliminate surface and canopy fuels. Reduce the likelihood of non-survivable conditions along roadways during wildfires. Create tactical opportunities for fire suppression. Increase the visibility of structures from roadways to assist wildland firefighters.

4.b. Priorities for Ecological Restoration and Roadside Fuel Treatments in Rabun County

Altering potential wildfire behavior and restoring ecological conditions requires a landscape-scale approach to treatments across ownership boundaries. We located and prioritized project areas for roadside fuel treatments, ecological restoration, and/or stand-level fuel treatments within and around Rabun County to be implemented in the next 5 years (**Figure 4.b.1**)a. These project areas cross ownership boundaries and require community-wide commitment, coordination, and collaboration among private landowners, public land managers, and forestry professionals to create successful outcomes.

Project areas were identified through an intense community assessment in each fire district. The areas of concern were identified by seasoned firefighters working in the district who live in the communities and are faced with the concern of wildland firefighting as they occur. The areas of concern in each district are not limited to the areas that were evaluated, but may expand to areas that have emerging problems, or areas that were not evaluated.

COMMUNITY MEETINGS

1/30/2024	Meeting with Station 2 Warwoman Community Members, Firefighters & Chief J. Bleckley
1/30/2024	Meeting with Station 8 Satolah Community Members, Firefighters & Chief S. Schmitt
2/1/2024	Meeting with Station 5 Valley Community Members, Firefighters & Chief G. Jenkins
2/5/2024	Meeting with Station 4 Lakemont Wiley Community Members, Firefighters & Chief J. Murray
2/6/2024	Meeting with Station 1 Clayton Community Members, Firefighters & Chief A. Beck
2/6/2024	Meeting with Station 3 Tallulah Persimmon Community Members, Firefighters & Chief J. Hooper
2/12/2024	Meeting with Station 7 Tallulah Falls Chief M. Early
2/19/2024	Meeting with Station 7 Tallulah Falls Community Members, Firefighters & Chief M. Early
2/20/2024	Meeting with Station 6 Chechero Community Members, Firefighters & Chief M. Hopkins
3/5/2024	Meeting with Station 9 Sky Valley Community Members, Firefighters & Chief K. Zeigler
3/12/2024	Meeting with Station 10 Lakes Community Members, Firefighters & Chief M. Wood
3/19/2024	Meeting with Station 11 Wildcat Community Members, Firefighters & Chief P. Thompson
3/19/2024	Meeting with Station 12 Tiger Community Members, Firefighters & Chief B. Speed
7/2/2024	Community Wide Outreach Meeting

The section below describes the current conditions in each CWPP project area, treatment objectives and benefits, potential treatment types, project leads, and relative importance. The relative importance and feasibility of treatments is reflected in their timeline—partners aim to conduct treatments for immediate action in the next 1-2 years, short-term treatments are targeted for the next 3-4 years, and mid-term projects for the next 5-10 years. Mid-term projects will require more coordination, funding, and other enabling conditions before implementation can begin.

The CWPP implementation plan for stand-level and roadside treatments focuses on high-priority locations, but this does not discourage ecological restoration and fuel mitigation in other areas. If multiple neighbors work together to mitigate fire risk across ownership boundaries, it could attract funding and increase the priority and effectiveness of treating those areas. Rabun County, HOAs, residents, and land managers should reevaluate fire risks and reprioritize treatment units as conditions change over time.

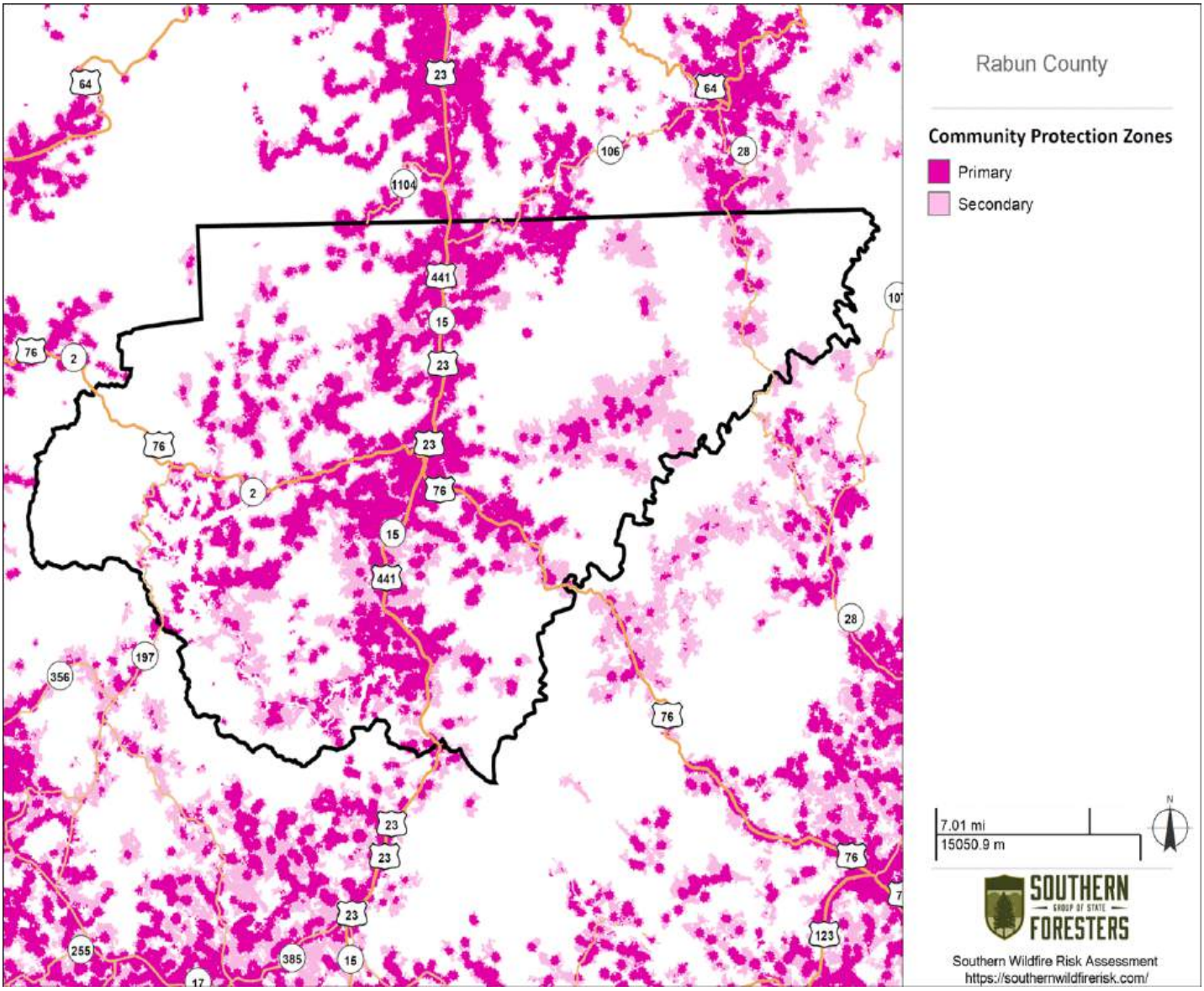


Figure 4.b.1. *Priority project areas for implementation in Rabun County in the next 5 years to mitigate wildfire risk in the primary and secondary community protection zones, ex: reduce the impact of wildfire,create strategic opportunities for wildland firefighters, create safe conditions for evacuations, restore ecological conditions, etc.]*

4.c. General Recommendations for Home Ignition Zone 3 and Stand-scale Treatments

Local knowledge and professional expertise are needed to design effective, site-specific fuel treatments based on the best available science. Specific fuel treatment recommendations are dependent on forest type, tree density, fuel loads, terrain, land use, and management objectives. The location and purpose of treatments also matter. Treatments in large, forested areas can include the retention of individual trees and groups of trees. Evenly and widely spaced trees might be reasonable in the home ignition zone 3, but this tree arrangement would not be appropriate for restoration-style fuel treatments.

Treatments in home ignition zone 3 (30-100 feet away from the home) can restore historical forest structure, but it is most important to focus on reducing wildfire risk to the home, creating safe conditions for firefighters, and increasing the visibility of your home from the road for firefighters. Homeowners often enjoy the more open forest around their home because it lets in more light which encourages understory grasses and shrubs to grow and, in turn, can increase wildlife sightings near their home. Home ignition zone 3 often overlaps neighboring properties and requires residents to work together to address shared wildfire risk.

For all fuel treatments, it is important to address surface fuels. Forest management operations often increase surface fuel loads and can fail to achieve fire mitigation objectives if fuels created by the harvest activities (also known as slash) are not addressed (Agee and Skinner, 2005). Slash can include small trees, limbs, bark, and treetops. See **Section 4.e. Approaches to Slash Management** for pros and cons of different slash management options.

Mitigating the impacts of tree removal on soil compaction and erosion is also important when treatments occur near streams and riparian ecosystems. The Georgia Forestry Commission recommends 100 feet streamside management zones along streams in Rabun County. Treatments should be monitored for colonization of invasive, weedy plants that might require control through integrated weed management. It's always a good idea to take pictures of treatments before and after to help evaluate effectiveness and monitor changes over time.

4.d. General Recommendations for Roadside Fuel Treatments

Treatments along roadways require a dramatic reduction of fuels to create safe and survivable conditions. This includes removing most trees adjacent to the roadway, limbing remaining trees, and regularly mowing grass and shrubs (**Figure 4.d.1**). Treatments along roadways are often described as shaded fuel breaks. See **Table 4.d.2** for some example recommendations for roadside fuel treatments in Rabun County.

The width of an effective roadside fuel treatment (distance to the left and right of a road) is dependent on slope. It is recommended that treatments extend 150 to 240 feet off the downhill side of the road and 100 to 150 feet off the uphill side. Wider treatments are necessary on the downhill side on steeper slopes due to the exacerbating effect of slope on fire intensity when fires travel uphill (**Table 4.d.1**) (Dennis, 2005). Important aspects of all roadside fuel treatments include:

- Removing limbs overhanging the road to create ***at least*** 13.5-feet of vertical clearance. See **Figure 3.a.3** for a depiction of how to measure limb height.
- Removing trees alongside the road to create ***at least*** 20-feet of horizontal clearance.

- Removing trees to create ***at least*** 10-feet crown spacing between remaining trees within the roadside treatment zone specified in **Table 4.d.1**. See **Figure 3.a.3** for a depiction of how to measure crown spacing.
- Removing shrubs and regeneration that can serve as ladder fuels.
- Mowing grasses adjacent to the road.
- Remove slash following fuel treatments. See **Section 4.e. Approaches to Slash Management** for pros and cons of different slash management options.

Along important evacuation routes that could experience extreme congestion, roadside treatments should be more aggressive and consist of near removal of all trees within at least 30 feet of roadways.

Some residents find roadside fuel treatments aesthetically displeasing because of the removal of so many trees, but these treatments are vital for increasing the safety of residents and firefighters in this community. Roadside treatments must dramatically reduce fuel loads to effectively reduce the risk of non-survivable conditions developing during wildfires.

Figure 4.d.1. *Effective roadside fuel treatments remove enough trees to result in widely spaced crowns, remove ladder fuels (seedlings, saplings, shrubs, and low limbs), and reduce surface fuels. More dramatic tree removal along roadways can create even safer roadside conditions where appropriate.*

Photo credits: SafeScapes, LLC.

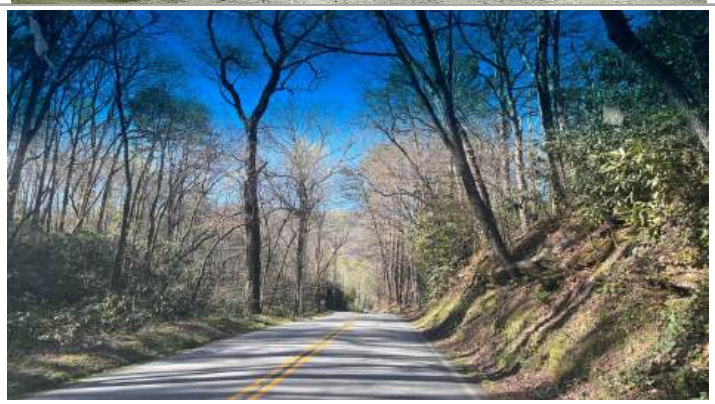
Roadway example	Suggestions for improvement
	• Clear trees and tall shrubs away from the roadways • Clear extra space on the downhill side • Create regular pullouts and turnaround locations for engines
	• Mowing along the side of the road is recommended for the tall grasses. • The trees along this roadway are back from the road and upslope of the road. Trees should be removed to further away, but this would be lower priority than other roadways.
	• Remove trees that are leaning over the roadway because they could fall and trap residents during an evacuation • Clear all trees on the sides of the roadways • Install mirrors on switchbacks to improve visibility

***Table 4.d.2**. Examples of conditions occurring along roadways in Rabun County and suggestions for treatment and improvement.*

4.e. Approaches to Slash Management

Forest management operations often increase surface fuel loads and can fail to achieve fire mitigation objectives if fuels created by the harvest activities (also known as slash) are not addressed (Agee and Skinner, 2005). Slash can include small trees, limbs, bark, and treetops. Slash management is a critical step in the forest management process. It is unwise, ineffective, and even dangerous to conduct poor-quality fuels treatments that fail to reduce canopy fuels, result in increased surface fuel loads, and do not receive maintenance treatments. Such treatments can lead to a false sense of security among residents and fire suppression personnel, and they divert limited funds away from more effective, strategic projects.

Leaving untreated slash within roadside fuel treatments is particularly counterproductive. The risk of active crown fire might be lower after a thinning operation, but untreated slash in fuel treatments can burn at high intensities and endanger the lives of residents stuck on roadways during a wildfire. Slash is easier and cheaper to manage along roadways due to access, and roads can serve as highly effective holding features for controlled burning of grass in the spring and fall and pile burning in the winter.

Methods for managing slash come with different benefits and challenges (**Table 4.e.1**). For example, lop-and-scatter and mastication do not remove surface fuels from the site, they only rearrange them. It can take a decade or more for slash to decompose to a point where it no longer poses a significant fire hazard. Broadcast prescribed burning and pile burning are more effective at removing surface fuels, but they require extensive planning and expertise to conduct properly.

Rabun County and HOAs should work together to develop a slash management strategy for the area. This can and should include a combination of the following slash management techniques.

- In woods mulching or mastication
- Chipping and removal from the site
- Roadside mowing

Roadside Slash Treatment Method

Rabun County is currently working on clearing the right-of-ways along road sides, and clearing brush, trees and debris from right of way areas, as well as mowing open roadside areas. They are currently using a Mower Max skid steer with a mulching head on densely wooded areas, but the work is slow to complete. The county has also utilized private contractors to help with the right of way clearing, but the work is slow and expensive. The county hopes to acquire a second Mower Max skid steer with a mulching head, as well as secure grant funding to hire contractors to help speed up the process.

5. The Future of the CWPP and Implementation Plan

Below are strategic actions for residents, Rabun County Commissioners and Rabun County Fire Department, other community groups, public land managers, county, state, and federal agencies, and non-profit conservation groups to accomplish in the short-, mid-, and long-term (see definitions below). Some activities have low financial cost but require a fundamental shift in attitudes and behavior to prioritize wildfire risk mitigation. Other actions are more substantial and require commitment and collaboration across the community to pool resources, apply for grants, and make incremental steps towards meaningful change.

5.a. Implementation Phases

Short-term actions	Mid-term actions	Long-term actions
• Can be implemented within the remainder of 2024. • Can be accomplished within the current funding capacity for the fire district and , and residents. • Can occur within the context of the current [FPD or partner organization] volunteer base, with modest expansion. • Can capitalize on current relationships with emergency response partners and land managers.	• Can be implemented within 18-24 months, generally in [*2024 and 2025*]. • Will require expansion of the current [partner organization] volunteer base. • Requires new cooperative relationships with emergency response partners, land managers, and non-profit organizations. • Actions that are already in the planning stages and have some portion of funding already identified.	• Require planning to start within 18-24 months so implementation can occur after [*2025*]. • Requires multi-year planning and funding. • Requires extensive grant funding. • Requires local staffing beyond volunteers.

5.b. Implementation Activities and Responsibilities

Recommendation	Responsibility	Timeline
Category: Fire Adapted Communities		
Adopt the Fire Adapted Communities as the overarching vision and strategy for CWPP implementation.	Rabun County Fire Dept., Rabun County Commissioners, HOAs, USDA Forest Service, Georgia Forestry Commission, residents	Short-term
Volunteer annually in their local fire protection districts Firewise Education Day during the summer to encourage residents to implement home hardening and defensible space.	Residents, Rabun County Fire Department, USDA Forest Service, Georgia Forestry Commission	Short-term
Recommendation	**Responsibility**	**Timeline**
Category: District Capacity and Outreach		
Form a volunteer group called the CWPP Implementation Committee, or other mutually agreeable name to continue momentum developed by the CWPP. Create a regular meetup schedule to talk through progress.	Residents, Rabun County Fire Department, USDA Forest Service, Georgia Forestry Commission	Short-term
Collaborate with adjacent fire protection districts to establish a cooperative paid outreach or mitigation position to increase capacity. Could be full-time or parts time, but must be able to work directly with residents on mitigation.	Rabun County Fire Dept, Rabun County Commissioners, Georgia Forestry Commission	Long-term
Category: Home Ignition Zone		
Complete maintenance of your home ignition zone annually. Add 1-2 new mitigation actions each year.	Residents	Short-term
Conduct home assessments to provide specific recommendations to individual homeowners.	Rabun County Fire Dept, volunteers and/or CWPP committee, Georgia Forestry Commission	Mid-term
Category: Linked Defensible Space and Fuel Treatments		
Focus initial efforts on mitigating fire risk in CWPP plan units with extreme fire risk (Warwoman,	Rabun County Fire Dept, HOAs, residents, USDA Forest	Short- to mid-term

Satolah, Tallulah Persimmon, Sky Valley)Have formal conversations about each area within 6 months of this document being signed.	Service, Georgia Forestry Commission	
Work together to pool financial and other resources and pursue grants. Apply for 3-5 grants annually.	Rabun County Fire Dept, HOAs and residents	Mid- to long-term
Recommendation	**Responsibility**	**Timeline**
Category: Slash Management		
Develop a slash management strategy within 1 year, including judiciously relaxing slash burning prohibitions.	Rabun County Fire Dept and HOAs	Short-term
Implement a community chipping program.	Rabun County Road Dept. and HOAs	Mid-term
Category: Evacuation Preparedness		
Develop a family evacuation plan and go-bags. Plans should include considerations of pets and livestock if applicable.	Residents	Short-term
Sign up for emergency notification through the [*CodeRED*].	Residents	Short-term
Category: Firefighter Access and Evacuation Safety		
Improve driveway access for firefighters.	Residents and HOAs	Mid-term
Coordinate efforts to mitigate hazardous conditions along private and HOA roadways.	Rabun County Road Dept and local land managers	Mid- to long-term

5.c. CWPP as a Living Document

It is recommended to update them every *5 years, at minimum*. CWPPs greater than 10 years old are outdated and can exclude communities from successfully applying for competitive funding opportunities.

The Georgia Forestry Commission typically updates the Community Wildfire Protection Plan (CWPP) every 5 years, or as requested by the county government.

The update to this plan can either be a preface to this document or a new document that integrates with this one. The update to this plan should include:

- A description of progress made since the CWPP was created.
- A description of demographic changes in the community and other important infrastructure changes.
- Identification of new risks in the community.
- Updated risk analysis if major changes have happened between revisions.
- Updated and prioritized projects for the community with maps and descriptions

The suggested review process involves:

- Reviewing the existing CWPP
- Engaging partners that have a vested interest in the plan
- Hosting collaborative meetings
- Documenting completed projects and demographic and landscape changes
- Developing updated wildfire risk reduction priorities
- Updating maps
- Distributing updated drafts to key partners for review and input prior to final approval
- Finalizing with core team signatures and submitting to the Rabun County Board of Commissioners.

This CWPP is a **call to action!** Becoming a fire adapted community and decreasing wildfire risk takes concerted effort, time, and coordination. Use it to spark action on your property and across your neighborhood and entire community. The need to protect lives, safety, and property from wildfire is too great to wait.

6. Glossary

20-foot wind speed: The rate of sustained wind over a 10-minute period at 20 feet above the dominant vegetation. The wind adjustment factor to convert surface winds to 20-foot wind speeds depends on the type and density of surface fuels slowing down wind speeds closer to the ground (NWCG, 2021).

Active crown fire: Fire in which a solid flame develops in the crowns of trees and advances from tree crown to tree crown independently of surface fire spread (NWCG, 2018b).

Basal area: Cross sectional area of a tree measured at breast height (4.5 feet above the ground). Used as a method of measuring the density of a forest stand in units such as ft^2/acre (USFS, 2021a).

Broadcast prescribed burning (aka, prescribed burn, controlled burn): A wildland fire originating from a planned ignition in accordance with applicable laws, policies, and regulations to meet specific objectives (NWCG, 2018b).

Canopy cover: The ground area covered by the crowns of all trees in an area as delimited by the vertical projection of their outermost crown perimeters (NWCG, 2019).

Canopy fuels: The stratum of fuels containing the crowns of the tallest vegetation (living or dead), usually above 20 feet (NWCG, 2018b).

Canopy height: The average height of the top of the vegetated canopy (NWCG, 2019).

Canopy: The more or less continuous cover of branches and foliage formed collectively by adjacent tree crowns (USFS, 2021a).

Canyon: A long, deep, very steep-sided topographic feature primarily cut into bedrock and often with a perennial stream at the bottom (NRCS, 2017).

Chain: Chains are commonly used in forestry and fire management as a measure of distance. 1 chain is equivalent to 66 feet. Chains were used for measurements in the initial public land survey of the U.S. in the mid-1800s.

Chimney effect: a phenomenon that occurs when unstable air conditions in a canyon create a convection current, which draws air in at the bottom and exhausts it at the top. This can cause a wildfire to spread rapidly up a canyon, pushing flames deeper into hillsides. The chimney effect can be dangerous and lead to extreme fire behavior

Chute: A steep V-shaped drainage that is not as deep as a canyon but is steeper than a draw. Normal upslope air flow is funneled through a chute and increases in speed, causing upslope preheating from convective heat, thereby exacerbating fire behavior (NWCG, 2008).

Community Wildfire Protection Plan (CWPP): A plan developed in the collaborative framework established by the Wildland Fire Leadership Council and agreed to by state, Tribal, and local governments, local fire departments, other partners, and federal land management agencies in the vicinity of the planning area. CWPPs identify and prioritize areas for hazardous fuel reduction treatments, recommend the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure, and recommend measures to reduce structural ignitability throughout the at-risk community. A CWPP may address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection (NWCG, 2018b).

Convection: A type of heat transfer that occurs when a fluid, such as air or a liquid, is heated and travels away from the source, carrying heat along with it. Air around and above a wildfire expands as it is heated, causing it to become less dense and rise into a hot convection column. Cooler air flows in to replace the rising gases, and in some cases, this inflow of air creates local winds that further fan the flames. Hot convective gases move up slope and dry out fuels ahead of the flaming front, lowering their ignition temperature and increasing their susceptibility to ignition and fire spread. Homes located at the top of a slope can become preheated by convective heat transfer. Convection columns from wildfires carry sparks and embers aloft.

Crown (aka, tree crown): Upper part of a tree, including the branches and foliage (USFS, 2021a).

Defensible space: The area around a building where vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire and reduce exposure to radiant heat and direct flame. It is encouraged that residents develop defensible space so that during a wildfire their home can stand alone without relying upon limited firefighter resources due to the great reduction in hazards they have undertaken. The Colorado State Forest Service defines three zones of defensible space: zone 1 (HIZ 1) as 0 to 5 feet from the home, zone 2 (HIZ 2) as 5 to 30 feet from the home, and zone 3 (HIZ 3) as 30 to about 100 feet from the home..

Direct attack: Any treatment applied directly to burning fuel such as wetting, smothering, or chemically quenching the fire or by physically separating the burning from unburned fuel (NWCG, 2018b).

Draws: Topographic features created by a small, natural watercourse cutting into unconsolidated materials. Draws generally have a broader floor and more gently sloping sides than a ravine or gulch (NRCS, 2017).

Ecological restoration: The process of assisting the recovery of an ecosystem that has been damaged, degraded, or destroyed (SER, 2004). In ponderosa pine and dry mixed-conifer forests of the Colorado Front Range, ecological restoration involves transforming dense forests into a mosaic of single trees, clumps of trees, and meadows similar to historic forests that were maintained by wildfires and very resilient to them (Addington et al., 2018).

Ember: Small, hot, and carbonaceous particles. The term “firebrand” is also used to connote a small, hot, and carbonaceous particle that is airborne and carried for some distance in an airstream (Babrauskas, 2018).

Fire adapted community (FAC): A human community consisting of informed and prepared citizens collaboratively planning and taking action to safely coexist with wildland fire (NWCG, 2018b). There is not a checklist or one silver bullet to become a FAC; there are many strategic actions and tools that should be used together to reduce shared risk. Risk mitigation is the responsibility of everyone who lives and works in the community—residents, community groups, fire protection districts, agency partners, non-governmental organizations, etc. Fire adaptation is an ongoing process of collaborative action to identify risk, mitigate it, and maintain the work overtime.

Fire behavior: The manner in which a fire reacts to the influences of fuel, weather, and topography. Characteristics of fire behavior include rate of spread, fire intensity, fire severity, and fire behavior category (NWCG, 2018b).

Fire history: A general term referring to the historic fire occurrence in a specific geographic area (NWCG, 2018b).

Fire intensity (aka, fireline intensity): (1) The product of the available heat of combustion per unit of ground and the rate of spread of the fire, interpreted as the heat released per unit of time for each unit length of fire edge, or (2) the rate of heat release per unit time per unit length of fire front (NWCG, 2018b).

Fire regime: Description of the patterns of fire occurrences, frequency, size, and severity in a specific geographic area or ecosystem. A fire regime is a generalization based on fire histories at individual sites. Fire regimes can often be described as cycles because some parts of the histories usually get repeated, and the repetitions can be counted and measured, such as fire return interval (NWCG, 2018b).

Fire severity. Degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time (NWCG, 2018b). Fire severity is determined by visually inspecting or measuring the effects that wildfire has on soil, plants, fuel, and watersheds. Fire severity is often classified as low-severity (less than 20% of overstory trees killed) and high severity (more than 70% of overstory trees kills). Moderate-severity or intermediate fire severity falls between these two extremes (Agee, 1996). Specific cutoffs for fire severity classifications differ among researchers.

Fire weather conditions: Weather conditions that influence fire ignition, behavior, and suppression, for example, wind speed, wind direction, temperature, relative humidity, and fuel moisture (NWCG, 2018b).

Firebreak: A natural or constructed barrier where all vegetation and organic matter have been removed down to bare mineral soil. Firebreaks are used to stop or slow wildfires or to provide a control line from which to work

Fireline: (1) The part of a containment or control line that is scraped or dug to mineral soil, or (2) the area within or adjacent to the perimeter of an uncontrolled wildfire of any size in which action is being taken to control fire (NWCG, 2018b).

Flame length: The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface). Flame length is measured on an angle when the flames are tilted due to effects of wind and slope. Flame length is an indicator of fire intensity (NWCG, 2018b).

Fuel reduction: Manipulation, combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage from wildfires and resistance to control (NWCG, 2018b).

Fuelbreak: A natural or manmade change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled. Fuelbreaks differ from firebreaks due to the continued presence of vegetation and organic soil. Trees in shaded fuelbreaks are thinned and pruned to reduce the fire potential but enough trees are retained to make a less favorable microclimate for surface fires (NWCG, 2018b).

Fuels mitigation / management: The act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire, in support of land management objectives (NWCG, 2018b).

Fuels: Any combustible material, most notably vegetation in the context of wildfires, but also including petroleum-based products, homes, and other man-made materials that might combust during a wildfire in the wildland-urban interface. Wildland fuels are described as 1-, 10-, 100-, and 1000-hour fuels. One-hour fuels are dead vegetation less than 0.25 inch in diameter (e.g., dead grass), ten-hour fuels are dead vegetation 0.25 inch to 1 inch in diameter (e.g., leaf litter and pine needles), one hundred-hour fuels are dead vegetation 1 inch to 3 inches in diameter (e.g., fine branches), and one thousand-hour fuels are dead vegetation 3 inches to 8 inches in diameter (e.g., large branches). Fuels with larger diameters have a smaller surface area to volume ratio and take more time to dry out or become wetter as relative humidity in the air changes (NWCG, 2018b).

Handcrews: A number of individuals that have been organized and trained and are supervised principally for operational assignments on an incident (NWCG, 2018b).

Handline: Fireline constructed with hand tools (NWCG, 2018b).

Hazards: Any real or potential condition that can cause injury, illness, or death of personnel, or damage to, or loss of equipment or property (NWCG, 2018b).

Home hardening: Steps taken to improve the chance of a home and other structures withstanding ignition by radiant and convective heat and direct contact with flames or embers. Home hardening involves reducing structure ignitability by changing building materials, installation techniques, and structural characteristics of a home. A home can never be made fireproof, but home hardening practices in conjunction with creating defensible space increases the chance that a home will survive a wildfire.

Home ignition zone (HIZ): The characteristics of a home and its immediate surroundings within 100 feet of structures. Conditions in the HIZ principally determine home ignition potential from radiant heat, convective heat, and ember cast (NWCG, 2018b).

Ignition-resistant building materials: Materials that resist ignition or sustained flaming combustion. Materials designated ignition-resistant have passed a standard test that evaluates flame spread on the material (Quarles, 2019; Quarles and Pohl, 2018).

Incident Response Pocket Guide (IRPG): Document that establishes standards for wildland fire incident response. The guide provides critical information on operational engagement, risk management, all hazard response, and aviation management. It provides a collection of best practices that have evolved over time within the wildland fire service (NWCG, 2018a).

Indirect attack A method of suppression in which the control line is located some considerable distance away from the fire's active edge. Generally done in the case of a fast-spreading or high-intensity fire and to utilize natural or constructed firebreaks or fuelbreaks and favorable breaks in the topography. The intervening fuel is usually backfired; but occasionally the main fire is allowed to burn to the line, depending on conditions (NWCG, 2018b).

Insurance Services Office (ISO) rating: ISO ratings are provided to fire departments and insurance companies to reflect how prepared a community is for fires in terms of local fire department capacity, water supply, and other factors (you can find more information online at the following website https://www.isomitigation.com/ppc/fsrs/).

Ladder fuels: Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees with relative ease. Ladder fuels help initiate torching and crowning and assure the continuation of crowning. Ladder fuels can include small trees, brush, and lower limbs of large trees (NWCG, 2018b).

Lop-and-scatter: Cutting (lopping) branches, tops, and unwanted boles into shorter lengths and spreading that debris evenly over the ground such that resultant logging debris will lie close to the ground (NWCG, 2018b).

Mastication: A slash management technique that involves using a machine to grind, chop, or shred vegetation into small pieces that then become surface fuel.

Mitigation actions: Actions that are implemented to reduce or eliminate (mitigate) risks to persons, property, or natural resources. These actions can be undertaken before and during a wildfire. Actions before a fire include fuel treatments, vegetation modification in the home ignition zone, and structural changes to increase the chance a structure will survive a wildfire (aka, home hardening). Mitigation actions during a wildfire include mechanical and physical tasks, specific fire applications, and limited suppression actions, such as constructing firelines and creating "black lines" through the use of controlled burnouts to limit fire spread and behavior (NWCG, 2018b).

Mosaic landscape: A heterogeneous area composed of different communities or a cluster of different ecosystems that are similar in function and origin in the landscape. It consists of 'patches' arranged in a 'matrix', where the patches are the different ecosystems and the matrix is how they are arranged over the land (Hansson et al., 1995).

National Wildfire Coordinating Group (NWCG): An operational group established in 1976 through a Memorandum of Understanding between the U.S. Department of Agriculture and Department of the Interior to coordinate programs of the participating agencies to avoid wasteful duplication and to provide a means of constructively working together. NWCG provides a formalized system and agreed upon standards of training, equipment, aircraft, suppression priorities, and other operational areas. More information about NWCG is available online at https://www.nwcg.gov/.

Noncombustible building materials: Material of which no part will ignite or burn when subjected to fire or heat, even after exposure to moisture or the effects of age. Materials designated noncombustible have passed a standard test (Quarles, 2019; Quarles and Pohl, 2018).

Non-survivable road: Portions of roads adjacent to areas with predicted flame lengths greater than 8 feet under severe fire weather conditions. Potentially non-survivable flame lengths start at 8 feet according to the Haul Chart, which is a standard tool used by firefighters to relate flame lengths to tactical decisions (NWCG, 2019). Drivers stopped or trapped on these roadways would have a low chance of surviving radiant heat from fires of this intensity. Non-survivable conditions are more common along roads that are lined with thick forests, particularly with trees that have limbs all the way to the ground and/or abundant saplings and seedlings.

Overstory: Layer of foliage in a forest canopy, particularly tall mature trees that rise above the shorter immature understory trees (USFS, 2021a).

Passive crown fire: Fire that arises when surface fire ignites the crowns of trees or groups of trees (aka, torching). Torching trees reinforce the rate of spread, but passive crown fires travel along with surface fires (NWCG, 2018b).

Pile burning: Piling slash resulting from logging or fuel management activities into manageable piles that are subsequently burned during safe and approved burning conditions (NWCG, 2018b).

Radiation: A method of heat transfer by short-wavelength energy through air (aka, infrared radiation). Surfaces that absorb radiant heat warm up and radiate additional short-wavelength energy themselves. Radiant heat is what you feel when sitting in front of a fireplace. Radiant heat preheats and dries fuels adjacent to the fire, which initiates combustion by lowering the fuel's ignition temperature. The amount of radiant heat received by fuels increases as the fire front approaches. Radiant heat is a major concern for the safety of wildland firefighters and can ignite homes without direct flame contact.

Rate of spread: The relative activity of a fire in extending its horizontal dimensions. It is expressed as rate of increase of the total perimeter of the fire, as rate of forward spread of the fire front, or as rate of increase in area, depending on the intended use of the information. Rate of spread is usually expressed in chains or acres per hour for a specific period in the fire's history (NWCG, 2018b).

Ravine: Topographic features created by streams cutting into unconsolidated materials and that are narrow, steep-sided, and commonly V-shaped. Ravines are steeper than draws (NRCS, 2017).

Risk: (1) The chance of fires starting as determined by the presence and activity of causative agents (e.g., lightning), (2) a chance of suffering harm or loss, or (3) a causative agent (NWCG, 2018b).

Roadside fuel treatment: A natural or manmade change in fuel characteristics along a roadway which affects fire behavior so that fires burning into them can be more readily controlled, survivable conditions with shorter flame lengths are more likely during a wildfire, and firefighter access is enhanced (NWCG, 2018b).

Saddle: A low point on a ridge or interfluve, generally a divide or pass between the heads of streams flowing in opposite directions. The presence of a saddle funnels airflow and increases windspeed, thereby exacerbating fire behavior (NRCS, 2017).

Safety zones: An area cleared of flammable materials used by firefighters for escape in the event the line is outflanked or spot fires outside the control line render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand, allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuelbreaks; they are greatly enlarged areas which can be used with relative safety by firefighters without the use of a fire shelter (NWCG, 2018b).

Shaded fuelbreak: Fuel treatments in timbered areas where the trees on the break are thinned and pruned to reduce fire potential yet enough trees are retained to make a less favorable microclimate for surface fires (NWCG, 2018b).

Slash: Debris resulting from natural events such as wind, fire, or snow breakage or from human activities such as road construction, logging, pruning, thinning, or brush cutting. Slash includes logs, bark, branches, stumps, treetops, and broken understory trees or brush (NWCG, 2018b).

Smoldering combustion: The combined processes of dehydration, pyrolysis, solid oxidation, and scattered flaming combustion and glowing combustion, which occur after the flaming combustion phase of a fire; often characterized by large amounts of smoke consisting mainly of tars (NWCG, 2018b).

Spot fire: Fire ignited outside the perimeter of the main fire by an ember (NWCG, 2018b). Spot fires are particularly concerning because they can form a new flaming front, move in unanticipated directions, trap firefighters between two fires, and require additional firefighting resources to control.

Spotting: Behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire (NWCG, 2018b).

Stand: An area of forest that possesses sufficient uniformity in species composition, age, size, structural configuration, and spatial arrangement to be distinguishable from adjacent areas (USFS, 2021a).

Structure protection: The protection of homes or other structures from an active wildland fire (NWCG, 2018b).

Structure triage: The process of inspecting and classifying structures according to their defensibility or non-defensibility, based on fire behavior, location, construction, and adjacent fuels. Structure triage involves a rapid assessment of a dwelling and its immediate surroundings to determine its potential to escape damage by an approaching wildland fire. Triage factors include the fuels and vegetation in the yard and adjacent to the structure, roof environment, decking and siding materials, prevailing winds, topography, etc. (NWCG, 2018b). There are four categories used during structure triage: (1) defensible – prep and hold, (2) defensible – stand alone, (3) non-defensible – prep and leave, and (4) non-defensible – rescue drive-by. The most important feature differentiating defensible and non-defensible structures is the presence of an adequate safety zone for firefighters (NWCG 2018a). Firefighters conduct structure triage and identify defensible homes during wildfire incidents. Categorization of homes are not pre-determined; triage decisions depend on fire behavior and wind speed due to their influence on the size of safety zones needed to keep firefighters safe.

Suppression: The work and activity used to extinguish or limit wildland fire spread (NWCG, 2018b).

Surface fire: Fire that burns fuels on the ground, which include dead branches, leaves, and low vegetation (NWCG, 2018b).

Surface fuels: Fuels lying on or near the ground, consisting of leaf and needle litter, dead branch material, downed logs, bark, tree cones, and low stature living plants (NWCG, 2018b).

Torching: The burning of the foliage of a single tree or a small group of trees from the bottom up. Torching is the type of fire behavior that occurs during passive crown fires and can initiate active crown fires if tree canopies are close to each other (NWCG, 2018b).

Values at risk: Aspects of a community or natural area considered valuable by an individual or community that could be negatively impacted by a wildfire or wildfire operations. These values can vary by community and include diverse characteristics such as homes, specific structures, water supply, power grids, natural and cultural resources, community infrastructure, and other economic, environmental, and social values (NWCG, 2018b).

Watershed (aka, drainage basin or catchment): An area of land where all precipitation falling in that area drains to the same location in a creek, stream, or river. Smaller watersheds come together to create basins that drain into bays and oceans (NOAA, 2021).

Wildfire-resistant building materials: A general term used to describe a material and design feature that can reduce the vulnerability of a building to ignition from wind-blown embers or other wildfire exposures (Quarles, 2019; Quarles and Pohl, 2018).

Wildland-urban interface (WUI): Any area where the built environment meets wildfire-prone areas—places where wildland fire can move between natural vegetation and the built environment and result in negative impacts on the community (Forge, 2018). For the purpose of this CWPP, the WUI boundary is defined in **Figure 2.c.2**. Strategic wildfire mitigation across the WUI can increase the safety of residents and wildland firefighters and reduce the chances of home loss.

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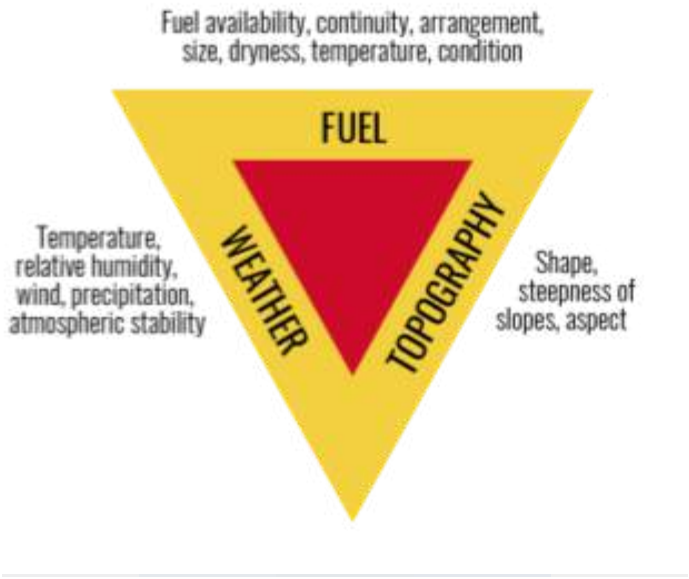
Appendix A. # Introduction to Wildfire Behavior and Terminology

Fire Behavior Triangle

Complex interactions among wildland fuels, weather, and topography determine how wildfires behave and spread. These three factors make up the sides of the fire behavior triangle, and they are the variables that wildland firefighters pay attention to when assessing potential wildfire behavior during an incident (NWCG, 2019).



Fuels

Fuels include live vegetation such as trees, shrubs, and grasses, dead vegetation like pine needles and cured grass, and materials like houses, sheds, fences, trash piles, and combustible chemicals.

Grasses and pine needles are known as "flashy" fuels because they easily combust and burn the fastest of all fuel types. If you think of a campfire, flashy fuels are the kindling that you use to start the fire. Flashy fuels dry out faster than other fuel types when relative humidity drops or when exposed to radiant and convective heat[2]. Fires in grassy fuel types can spread quickly across large areas, and fire behavior can change rapidly with changes in weather conditions.

Dead branches on the surface dry out slower than flashy fuels, release more radiant heat when they burn, and take longer to completely combust. The rate of spread is fast to moderate through shrublands depending on their moisture content, and long flame lengths can preclude direct attack by firefighters. Shrubs and small trees can also act as ladder fuels that carry fire from the ground up into the tree canopy.

Dead trees (aka, snags) and large downed logs are called "heavy fuels", and they take the longest to dry out when relative humidity drops and when exposed to radiant and convective heat. Heavy fuels release tremendous radiant heat when they burn, and they take longer to completely combust, just like a log on a campfire. Fire spread through a forest is slower than in a grassland or shrubland, but forest fires

[2] Radiant heat transfer occurs by short-wavelength energy traveling through air. Radiant heat is what you feel when sitting in front of a fire. Radiant heat preheats and dries fuels adjacent to a wildfire, which initiates combustion by lowering the fuel's ignition temperature. Convective heat transfer occurs when air is heated, travels away from the source, and carries heat along with it. Convective heat is what you would feel if you put your hand in the air above an open flame. Air around and above a wildfire expands as it is heated, causing it to become less dense and rise into a hot convection column. Cooler air flows in to replace the rising gases, and in some cases, this inflow of air creates local winds that further fan the flames. Hot convective gases move up slope and dry out fuels ahead of the flaming front, lowering their ignition temperature and increasing their susceptibility to ignition and fire spread.

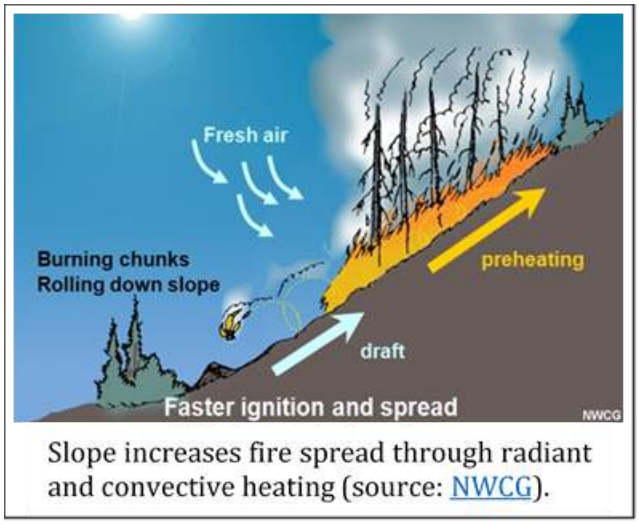
release more heat and can be extremely difficult and unsafe for firefighters to suppress. An abundance of dead trees killed by drought, insects, or disease can exacerbate fire behavior, particularly when dead trees still have dry, red needles (Moriarty et al., 2019).

Topography

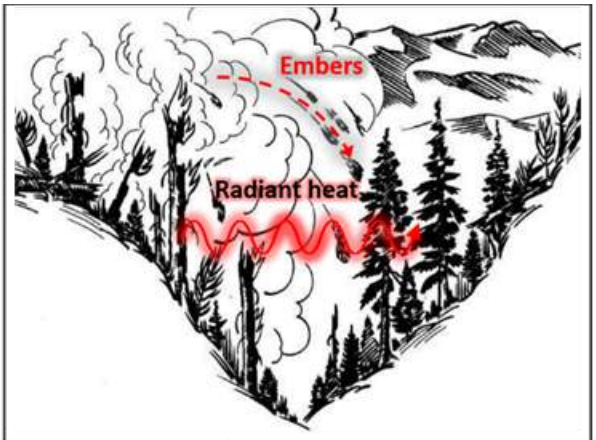
Topography (slope and aspect) influences fire intensity, speed, and spread. In the northern hemisphere, north-facing slopes experience less sun exposure during the day, resulting in higher fuel moistures. Tree density is often higher on north-facing slopes due to higher soil moisture. South-facing slopes experience more sun exposure and higher temperatures and are often covered in grasses and shrubs. The hotter and drier conditions on south-facing slopes mean fuels are drier and more susceptible to combustion, and the prevalence of flashy fuels results in fast rates of fire spread.

Fires burn more quickly up steep slopes due to radiant and convective heating. Fuels are brought into closer proximity with the progressing fire, causing them to dry out, preheat, and become more receptive to ignition, thereby increasing rates of spread. Steep slopes also increase the risk of burning material rolling and igniting unburned fuels below.

Narrow canyons can experience increased combustion because radiant heat from fire burning on one side of the canyon can heat fuel on the other side of the canyon. Embers can easily travel from one side of a canyon to the other. Topography also influences wind behavior and can make fire spread unpredictable. Wildfires burning through steep and rugged topography are harder to control due to reduced access for firefighters and more unpredictable and extreme fire behavior.



Slope increases fire spread through radiant and convective heating (source: NWCG).



Fires can easily cross narrow canyons (source: U.S. Forest Service).

Steep slopes and topographic features such as narrow canyons exacerbate fire behavior.

Weather

Weather conditions that impact fire behavior include temperature, relative humidity, precipitation, and wind speed and direction. The National Weather Service uses a system called a red flag warning to indicate local weather conditions that can combine to produce increased risk of fire danger and behavior. Red flag warning days indicate increased risk of extreme fire behavior due to a combination of hot temperatures, very low humidity, dry fuels, strong winds, and the presence of thunderstorms (**Table A.1**).

Direct sunlight and hot temperatures impact how ready fuels are to ignite. Warm air preheats fuels and brings them closer to their ignition point. When relative humidity is low, the dry air can absorb moisture from fuels, especially flashy fuels, making them more susceptible to ignition. Long periods of dry weather can dehydrate heavier fuels, including downed logs, increasing the risk of wildfires in areas with heavy fuel loads.

Wind influences fire behavior by drying out fuels (think how quickly your lips dry out in windy weather), increasing the amount of oxygen feeding the fuel, preheating vegetation through convective heat, and carrying embers more than a mile ahead of an active fire. Complex topography, such as chutes, saddles, and draws, can funnel winds in unpredictable directions, increasing wind speeds and resulting in erratic fire behavior.

***Table A.1**. Red flag days are warnings issued by the National Weather Service using criteria specific to a region.*

National Weather Service – Rabun County Forecast Office - Georgia Forestry Commission Red Flag Warning Criteria	
Option 1	**Option 2**
Relative humidity less than or equal to 15%	Widely scattered dry thunderstorms
Wind gusts greater than or equal to 25 mph	Dry fuels
Dry fuels	[change these based on your local forecast office]

Categories of Fire Behavior

Weather, topography, and fuels influence fire behavior, and fire behavior in turn influences the tactical options available for wildland firefighters and the risks posed to lives and property. There are three general categories of fire behavior described throughout this CWPP: surface fire, passive crown fire, and active crown fire.

- **Surface fire –** Fire that burns fuels on the ground, which include dead branches, leaves, and low vegetation. Surface fires can be addressed with direct attack using handcrews when flame lengths are less than four feet and with equipment when flame lengths are less than eight feet. Surface fires can emit significant radiant heat, which can ignite nearby vegetation and homes.
- **Passive crown fire –** Fire that arises when surface fire ignites the crowns of trees or groups of trees (aka, torching). Torching trees reinforce the rate of spread, but passive crown fires travel along with surface fires. Firefighters can sometimes address passive crown fires with indirect attack, such as dropping water or retardant out of aircraft or digging fireline at a safe distance from the flaming front. The likelihood of passive crown fire increases when trees have low limbs

and when smaller trees and shrubs grow below tall trees and act as ladder fuels. Radiant heat and ember production from passive crown fires can threaten homes during wildfires.

- **Active crown fire –** Fire in which a solid flame develops in the crowns of trees and advances from tree crown to tree crown independently of surface fire spread. Crown fires are very difficult to contain, even with the use of aircraft dropping fire retardant, due to long flame lengths and tremendous release of radiant energy. The likelihood of active crown fires increases when trees have interlocking canopies. Radiant heat and ember production from active crown fires can threaten homes during wildfires.

Passive and active crown fires can result in short- and long-range ember production that can create spot fires and ignite homes. Spot fires are particularly concerning because they can form a new flaming front, move in unanticipated directions, trap firefighters between two fires, and require additional firefighting resources to control. Crown fires are generally undesirable in the wildland-urban interface (WUI) because of the risk to lives and property; however, passive and active crown fires are part of the natural fire regime for some forest types and result in habitat for plant and animal species that require recently disturbed conditions (Keane et al., 2008; Pausas and Parr, 2018). Passive and active crown fires historically occurred in some white pine forests and higher-elevation white pine and mixed-hardwood forests on north-facing slopes.

Wildfire Threats to Homes

Wildfires can ignite homes through several pathways: radiant heat, convective heat, and direct contact with flames or embers. The ability for radiant heat to ignite a home is based on the properties of the structure (i.e., wood, metal, or brick siding), the temperature of the flame, the ambient air temperature, and distance from the flame (Caton et al., 2016). Ignition from convective heat is more likely for homes built along steep slopes and in ravines and draws. For flames to ignite a structure, they must directly contact the building long enough to cause ignition. Flames from a stack of firewood near a home could cause ignition to the home, but flames that quickly burn through grassy fuels are less likely to ignite the home (although the potential still exists). Fires can also travel between structures along fuel pathways such as a fence or row of shrubs connecting a shed and a home (Maranghides et al., 2022). Some housing materials can burn hotter than the surrounding vegetation, thereby exacerbating wildfire intensity and initiating home-to-home ignition (Mell et al., 2010).

Homes built mid-slope and at the top of steep slopes and within ravines and draws are at greater risk of convective heat from wildfires. A wildfire could rapidly spread up this steep slope and threaten the home above. Photo credit: SafeScapes, LLC

Homes can be destroyed during wildfires even if surrounding vegetation has not burned. During many wildland fires, 50 to 90% of homes ignite due to embers rather than radiant heat or direct flame (Babrauskas, 2018; Gropp, 2019). Embers can ignite structures when they land on roofs, enter homes through exposed eaves, or get under wooden decks. Embers can also ignite nearby vegetation and other combustible fuels, which can subsequently ignite a home via radiant heating or direct flame contact. Burning homes can release embers that land on and ignite nearby structures, causing destructive home-to-home ignitions, as evidenced by the destructive 2021 Marshall Fire in Boulder County. Structural characteristics of a home can increase its exposure to embers and risk of combustion, such as wood shingle roofs and unenclosed eaves and vents (Hakes et al., 2017; Syphard and Keeley, 2014). Embers can also penetrate homes if windows are destroyed by radiant or convective heat. See your community's CWPP for specific recommendations to harden your home against wildfires.

Resources for More Information on Fire Behavior

- Introduction to Fire Behavior from the National Wildfire Coordinating Group (9:57 minute video)
- The Fire Triangle from the National Wildfire Coordinating Group (7:26 minute video)
- Understanding Fire Behavior in the Wildland/Urban Interface from the National Fire Protection Association (20:51 minute video)
- S-190 Introduction to Wildland Fire Behavior Course Materials from the NWCG (PowerPoints, handouts, and videos)

Appendix B. # Community Risk Assessment Methodology

WUI Delineation

Delineating the wildland-urban interface is a critical component of CWPPs in compliance with the Healthy Forest Restoration Act (HFRA) of 2003. Communities can extend the WUI boundary into adjacent areas that pose a wildfire threat to their community, can serve as a strategic location for wildland firefighting, and are adjacent to evacuation routes for the community (HFRA 4 U.S.C. §101.16). Strategic wildfire mitigation across the WUI can increase the safety of residents and wildland firefighters and reduce the chances of home loss.

The Wildland Urban Interface was delineated by using data derived from the Southern Wildfire Risk Assessment, as well as information acquired from the website wildfirerisk.org which is administered by the USDA Forest Service. Information was also provided by the local fire officials from each fire district, as well as the USDA Forest Service Chattooga Ranger District Fire Officials.

Fire Behavior

Fire behavior was determined by visual assessments of woodland conditions based on fuel types, fuel loading and topography. Information was also collected from the Southern Wildfire Risk Assessment, as well as information from wildfirerisk.org.

Evacuation

Evacuation assessment was derived from on the ground assessments and conversations with local fire officials, emergency management officials and property owners throughout Rabun County.

Roadway Survivability

Roadways in Rabun County were identified by local fire officials and the local county road departments. Each road was evaluated independently and did not include every road in Rabun County, but those identified as those with the greatest risk identified by county fire officials in each fire district.

Risk Assessment

There are a number of factors that either make a neighborhood or community safer from or more vulnerable for a wildfire. Those factors include:

- Access such as number of roads in and out, road width, bridges, turnarounds – How difficult is it for emergency vehicles to get in and for residents to evacuate?
- Site hazard such as driveway characteristics, vegetation, slope, defensible space – How flammable is the vegetation and how close is to the homes?
- Building construction hazards such as roofing materials, siding, soffets, and underskirting – Are homes made of fire-resistant building materials?
- Other rating factors that may increase risk such as water supplies, electric and gas utilities, surrounding environment and underdeveloped lots

In an effort to effectively assess each community's risk in Rabun County, Georgia. Community fire department members, as well as community leaders were asked to complete a Woodland Community Wildfire Assessment (**see Appendix C**) based on risk factors for areas within their district. This assessment consisted of a rubric rating scale or "checklist" to develop a quantitative hazard rating for each area. This checklist would also be used to help residents and fire protection partners focus on their needs for hazard mitigation in an effort to lower their rating score. Once this wildfire risk assessment "checklist" is completed the woodland community will fall into one of the following categories:

- Low Risk – A score of 0-75 indicates that the chances of homes in that area surviving a wildfire are GOOD, and little is needed to improve their situation.
- Moderate Risk – A score of 76-130 indicates that the chances of homes in that area surviving a wildfire are FAIR, and some improvements can make homes more fire resistant
- High Risk – A score of 131-139 indicates that the chances of homes in that area surviving a wildfire are NOT GOOD and improvements are necessary.
- Extreme Risk – A score of 140-206 indicates that homes most likely will NOT SURVIVE if a wildfire passes through the area and improvements are essential to avoid a disaster.

After the Community Wildfire Hazard Assessment Rubrics were completed, comprehensive on-the-ground assessments were conducted in each plan unit to gather additional data and evidence. Meetings and discussions with community members were also used to gather anecdotal evidence.

Fuel Treatment Prioritization

Roadside Fuel Treatments

Roadside fuel treatments will be prioritized for areas that are populated where fire could pose a threat to lives and property. These will be regions that may also serve as escape routes for residents who experience a situation where evacuation in the event of a wildfire is possible. Each fire district was evaluated by the fire authorities in each respective area and these fire officials listed roadways and communities that were a concern to them based on the forest fuels, access and structures present.

Stand-Scale Fuel Treatments

Large landscape scale fuel mitigation projects are on-going by the county's largest property owner, USDA Forest Service. Each year the Forest Service works to mitigate heavy fuel accumulations on government lands that could possibly have an impact on homes and communities in Rabun County. There are plans to expand the regions that are currently being prescribed burned to include more acres in other parts of the county. There is a process for incorporating these additional acres, and forestry officials are working through the process of expanding the regions for prescribed fire treatments.

Appendix C.

Community Survey Methodology and Results

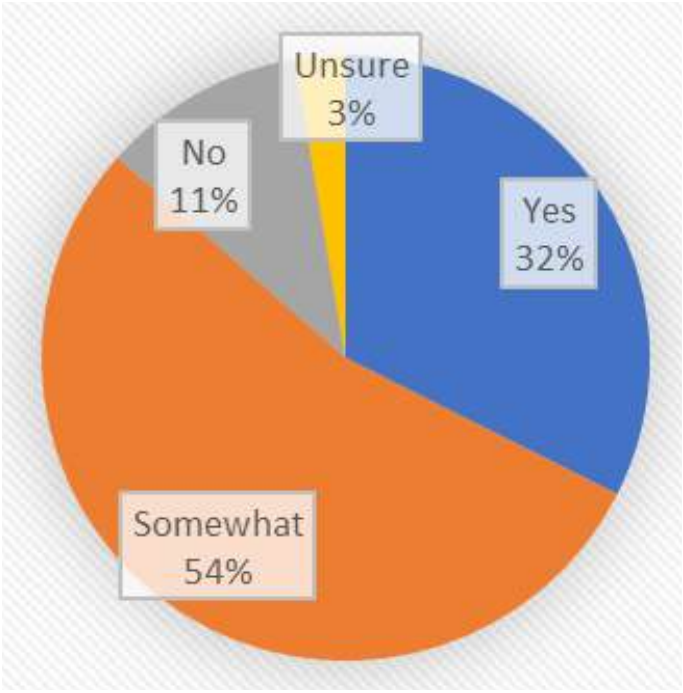
The Rabun County CWPP Community Survey was conducted to gather and incorporate the concerns and suggestions of county residents into the CWPP document. The survey was distributed at the community meetings, online through Facebook and the county's website. A total of 111 responses were generated from residents living in the rural and urban areas of Rabun County. Within Rabun County, timberland makes up most of the land area, with approximately 66% of County under the care of USDA Forest Service, Georgia Department of Natural Resources and Georgia Power Company. A large portion of county residents live in heavily forested areas subject to wildfire.

QUESTIONS

1. ***Which fire district do you live in?***

Name of Fire District	Participant Location		Name of Fire District	Participant Location
Station 1 Clayton	30%		Station 7 Tallulah Falls	14%
Station 2 Warwoman	5%		Station 8 Satolah	3%
Station 3 Tallulah Persimmon	11%		Station 9 Sky Valley	5%
Station 4 Lakemont Wiley	11%		Station 10 Lakes	0%
Station 5 Valley	8%		Station 11 Wildcat	0%
Station 6 Chechero	5%		Station 12 Tiger	8%

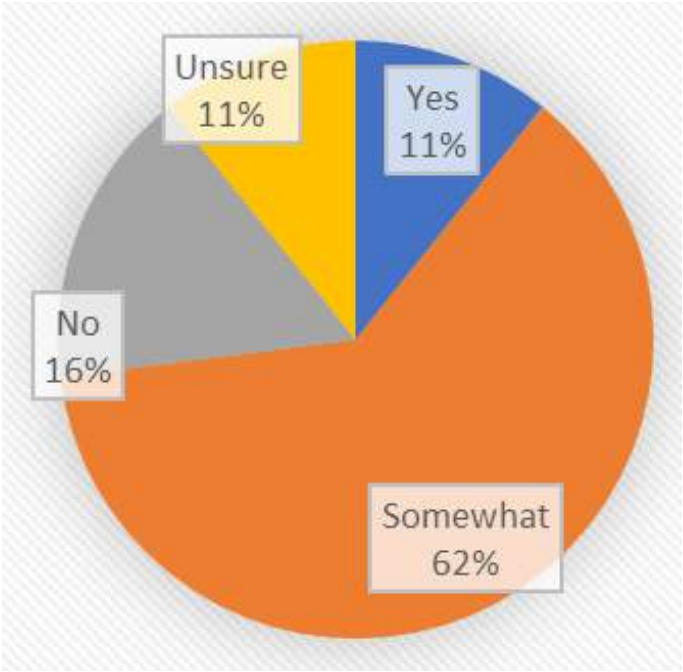
2. ***A home that is mitigated against wildfire is one that has been prepared to reduce the risk of wildfire damage before it ignites. This can include actions taken to protect the roof and home from embers, building with fire-resistant materials, and creating a fire-resistant perimeter around the home. Do you think your home is well mitigated?***



About one-third of the respondents (32%) feel that their home is well mitigated against wildfire. While, over half of the respondents (54%) feel that their home is "somewhat" mitigated against wildfire. Several homeowners felt that their home was not well mitigated (11%) or were unsure (3%).

Figure A.C.1. Percentage of those surveyed who think their home is well mitigated against wildfire.

3. Do you think your nearest neighbor's house is well mitigated?



When asked about their nearest neighbor's house only 11% of the respondents feel that those homes are well mitigated against wildfire. Most of those taking the survey (62%) feel that their neighbor's home is "somewhat" well mitigated. 16% feel that their neighbor's house is not well mitigated and 11% are unsure.

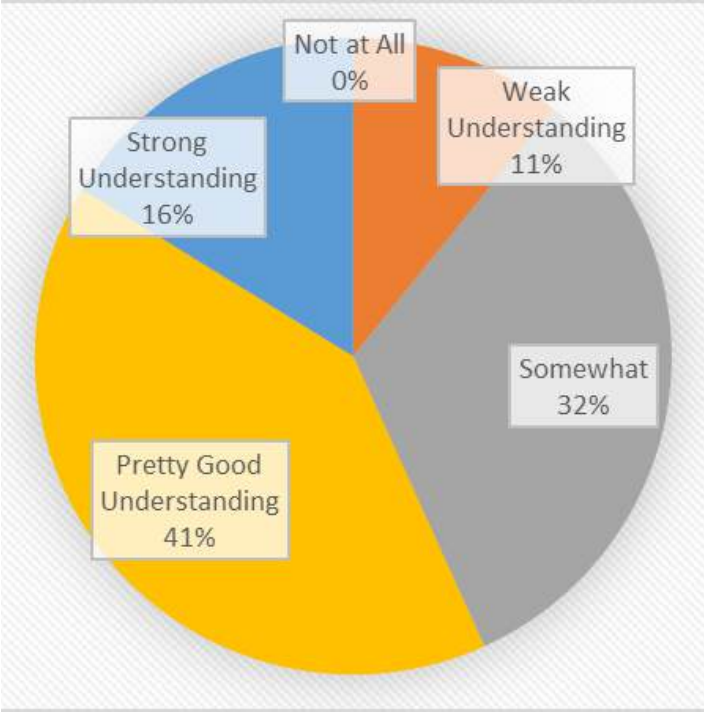
Figure A.C.2. Percentage of those surveyed who think their closest neighbor's home is well mitigated against wildfire.

4. ***What things do you do to your forest/landscape to mitigate wildfire risk to your home/property/community?***

   The majority of those completing the survey are taking some steps to make their home wildfire ignition resistant. Wildfire mitigation practices taking place most often are cutting down and removing dead or unhealthy trees, limbing trees (removing low branches), and trimming grass within 30 feet of their homes. The following chart illustrates the percentage of respondents who are attempting to create defensible space around their homes and communities.

Wildfire Mitigation taking place on personal property	Percentage of Respondents
Cut/remove unhealthy trees	78%
Low limb trees	51%
Cut trees to create greater crown separation	27%
Remove understory ladder fuels (shrubs and tall grasses)	41%
Trim grass within 10 feet of my house	59%
Trim grass within 30 or more feet of my house	51%

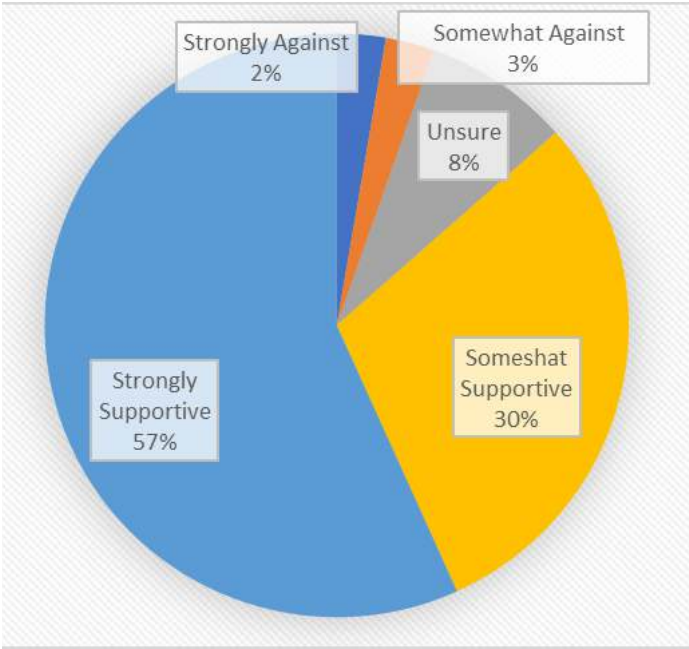
5. ***How well do you understand how to make your home defensible against wildfire?***



Only 16% of survey participants feel that they have a "strong understanding" of how to make their home defensible against wildfire. While 41% of those homeowners feel like that they have a "pretty good understanding" and 32% "somewhat" understand what needs to be done.

Figure A.C.3. Percentage of those surveyed illustrating their understanding of defensible space around homes

6. ***Do you support prescribed burning to reduce fuel on US Forest Service property, Georgia Power property, etc.?***



The majority of the respondents either "strongly support" (57%) or "somewhat support" (30%) the use of prescribed burning to reduce fuel on US Forest Service property and Georgia Power property. Some of the people surveyed were "unsure" (8%), while 3% are "somewhat against" and 2% are "strongly against" these prescribed burns.

Figure A.C.4. Percentage of those surveyed illustrates the level of support for prescribed burns as a tool for reducing fuel on US Forest Service and Georgia Power property.

7. ***A Community Wildfire Protection Plan (CWPP) is a guide for helping residents and fire protection partners reduce the wildfire risk. What do you think should be the main focus for hazard mitigation grant funding in Rabun County?***

Respondents were asked to prioritize what they felt should be the focus for hazard mitigation in Rabun County. They selected up to three areas that they thought grant funding should be used for. About half of those taking the survey (49%) want advice and information on home ignition zones. Many Rabun County residents are concerned about the maintenance of evaluation routes (43% of those taking the survey). Over one-third of the respondents want to focus on adding more hydrants/water sources in their neighborhood (38%); as well as the creation of fuel breaks (35%); and purchasing additional fire mitigation equipment (35%). Subsidizing current firefighters to carry out mitigation work on private property is a high priority for 30% of the respondents. While 14% would like the county to hire a wildfire mitigation specialist.

Focus for Hazard Mitigation Grant Funding in Rabun County	Percentage of Respondents
Create fuel breaks	35%
Maintain egress/evacuation routes	43%
Provide Community chipping	8%
Hire Contractors to do mitigation work on private property	5%
Purchase fire mitigation equipment	35%
Add hydrants/water sources in neighborhoods	38%
Advise/Educate residents on home ignition zone concerns	49%
Hire Wildfire Mitigation/Prevention Specialist(s)	14%
Subsidize current firefighters to do mitigation work on private property	30%
Other (Please Specify)	3% (Rx Burns)

8. **What actions do you take to mitigate your home against the risk of wildfire?**

	Percentage of Respondents
Clean gutters regularly	73%
Check for/repair gaps or holes in the house siding	51%
Maintain a noncombustible zone around all outbuildings	46%
Maintain my wood deck or have non combustible deck surface material	38%
Maintain a 3+ foot noncombustible zone (free of weeds, pine needles/mulch) around house	54%

9. **What obstacles prevent you from performing wildfire mitigation on your property?**

Obstacles that prevent wildfire mitigation	Percentage of Respondents
Money	41%
Time	41%
Cannot find anyone to help	3%
Aesthetic preference	11%
Knowing what/how to do it	30%
Physically unable to do it	8%

10. **Evacuation preparedness: Do you have an evacuation plan for your family? This should include a plan for two ways out of every room in your home, upper escape level ladders for and a planned meeting place. Do you have a "go-bag" prepared with supplies and documents such as non-perishable food and water, medications, keys, clothes?**

Emergency Preparedness	Percentage of Respondents
I have an evacuation plan for my family.	11%
I have a "go-bag" prepared with all the necessary documents and supplies my family would need in an emergency evacuation.	3%