



Paris Mountain Wildfire Mitigation Plan

February 2022



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1. EXECUTIVE SUMMARY

The Paris Mountain area is a valuable natural resource in Greenville County as well as the site for several high value infrastructure assets. It is located in unincorporated Greenville County just north of the City of Greenville and is bounded approximately by State Park Road (County Road 22), South Carolina Highway 253, U.S. Route 276, and U.S. Route 25. Assets located within the boundaries of this area include, but not limited to; communications equipment including multiple television and radio transmission towers, Paris Mountain State Park, two (2) waste treatment plants, and a large number of residential and commercial structures. In addition to the physical assets, the area is home to approximately 8,827 people.

Complicating emergency services to this area is the fact that access to many of these assets and residents is limited. Altamont Road provides access from the west to the communications equipment and State Park Road provides park access from the south. Subdivision streets provide access to many of the residential structures located at the base of the mountain.

In November 2016, Pickens County suffered from the Pinnacle Mountain wildfire that burned approximately 10,560 acres and included portions of Greenville County. There have been additional recent wildfires across the nation that have increased awareness of wildfires and their associated risks and hazards. Greenville County recognizes that Paris Mountain is in the urban / forest interface and is susceptible to wildfire. Because of the high risk and number and types of assets located on the mountain, the County decided to enhance the existing Multi-Jurisdictional Hazard Mitigation Plan (HMP) with an annex addressing wildfire mitigation for the Paris Mountain area.

The development of this plan followed the same process used to develop the 2020 HMP. A Wildfire Mitigation Team was formed of stakeholders and wildfire experts to provide technical guidance and develop potential mitigation measures. Multiple public meetings were held to provide for input from residents into plan development. The South Carolina Forestry Commission proved to be an invaluable resource for development of the plan providing data and expert insight into the planning process.

The resulting plan contains twenty-two individual potential mitigation measures spread across each of seven broader mitigation categories including:

1. Community outreach and education
2. Fuel management
3. Fireproof structures
4. Fireproof landscapes
5. Improved fire response
6. Training
7. Research and risk assessment

Each of the initiatives has been prioritized for implementation with the understanding that available funding may drive implementation of lower ranked measures ahead of higher ranked measures. This plan is an annex of the 2022 HMP and should be reviewed annually and revisited in its entirety on the same schedule as the HMP.

2. INTRODUCTION

In 2019, Greenville County embarked on a revision process of the Greenville County Multi-Jurisdictional Hazard Mitigation Plan (HMP). The final plan was adopted in February 2020. This plan contains a mitigation action plan (Section 10, Prioritized Mitigation Initiatives) developed by a Disaster Mitigation Committee (DMC) to address multiple hazards including wildfire. Section 10.4, Paris Mountain Wildfire Plan defines the Paris Mountain wildfire planning area, provides a brief description of assets at risk, and recognition of the impact of the Pinnacle Mountain fire on the need to develop the Paris Mountain Wildfire Plan.

Hazard Mitigation Grant Program funding was subsequently obtained through the South Carolina Emergency Management Division (SCEMD) to develop the Paris Mountain Wildfire Plan and Woolpert, Inc was retained by Greenville County to assist in the preparation of the plan. The planning process began in the Fall of 2020, albeit slowly, due to the impacts of the Covid-19 pandemic. In-person public meetings during this time were problematic, therefore, the planning process continued with the hazard and risk assessment while waiting for a safer time to meet with the general public to seek input.

A Wildfire Mitigation Team (WMT) was created as a sub-committee of the Disaster Mitigation Committee (DMC). The WMT met on several occasions to provide guidance for development of the plan and to develop potential wildfire mitigation measures to be implemented. Because the Paris Mountain Wildfire plan is being included in the overall Greenville County Multi-Jurisdiction Hazard Mitigation Plan (HMP), mitigation measures identified in this planning process were evaluated and prioritized by the DMC.

Wildfire is the singular hazard being addressed in this plan. The plan includes descriptions of wildfire categories, types, components, behavior, causes, and potential. While this section of the report is not intended to be comprehensive, it is intended to provide a sufficient overview of the hazard to provide the WMT with a solid basis for identifying appropriate mitigation measures.

Risks considered in the plan include infrastructure, buildings, natural resources, and wildlife, and of course, human life. Seven (7) broad categories of mitigation were evaluated including 1) community outreach and education, 2) fuel management, 3) fireproof structures, 4) fireproof landscapes, 5) improved fire response, 6) training, and 7) research and risk assessment. Twenty-two individual mitigation measures were developed and included in the plan.

This plan could not have been developed without the assistance of the WMT and those with expertise in mitigating and fighting wildfires. In particular, the expertise and resources of the South Carolina Forestry Commission was invaluable in developing this plan.

Once reviewed and approved, this plan will be incorporated into the HMP as an appendix.

3.HISTORY OF WILDFIRE

While Greenville County is not historically known for large wildfires, the South Carolina Forestry Commission (SCFC) and local fire departments report several small wildfires each year (Figure 3-1). The threat of wildfire in Greenville County continues to grow as population increases and the wildland urban interface expands with it. The National Wildfire Coordinating Group defines the Wildland Urban Interface as “the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation fuels.” According to the SCFC, 98% of wildfires in South Carolina are caused by humans. Therefore, pockets of undeveloped natural areas across the County are areas of higher concern due to their potential to fuel wildfires, especially when they are intertwined with urban areas. These areas of concern in the County include Paris Mountain State Park, the Mountain Bridge Wilderness Area, and large privately owned undeveloped tracts that border areas experiencing urban sprawl.

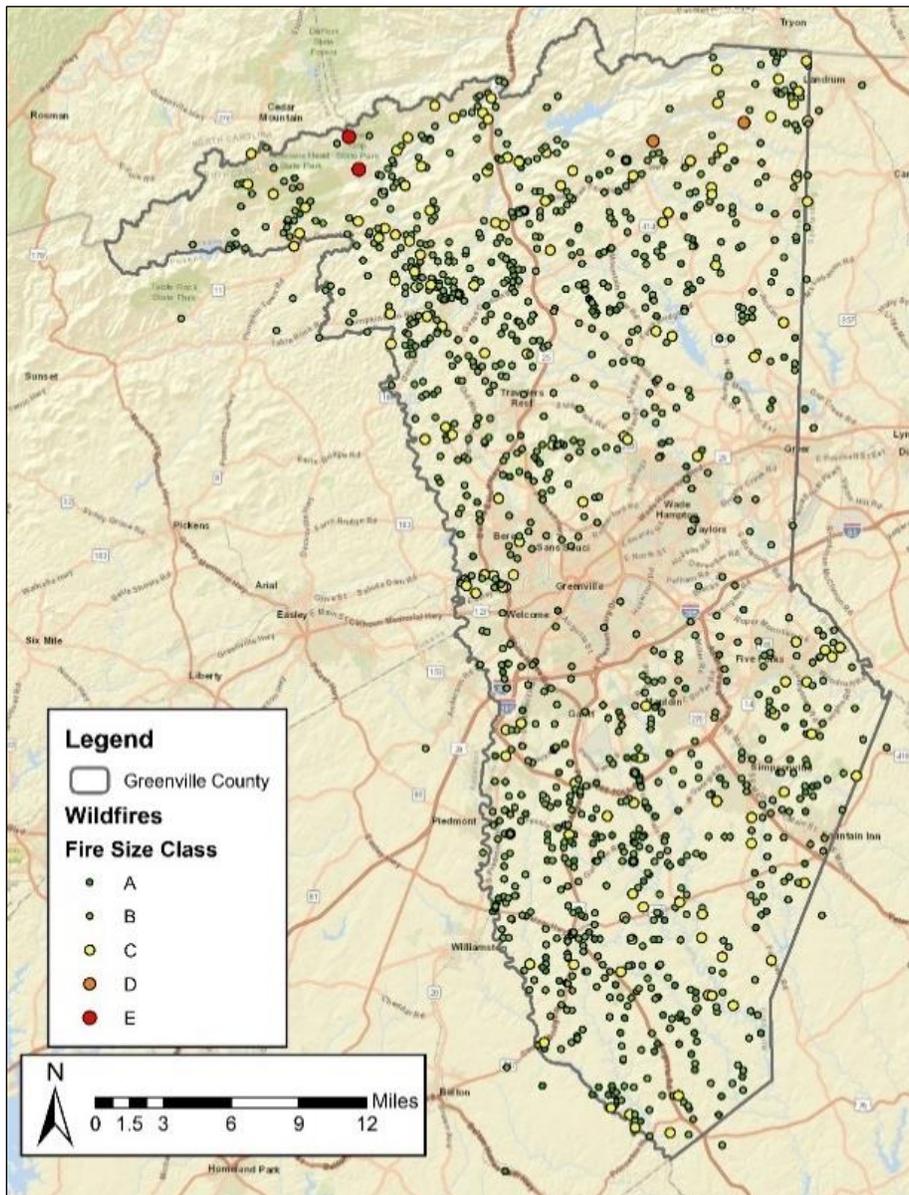


Figure 3-1: Wildfires recorded by size in Greenville County from July 1987 to August 2019

This Wildland Urban Interface has been the location of several wildfires that have occurred in Greenville County. The largest and most well-known was the Pinnacle Mountain Fire that occurred in November of 2016. An escaped campfire from Table Rock State Park quickly spread over 10,000 acres across northern Pickens and Greenville County that led firefighters from all over the country on a month-long chase to extinguish it. While no homes were damaged and no lives were lost, it was a stark reminder of the complexity of fighting a wildfire in the upstate during perfect wildfire conditions.

A growing concern and the focus of this plan is Paris Mountain, a monadnock (an isolated hill) located roughly 5 miles north of the City of Greenville. This unique area is a prime example of the wildland urban interface as it is home to many families, businesses, schools, and various infrastructure as well as a state park and various other protected forested areas. Historically, Paris Mountain has seen a few small-scale wildfires. In January of 2003, a wildfire burned 50 acres, destroying one home, and damaging another. In 2014, another fire broke out burning two acres and an abandoned building before it was suppressed. Due to the steep terrain and limited access, fighting these fires were a dangerous and difficult task requiring the assistance of bulldozers, helicopters, and many firefighters.

4. GENERAL DESCRIPTION OF AREA

Limits

For the purpose of this plan, Paris Mountain is the area within the boundaries of U.S. Route 276 to the southwest, U.S. Route 25 to the northwest, State Park Road (County Road 22) to the north & northeast, and South Carolina Highway 253 to the east & southeast.

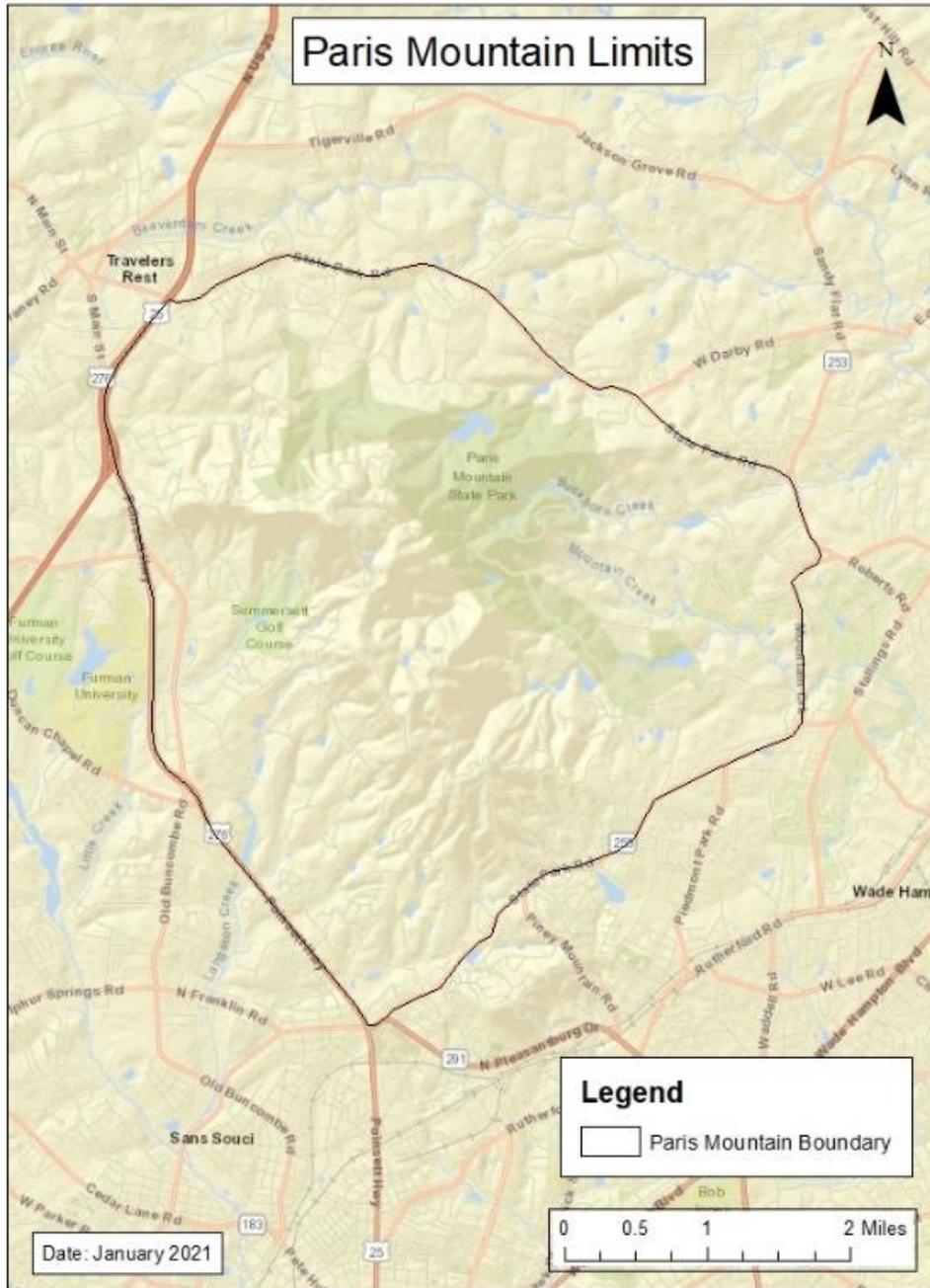


Figure 4-1: Paris Mountain Limits

Topography

Paris Mountain is a unique feature in Greenville County known as a monadnock: an isolated hill or mountain that stands above the surrounding landscape. The elevation ranges from approximately 1,000 feet to the summit measuring 2,053 feet. The ridge to the west of Altamont Road leading to the communication towers feature some of the steepest incline in the area gaining roughly 1000 feet in less than a quarter of a mile in places. The foot of the mountain begins the transition back into the low rolling plateau known as the piedmont region. The geography of the mountain provides many pathways for small streams leading to several dammed lakes that serve as drinking water supply and outdoor recreation.

Assets

Paris Mountain is home to almost 4,000 homes and over 150 businesses. Recreation opportunities consist of Paris Mountain State Park, Camp Buckhorn, and Paris Mountain Country Club. Emergency services are scattered across the foot of the mountain while the summit serves as the high point for several communication towers that service the greater Greenville area. Several utilities span across Paris Mountain such as water supply and wastewater treatment stations. The mountain has great historical significance and was the drinking supply for Greenville citizens from 1890 until the 1930's. Afterwards, the land was turned into a park using the workforce of the Civilian Conservation Corps, and many of the buildings and structures they built are still standing today.

5. WILDFIRE MITIGATION TEAM

Greenville County created the Wildfire Mitigation Team (WMT) to assist in the preparation of the Paris Mountain Wildfire Mitigation Plan. The WMT is a subset of the Disaster Mitigation Committee (DMC) created to assist in the development of the Greenville County 2020 Multi-jurisdictional Hazard Mitigation Plan (2020 HMP). The WMT includes homeowner(s), business owners, utility, and service providers from the Paris Mountain planning area. The WMT also includes members from local, state, and federal agencies to provide data and wildfire expertise. Multiple departments of Greenville County are also represented on the WMT. Many of the members of the WMT overlap with the DMC.

The table on the next page (Table 5-1) contains the full membership of the WMT. Individual committee representatives may change during the planning cycle; however, it is anticipated that all the listed agencies, departments, and jurisdictions will maintain at least one representative on the committee throughout the five (5) year planning cycle. In addition to members of the WMT, the list also contains names and agencies of people that could serve as information resources. Both "official" and support members of the WMT were provided regular updates of plan progress.

Table 5-1. Wildfire Mitigation Team Listing

Organization	Name	Title	Email	Member (M) or Resource (R)
Greenville County	Brian Bishop	Floodplain Coordinator	Jbishop@greenvillecounty.org	M
Greenville County	Jay Maret	Director of Emergency Management	Jmaret@greenvillecounty.org	M
Greenville County	Mackenzie Forgacs	Preparedness Coordinator	Mforgacs@greenvillecounty.org	M
Greenville County	Suzanne Terry	AICP Planner	sterry@greenvillecounty.org	M
Greenville County	Jessica Stumpf	Deputy Director of Emergency Management	Jstumpf@greenvillecounty.org	M
Greenville County	Ben Cotton	Principal Planner	BCotton@greenvillecounty.org	M
Greenville County	Paula Gucker	Assistant County Administrator	Pgucker@greenvillecounty.org	M
Greenville County	Mark Sutton	E911/Sheriff's Office	msutton@greenvillecounty.org	M
Greenville County	Stan Whitten	Sheriff's Office	swhitten@greenvillecounty.org	M
Woolpert	Hal Clarkson	Program Director	Hal.Clarkson@woolpert.com	R
Woolpert	James Riddle	Project Manager	James.Riddle@woolpert.com	R
Woolpert	Shady Agnew	Engineering Technician	shady.agnew@woolpert.com	R
SC Forestry Commission	Chris Revels	Upstate WUI Coordinator	crevels@scfc.gov	M
SC Forestry Commission	Mike Bozzo	Piedmont Regional Forester	MBozzo@scfc.gov	M
SC Forestry Commission	Ray Cassell	FMO / Greenville -Pickens	rcassell@scfc.gov	R

SC Forestry Commission	Michael Weeks	Unit Forester	mweeks@scfc.gov	R
SC Forestry Commission	Brad Bramlett	Piedmont Assistant Regional Forester	BBramlett@scfc.gov	M
Paris Mountain HOA	Alex Kiriakides	Altamont Club Contact	Akiriakides3@aol.com	M
Duncan Chapel Fire Department	Russell Watson	Chief	Watson823@duncanchapelfire.org	M
Piedmont Park Fire Department	Tom McCarty	Chief	tmccarty@piedmontparkfire.org	M
Piedmont Park Fire Department	Kevin Taylor	Rescue Coordinator	ktaylor@piedmontparkfire.org	M
SC State Fire	Chad Beam	Section Chief, SCERTF	Chad.Beam@llr.sc.gov	M
SC State Fire	Josh Fulbright	Section Chief, Community Risk Reduction	josh.fulbright@llr.sc.gov	M
SC Parks, Recreation & Tourism	Terry Hurley	Chief of Interpretation & Resource Management	thurley@scprt.com	M
SC Parks, Recreation & Tourism	Adin Fell	Regional Chief, Mountain Region	afell@scprt.com	M
SC Parks, Recreation & Tourism	Jason Hege	Paris Mountain Park Manager	jhege@scprt.com	R
SC Parks, Recreation & Tourism	Dan Neary	Paris Mountain Park Ranger	dneary@scprt.com	R
SC Parks, Recreation & Tourism	Stacy Scherman	State Parks Biologist	sscherman@scprt.com	R
SC Parks, Recreation & Tourism	Rachel Chism	State Parks Forester	rchism@scprt.com	R

Furman	Geoffrey Habron	Professor of Sustainability Sciences	Geoffrey.Habron@furman.edu	M
SC Emergency Management Division	Lindsey McCoy	Mitigation Planning Coordinator	lmccoy@emd.sc.gov	M
SC Emergency Management Division	Ryan Guerry	Mitigation Planning Specialist	rguerry@emd.sc.gov	R
National Weather Service (GSP)	Trisha Palmer	Warning Coordination Meteorologist	Trisha.Palmer@noaa.gov	M
National Oceanic & Atmospheric Administration	Brian Campbell	Regional Maintenance Specialist	Brian.Campbell@noaa.gov	M
ReWa	Gregory Wright	Engineering Director	gregoryw@re-wa.org	M
ReWa	Rebecca West	Resiliency Plan	rebeccaw@re-wa.org	R
ReWa	Jennifer Simmons	Emergency Response	jennifers@re-wa.org	R
Greenville Water	Mark Hattendorf	Director of Engineering	mhattendorf@greenvillewater.com	M
Greenville Water	Craig Sollman	Hydraulic Modeling Engineer	csollman@greenvillewater.com	M
Duke Energy	Linda Hannon	District Manager	linda.hannon@duke-energy.com	M
SCDOT	Tony Thompson	District Maintenance Engineer	ThompsonTN@scdot.org	M
SCDOT	Joel Smith	Greenville County Resident Maintenance Engineer	smithjj@scdot.org	R
N/A	Savannah Norvell	Resident	slnorvel@gmail.com	M

Sign-in sheets for all WMT meetings can be found in Appendix A.

As with the DMC, the WMT is intended to represent a partnership between the public and private sectors of the community, working together to create a wildfire resistant community. The proposed mitigation initiatives developed by the WMT and listed in this plan, when implemented, are intended to make the Paris Mountain planning area safer from the impacts of future wildfires for the benefit of every individual, neighborhood, business, and institution within the planning area.

The WMT is charged with meeting, at a minimum, on an annual basis to review mitigation initiatives that have been implemented, review lessons learned from disaster events that may have occurred since the last meeting of the WMT, and revise the Wildfire Mitigation Plan, as appropriate. Mitigation initiatives proposed for future implementation may also be reevaluated for consistency with the goals of the Wildfire Mitigation Plan and to incorporate lessons learned from ongoing or implemented initiatives. This annual meeting should be held prior to the annual meeting of the DMC so that any proposed changes to this plan can be reviewed by the DMC and incorporated in the overall 2020 HMP, as appropriate.

Wildfire Mitigation Team Operating Procedures

The WMT was organized as the guiding body for the creation of the Paris Mountain Wildfire Plan with Woolpert, Inc. assisting through data gathering and analysis, meeting facilitation, and plan preparation. The plan development process included two meetings with the WMT and two meetings with the DMC. (Full agendas and meeting minutes are contained in Appendix A).

WMT meeting #1 (October 15, 2020): The initial meeting of the WMT served primarily as an introductory meeting for the project and WMT members. A project overview including a review of the relationship of this plan to the 2020 HMP was provided. The WMT also reviewed the following:

- Wildfire Mitigation Plan purpose and goals
- WMT introductions and roles
- Planning process and schedule
- Wildfire hazard
- Overarching mitigation techniques
- Next steps

WMT meeting #2 (July 1, 2021): This was the second meeting of the WMT and the purpose was to begin identifying actionable items (mitigation initiatives) to reduce the risk of wildfire or wildfire damage in the Paris Mountain planning area. The identified mitigation initiatives will be presented to the public for comment, then revised as appropriate. After addressing comments from the public, the list of mitigation initiatives will be prioritized by the WMT for implementation. Approximately two dozen individual ideas were presented representing eight (8) different strategies.

DMC meeting #3 (November 12, 2021): Because this plan is a part of the larger HMP and the DMC is responsible for establishing plan priorities in that plan, the WMT submitted its list of potential mitigation measures to the DMC for scoring. The DMC met and reviewed the plan and began scoring of measures. Meeting time ran short, and the DMC requested that a second scoring meeting be established and that Woolpert offer an initial scoring for the remaining measures prior to the meeting.

DMC meeting #4 (December 9, 2021): Woolpert provided the DMC with an initial scoring prior to the meeting. During this meeting the DMC reviewed the suggested scores and made scoring revisions as appropriate. The DMC also recommended modifications to the “Provide incentives for residential sprinklers” measure to include all fireproofing techniques and requested that mitigation measures related to potential wildlife in the area be researched and included, as appropriate.

Woolpert performed the requested research and recommended adding wildlife considerations to the public outreach materials and development of wildlife surveys within the Paris Mountain planning area. Including additional material in the public outreach category required only a modification of the description and did not require rescoring. The wildlife survey was a new mitigation measure and was submitted to the DMC for review and scoring.

6. PLAN PURPOSE AND GOALS

Paris Mountain is in unincorporated Greenville County just north of the City of Greenville. In general, and for the purposes of this document, the Paris Mountain planning area is bounded by State Park Road (County Road 22), South Carolina Highway 253, U.S. Route 276, and U.S. Route 25 (See Figure 4-1). There are many valuable infrastructure and natural assets located within the boundaries of this area including, but not limited to; communications equipment including multiple television and radio transmission towers, Paris Mountain State Park, two (2) waste treatment plants, and a large number of residential and commercial structures.

Additionally, access to many of these assets is limited. Altamont Road provides access from the west to the communications equipment and State Park Road provides park access from the south. Subdivision streets provide access to many of the residential structures located at the base of the mountain.

In November 2016, Pickens County and portions of Greenville County suffered from the Pinnacle Mountain wildfire that burned over 10,000 acres. While this event was subject to unique weather conditions (high winds), it raised awareness of the potential for future wildfire events in Greenville County. There have been additional recent wildfires across the nation that have increased awareness of wildfires and their associated risks and hazards. Greenville County recognizes that Paris Mountain is in the wildland-urban interface and is susceptible to wildfire. Because of the high risk and number and types of assets located on the mountain, the County decided to enhance the existing 2020 HMP with an annex addressing wildfire mitigation for the Paris Mountain planning area.

The intent of this plan is to develop an understanding of the Paris Mountain community's susceptibility to wildfire, evaluate the assets at risk, and determine mitigation actions that can be taken to reduce the overall susceptibility to wildfire and potential risk to life, infrastructure, and natural resources.

Plan Goals

Hazard mitigation goals were established as part of the 2020 HMP process. Because this plan is an annex to that document, those same goals apply to this plan. The 2020 HMP contains nine (9) goals, each with multiple objectives.

Below are the goals and objectives listed in the 2020 HMP.

1. County government will have the capability to develop, maintain, and utilize hazard information
 - a. Data and information needed for defining hazards, risk areas, and vulnerabilities in the community will be obtained
 - b. The capability to effectively utilize available data and information related to mitigation planning and program development will be available
 - c. The effectiveness of mitigation initiatives implemented in the community will be reviewed and documented
 - d. There will be a program to derive mitigation "lessons learned" from significant disaster events occurring in or near the community
2. The County will have the capability to initiate and sustain emergency response operations during and after a disaster
 - a. Communications systems supporting emergency services operations will be available to provide for effective communication during times of disaster
 - b. Designated evacuation shelters will be capable of operating during and after disaster events
 - c. Emergency services organizations will have the capability to detect emergency situations and promptly initiate emergency response operations
 - d. Local emergency services facilities will be assessed, and County-owned service facilities will be capable of operating during a disaster event

- e. Response capabilities will be available to protect visitors, special needs individuals, and the homeless from a disaster's health and safety impacts
- 3. The continuity of County government operations will not be significantly disrupted by disasters
 - a. Measures will be implemented to alert County personnel of impending disasters and corresponding action plans
 - b. County employees will be trained in disaster response and operations
- 4. The policies and regulations of County government will support effective hazard mitigation programming throughout the County
 - a. County government will establish and enforce building and land development codes that are effective in addressing the hazards threatening the community
 - b. County government will protect high hazard natural areas from new or continuing development
 - c. Land use policies, plans and regulations will discourage or prohibit inappropriate location of structures or infrastructure components in areas of higher risk
 - d. Reconstruction and rehabilitation of structures and utilities in the County will incorporate appropriate hazard mitigation techniques
 - e. Regulations will be established and enforced to ensure that public and private property maintenance is consistent with minimizing vulnerabilities to disaster
 - f. The County will continue participation in the National Flood Insurance Program and the associated Community Rating System
- 5. Residents of the County will have homes, institutions, and places of employment that are less vulnerable to disasters
 - a. Programs for removal, relocation or retrofitting of vulnerable utilities in high hazard areas will be established
 - b. The vulnerability to disasters of schools, libraries, museums, and other institutions important to the daily lives of the community will be minimized
- 6. The economic vitality of the County will not be significantly threatened by a disaster
 - a. County government emergency response and disaster recovery plans will appropriately consider the needs of key employers in the community
 - b. County government will encourage community businesses and industries to make their facilities and operations disaster resistant
 - c. County government will implement appropriate communications initiatives to address public concerns of community condition and functioning in the aftermath of a disaster
- 7. The availability and functioning of the County's infrastructure will not be significantly disrupted by a disaster
 - a. County government will encourage hazard mitigation programming by private sector organizations owning or operating key community utilities
 - b. Routine maintenance of the community's infrastructure will be done to minimize the potential for system failure due to a disaster
 - c. Transportation facilities and systems serving the County will be constructed and/or retrofitted to minimize the potential for disruption during a disaster
- 8. Key County employees will be trained to recognize hazards threatening local areas and the techniques to minimize vulnerability to those hazards. Information on hazard mitigation will be disseminated to the public.
 - a. Interested individuals will be encouraged to participate in hazard mitigation planning and training activities
 - b. Education programs in risk communication and hazard mitigation will be established and implemented
 - c. Managers of public facilities will be knowledgeable in hazard mitigation techniques and the components of the County's mitigation plan
 - d. Technical training in mitigation planning and programming will be given to appropriate local government employees
 - e. The public will have facilitated access to information needed to understand their vulnerability to disasters and effective mitigation techniques
- 9. The County will protect public safety and reduce loss of life and injury

- a. Mitigation initiatives will be prioritized with emphasis on the number of citizens impacted by the initiative
- b. Hazards with the highest potential to cause injury or risk to life will be given priority in the planning process
- c. This plan will support the efforts of those responsible for emergency response during and immediately following a natural disaster

While not all of these goals or objectives may be applicable to wildfire mitigation, it is the intent of this planning process to meet as many goals and objectives listed in the 2020 HMP as practical.

7. DESCRIPTION OF WILDFIRE HAZARD

Understanding the hazard posed by wildfire to the Paris Mountain planning area begins with a general understanding of the characteristics and forms of wildfire in general. The following sections provide some insight into the nature of wildfires, particularly in the urban wildland interface – the transition zone from urbanized area to natural area. Upon gaining an understanding of the basic behavior of wildfire, one can estimate the wildfire hazard for a given area.

The South Carolina Forestry Commission (SCFC) has prepared a wildfire risk assessment for the Paris Mountain planning area using the Southern Wildfire Risk Assessment tool (SouthWrap or SoWRAP) provided by the Southern Wildfire Risk Assessment Project. This assessment provides an initial indication of both the level of wildfire hazard and risk and is referenced extensively in this section (Section 7. Description of Wildfire Hazard and Section 8. Description of Risk).

Wildfire Categories

Wildfires are identified through various categories. The four most common categories are described below.

1. **Wildland:** The wildland is an area where development is essentially non-existent except for transportation ways and the occasional structure. A wildland fire is defined as any non-structure fire that occurs in vegetation or natural fuels.
2. **Interface:** The wildland urban interface is an area where man-made structures are in or adjacent to areas prone to wildfire.
3. **Intermix:** The wildland urban intermix is where multiple single or clustered man-made structures are scattered in a wildland area. These areas are often difficult to access and surrounded by highly flammable unmanaged vegetation.
4. **Prescribed:** A prescribed fire or controlled burn is the application of fire by a team of fire experts under specified weather conditions to help meet a management objective.

Wildfire Types

There are also three basic types of wildfires with distinct characteristics. These can act individually or in conjunction with each other creating complex firefighting challenges. Figure 7-1 below illustrates the three types of wildfires.

1. **Ground:** Ground fires occur in areas where there is deep accumulation of highly burnable peat, humus, and several layers of dead vegetation that has become dry enough to burn. These fires can move extremely slow but are very difficult to detect and control as they can burn under the surface for several months given the right conditions. Ground fires pose a risk to firefighting safety as well as increase the chance of re-ignition several days to several months after the main fire event.
2. **Surface:** Depending on weather conditions, surface fires may only burn the immediate surface litter and move more slowly with less intensity. Typically, these fires are relatively easy to control and cause the least amount of damage. However, under proper weather conditions and with the right kind of fuel on the ground, surface fires can burn more intensely, move faster, and cause significant damage.
3. **Crown:** Crown fires burn independently of ground fires moving from treetop to treetop. These fires spread very quickly through a forest with high intensity. These fires are very difficult to control and can cause the most extensive damage.



Figure 7-1: Wildland Fire Types

The SoWRAP analysis in Table 7-1 and Figure 7-2 concludes that the likely predominant fire type to impact the Paris Mountain planning area is surface fire (85.1%). Although surface fires are typically easier to control than ground or crown fires, they still require an immediate and coordinated emergency response.

Table 7-1: Percent Probability of Fire Types in Paris Mountain

Fire Type	Acres	Percent
Non-Burnable	1,452	14.0 %
Surface Fire	8,820	85.1 %
Passive Canopy	93	0.9 %
Active Canopy	0	0.0 %
Total	10,365	100.0 %

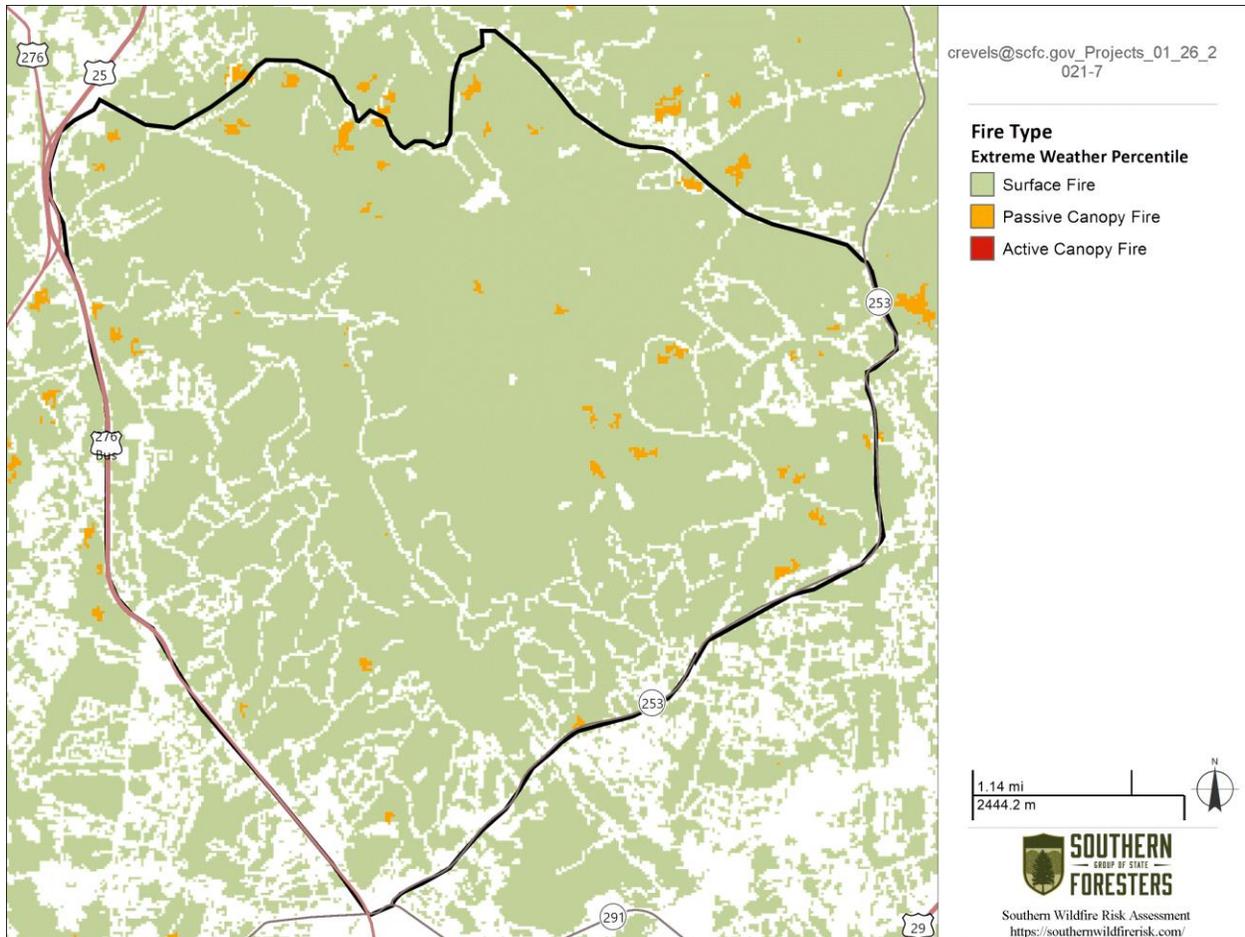


Figure 7-2: Fire Types in Paris Mountain

Wildfire Components

The following terms are frequently used in describing the components of a wildfire (<https://www.nwcg.gov/glossary/a-z>). Figure 7-3 below illustrates the various parts of a wildfire.

1. **Head:** The head of a wildfire is the fastest moving part of a fire. It is being carried by the wind into unburned fuel. The most intense fire behavior is usually found here.
2. **Flank (Left & Right):** The flanks are the edges of the fire burning parallel to the main direction of the fire. They do not move as fast and are not as intense; however, with a wind shift a flank fire can quickly turn into a head fire.
3. **Back:** The back of the fire is the line of fire opposite of the head. It is the slowest moving part of the fire with the least intense behavior. The back of the fire is moving into unburned vegetation against the wind direction.
4. **Point of Origin:** The point of origin is where ignition first occurred. Examples of this would be an escaped campfire, cigarette, or lightning strike.
5. **Pocket/Bay:** A pocket or bay is unburned indentions in the fire line. Usually, the vegetation in this area is slower burning and will become surrounded by the main fire.
6. **Fingers:** A finger is a long narrow extension of the fire the projects from the main body of the fire.

7. **Spot Fire:** A spot fire is an ignition outside the main fire body typically started from embers dropping into unburned vegetation. Spotting can occur miles away from the main fire front and can eventually merge creating larger and more dangerous fires.

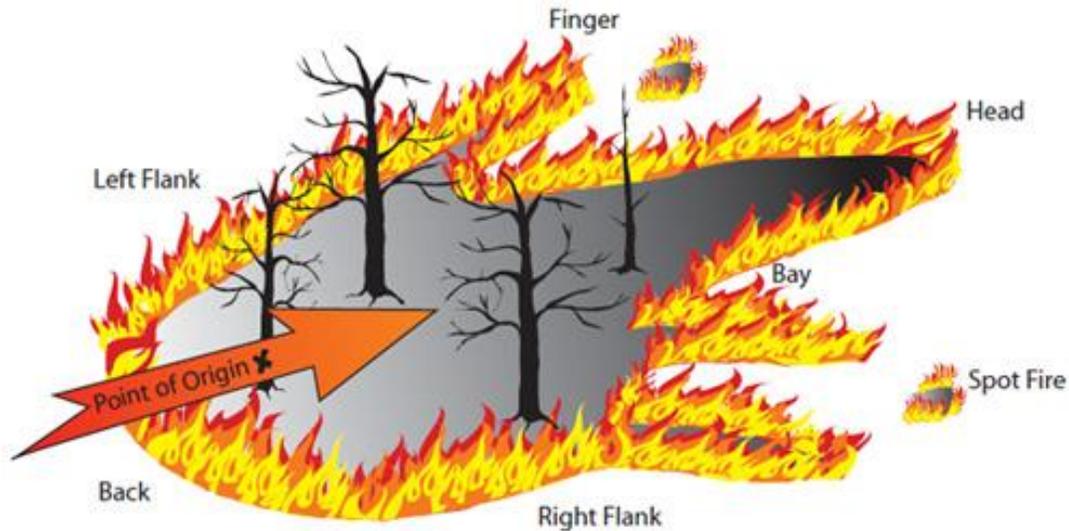


Figure 7-3: Wildfire Components

Wildfire Behavior

Multiple factors can influence the behavior of a wildfire including fuel, weather, and topography. These factors must be considered and managed to effectively mitigate any wildfire.

1. **Fuel:** Anything that can burn can be fuel for a wildfire. In a wildland area, all plant materials act as a fuel source. As these materials accumulate unmanaged over multiple seasons, the risk for a catastrophic and uncontrollable wildfire increase. Fuel, however, is the only fire behavior component that can be manipulated to decrease the risk of a wildfire.
2. **Weather:** Weather conditions can heavily influence the behavior of a fire, especially wind, temperature, and humidity.
 - a. **Relative humidity:** Relative humidity is a measure of the actual water vapor in the air compared to the total amount of vapor that can exist at a current temperature. This has a direct effect on the moisture level in fuels. At low humidity levels and especially after extended droughts, the fuels will become extremely dry and catch fire easily.
 - b. **Wind:** Wind is probably the most important factor in wildland fire behavior as it is the driving source behind a fire and provides the fire with a constant source of oxygen. High winds can contribute to a fast-moving head and a greater possibility for spot fires.
 - c. **Temperature:** Temperature is another important factor when considering the flammability of fuels. Fuels will ignite more readily at higher ambient temperatures as they are heated by solar radiation.
 - d. **Firestorms:** In extreme wildfire behavior it is not uncommon to see a firestorm. As hot air from the fire rapidly rises, a void of space is left behind which is quickly filled by air near the ground. This creates an extreme updraft that begins to spin when it meets crosswinds, creating a fire whirl or fire tornado. Firestorms are an indication of unstable atmospheric conditions.
3. **Topography:** Topography can have a direct impact on fire behavior. Fire moves uphill quickly as it heats the fuels above it, decreasing the ignition time. Areas downhill from fires can be just as dangerous as vegetation burning uphill releases and rolls down spreading the fire or injuring those below it. Saddles and chimneys can

create dangerous fire behavior as air is shuttled through these areas. Steep slopes increase the difficulty of fire suppression and increase the chance of firefighters being caught in the fire.



Figure 7-4: Photo of a Firenado (Marvin Vetter, Oregon Department of Forestry)

According to the “Southern Wildfire Risk Assessment Summary Report”, rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains per hour (ch/hr) or feet per minute (ft/min). One chain = 66 feet. Rate of spread is a fire behavior output, which is influenced by the three previously discussed environmental factors - fuels, weather, and topography. Rate of Spread is the metric used to derive Community Protection Zones.

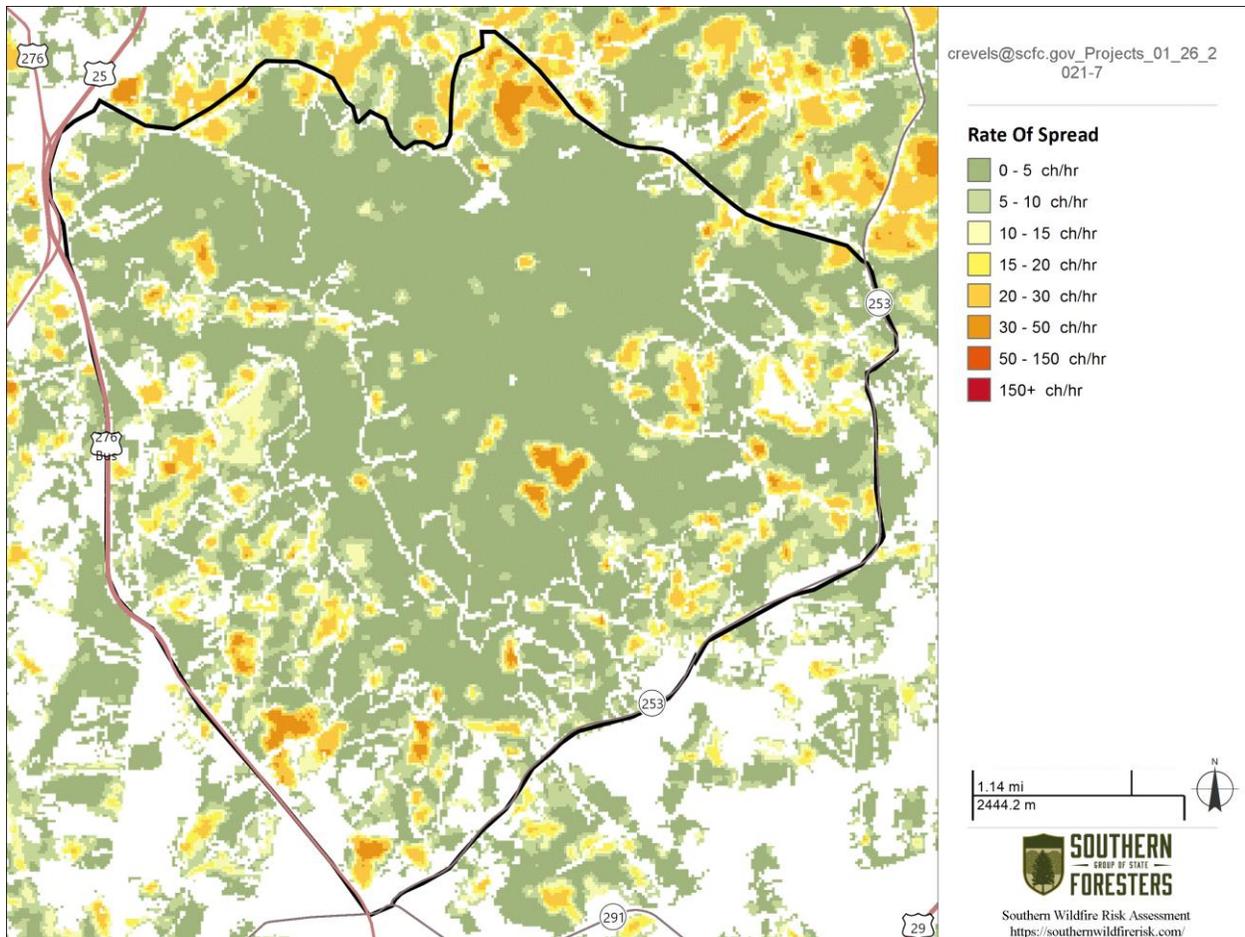


Figure 7-5: Wildfire Rate of Spread

Changes to Environment

Changes to the environment can also impact fire behavior. Changes in climate, pests and plant types, fuel types, and forest management can all play a key role in wildfire behavior. The principal issue that impacts wildfire, however, is human behavior.

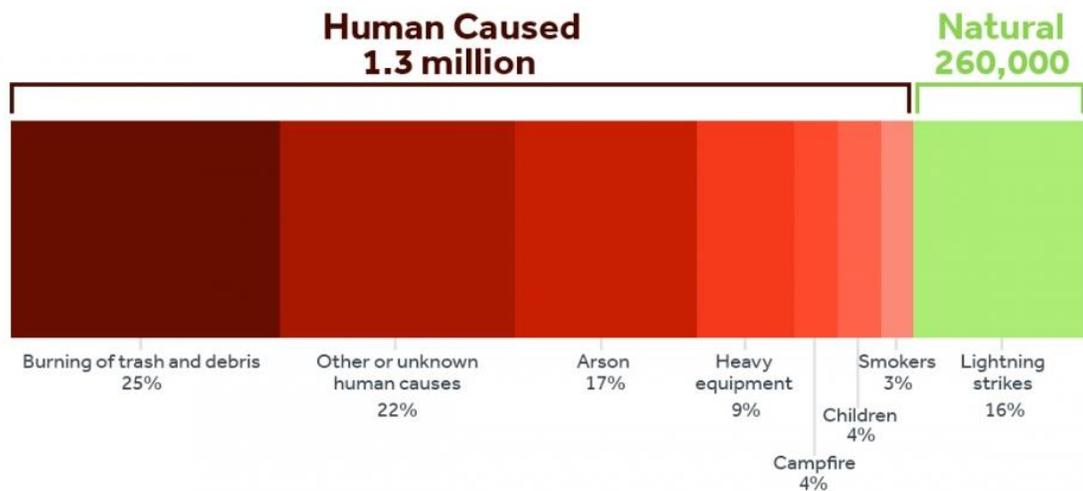
1. **Climate:** Unlike day-to-day weather conditions, climate is the trending weather conditions in an area over a long period of time (typically 30 years). Climate has a direct effect on fire severity and behavior, so it is worth considering when planning long term management. An area that is warmer and drier will have more severe fires than an area that is cooler and wetter. Changing climate trends will influence fire behavior in that area.
2. **Invasive Pests/Plants:** Invasive pests and plants have been around for many years and can lead to an increased amount of fuel in the ecosystem. Pests such as the Hemlock Woolly Adelgid, Southern Pine Beetle, and Emerald Ash Borer can kill off large swaths of trees, leaving a large amount of dead and highly flammable fuel behind. Invasive plants such as Cogongrass and Kudzu can be extremely flammable or act as ladder fuels allowing fire to reach the canopy of the tree to begin a crown fire.
3. **Fuel Types:** Fuel types can change throughout the years for a multitude of reasons. Management by way of planting or mismanagement can lead to an influx of species that are fire susceptible or carry fire extremely well. As forests mature and drop leaves and needles, these accumulate to create thick loads of fuel that when dried out are extreme fire hazards.

4. **Forest Management:** Forest management in general has changed greatly over the past century. Since the Wildland Fire Control Program was initiated in 1885, fire suppression was common across America. In 1911 forest managers experimented with using fire to fight fire and research began to see if prescribed fire would increase viability and overall land health. In the 1960's forest management began to take a turn from passive management and fire suppression to a more proactive management. Even still, there are many legal/regulatory considerations when conducting any forest management technique and forest management can sometimes take an entire lifetime to achieve desired results.
5. **Human Intervention:** Human behavior has also greatly changed development patterns over the last century. As utilities became more available and desire for open space grew, people began to wander away from cities and into these "wild" areas. That trend has continued, but not many people are educated on the ecosystems they are moving into. Many wildland areas are fire dependent to ensure a thriving ecosystem. When man-made structures encroach these areas, it can add danger and complexity to prescribing or fighting these fires. Human causes also contribute to over 90% of all wildfires (90% nationwide & about 98% in South Carolina), increasing the chance of a fire breaking out during non-ideal or dangerous weather conditions.

Wildfire Causes

There are many potential causes of wildfire including those noted in Figure 7-6. This figure illustrates the percentage of wildfires nationwide due to each cause. The overwhelming majority of wildfires are due to either debris burning or woods arson. Overnight camping is allowed in the Paris Mountain State Park, and there are remote areas of the planning area where camping might occur, indicating that campfires might also be of elevated concern. Additionally, fireworks, powerlines, and structure fires should be considered as potential causes.

Humans Cause Most American Wildfires Major Causes of Wildfires in Lower 48 From 1992-2013



Sources: Balch et al., 2017, Human-started wildfires expand the fire niche across the United States, PNAS (note that this table includes 2013 data, which was not included in PNAS paper)

CLIMATE CENTRAL

Figure 7-6: Causes of Wildfires Nationwide

Wildfire Potential

There are a variety of wildfire elements and tools available to measure the potential for wildfire hazard in a given area. As noted above, the SCFC utilized SouthWRAP to assess the risk of wildfire in the Paris Mountain planning area. This tool allowed the SCFC to define a specific planning area and summarize wildfire related information for that area. A draft detailed risk summary report was then generated using map products developed by the Southern Wildfire Risk Assessment project. Per the Southern Wildfire Risk Assessment Project, “SouthWRAP provides a consistent, comparable set of scientific results to be used as a foundation for wildfire mitigation and prevention planning in the South.”

The SCFC performed a SouthWRAP analysis using the tool located at www.southernwildfirerisk.com and prepared a draft report of its findings. A summary of the analysis is contained below. It should be noted that the planning area for this plan and the planning area for the SCFC are slightly different.

See Appendix B for a complete copy of the analysis and report by the SCFC.

“Within the South WRAP tool, the Burn Probability (BP) layer depicts the probability of an area burning given current landscape conditions, percentile weather, historical ignition patterns and historical fire prevention and suppression efforts. It is the tendency of any given “pixel” to burn, given the static landscape conditions depicted by the LANDFIRE Refresh 2008 dataset (as resampled by FPA), contemporary weather and ignition patterns, as well as contemporary fire management policies (entailing considerable fire prevention and suppression efforts).”

The BP data does not, and is not intended to, depict fire-return intervals of any vintage, nor do they indicate likely fire footprints or routes of travel. Nothing about the expected shape or size of any actual fire incident can be interpreted from the burn probabilities. Instead, the BP data, in conjunction with the Fire Program Analysts FIL layers, are intended to support an actuarial approach to quantitative wildfire risk analysis (e.g., see Thompson et al. 2011).

Values in the Burn Probability (BP) data layer indicate, for each pixel, the number of times that cell was burned by an FSim-modeled fire, divided by the total number of annual weather scenarios simulated. Burn probability raster data was generated using the large fire simulator - FSim - developed for use in the Fire Program Analysis (FPA) project. FSim uses historical weather data and current landcover data for discrete geographical areas (Fire Planning Units - FPU) and simulates fires in these FPU. Using these simulated fires, an overall burn probability and marginal burn probabilities at four fire intensities (flame lengths) are returned by FSim for each 270m pixel in the FPU.

The fire growth simulations, when run repeatedly with different ignition locations and weather streams, generate burn probabilities and fire behavior distributions at each landscape location (i.e., cell or pixel). Results are objectively evaluated through comparison with historical fire patterns and statistics, including the mean annual burn probability and fire size distribution, for each FPU. This evaluation is part of the FSim calibration process for each FPU, whereby simulation inputs are adjusted until the slopes of the historical and modeled fire size distributions are similar and the modeled average burn probability falls within an acceptable range of the historical reference value (i.e., the 95% confidence interval for the mean).

Table 7-2: Areas of Burn Probabilities in Paris Mountain

	Class	Acres	Percent
	1	4,359	57.6 %
	2	2,828	37.4 %
	3	378	5.0 %
	4	0	0.0 %
	5	0	0.0 %
	6	0	0.0 %
	7	0	0.0 %
	8	0	0.0 %
	9	0	0.0 %
	10	0	0.0 %
Total		7,565	100.0 %

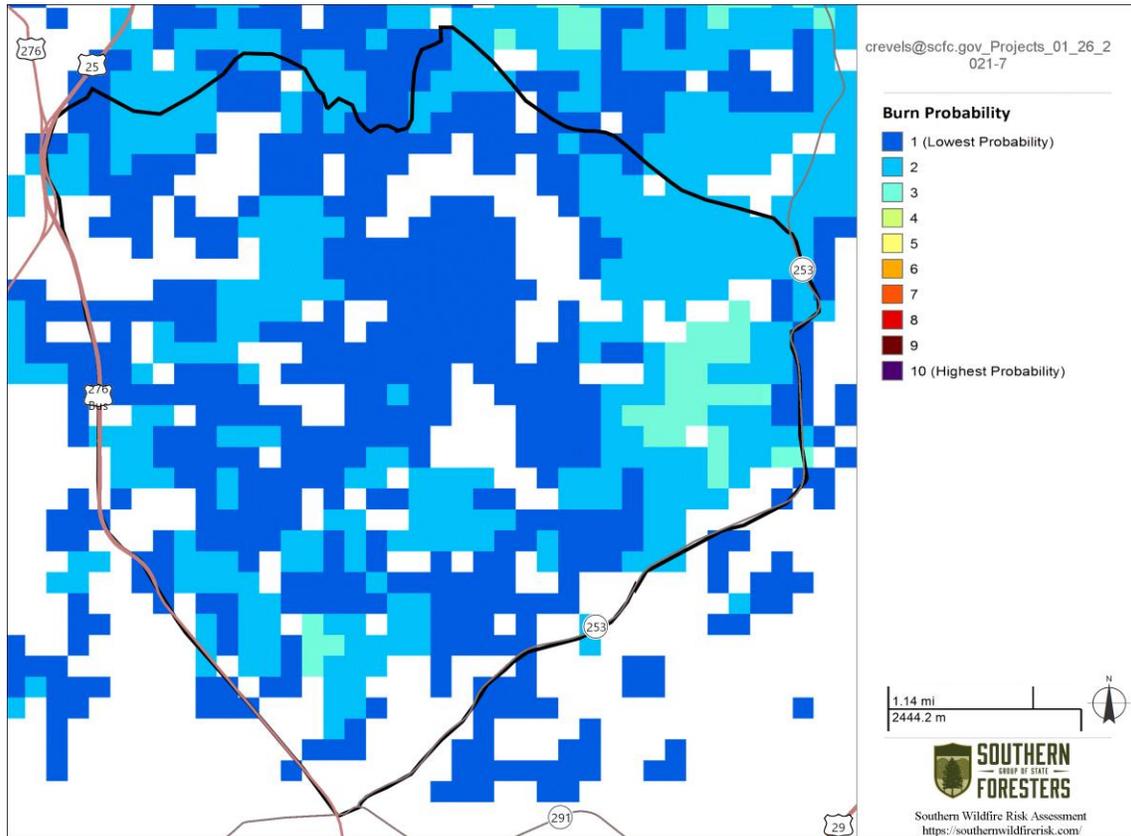


Figure 7-7: Burn Probability of Paris Mountain

8. DESCRIPTION OF WILDFIRE RISKS

General Risk

Section 7, Hazard and Risk Assessment, of the 2020 HMP Greenville County 2020 Multi-Jurisdictional Hazard Mitigation Plan discusses the County’s approach to evaluating relative risk for all hazards including wildfire. In general, risk is comprised of two components: 1) the probability of an event occurring and 2) the consequences of that event. That is, if a hazard event occurs frequently, and has very high consequences, then that hazard is considered to pose a very high risk to the affected communities. In comparison, if a hazard event is not expected to occur frequently, and even if it did, the consequences would be minimal, then that hazard is considered to pose a very low risk. Each of the hazards considered to be a threat to Greenville County were assessed in the 2020 HMP for their probability of occurrence and likely consequences.

In the 2020 HMP, the DMC utilized a “relative risk score” derived from a qualitative process in which planners recorded, on a numeric scale, the likely frequency of occurrence, the extent of the community that would be impacted, and the likely consequences in terms of public safety, property damage, economic impact, and harm to valuable environmental resources. The numeric total of the assessments of each of these constituted the “relative risk score.” For a more detailed explanation of the Risk Estimation Factors, please refer to Section 7 of the 2020 HMP.

The results of this process are listed in Table 8-1 below (green represents low risk (score = 0 – 10), yellow represents medium risk (score = 11 – 20), and red represents high risk (score = 21 – 40)). Wildfire hazard scored 14 points, classifying it as a medium risk relative to other hazards potentially impacting the County.

Table 8-1: Hazard Risk Scores

Rank	Hazard	Risk Score and Relative Risk Category
1.	Winter storms	40
2.	Flood	24
3.	High winds / Tornados	20
4.	Hail	20
5.	Drought	18
6.	Wildfire	14
7.	Earthquakes	7
8.	Sinkholes	3
9.	Landslides	3

The following data, also contained in the 2020 HMP, represents the impact county-wide from wildfire and was compiled from data supplied by the South Carolina Emergency Management Division, the South Carolina Hazard

Mitigation Plan, and the risk assessment described above. This data quantifies past events and provides insight into what can be expected in the future.

Table 8-2: Summary of Past Hazard Events and Future Risk

Hazard	Annualized Losses	Total Losses	Deaths	Injuries	Current Relative Level of Risk
Wildfires	\$6,674	\$367,071	0	0	Medium

Paris Mountain Area Risk

Risk can be assigned to people, infrastructure, and natural resources. The following data for the Paris Mountain planning area was taken from U.S. Census Bureau.

People at Risk: There is a substantial number of people residing in the Paris Mountain planning area. The population is generally congregated in the southwest and northwest quadrants of the planning area with additional residential properties scattered around the remaining base of the mountain. The population as a whole is relatively well educated. With a Hispanic population around 1%, the need for communications in Spanish is less critical than in some areas. See Figure 8-1 for a map of residential buildings in Paris Mountain.

- Population = 8,827
- Median Income = ~\$60,000
- At poverty level = 12%
- Education = 94% with some college
- Hispanic population = ~1%

Infrastructure at Risk: With over 3,900 structures valued at more than \$770 million, there is potential for considerable structural damage should a wildfire go unchecked in the planning area. This estimate does not include the number and value of other major assets such as communications equipment, non-profit institutions, medical, education, and public facilities. See Figure 8-1 for a map of the commercial and residential buildings at risk.

- Residential Buildings
 - 3,870 structures
 - ~\$687 million
- Commercial Buildings
 - 153 structures
 - ~\$82.5 million
- Other Infrastructure Types
 - Communications Equipment
 - Paris Mountain State Park
 - Medical Facilities
 - Education Institutions
 - Water Supply / Wastewater Treatment

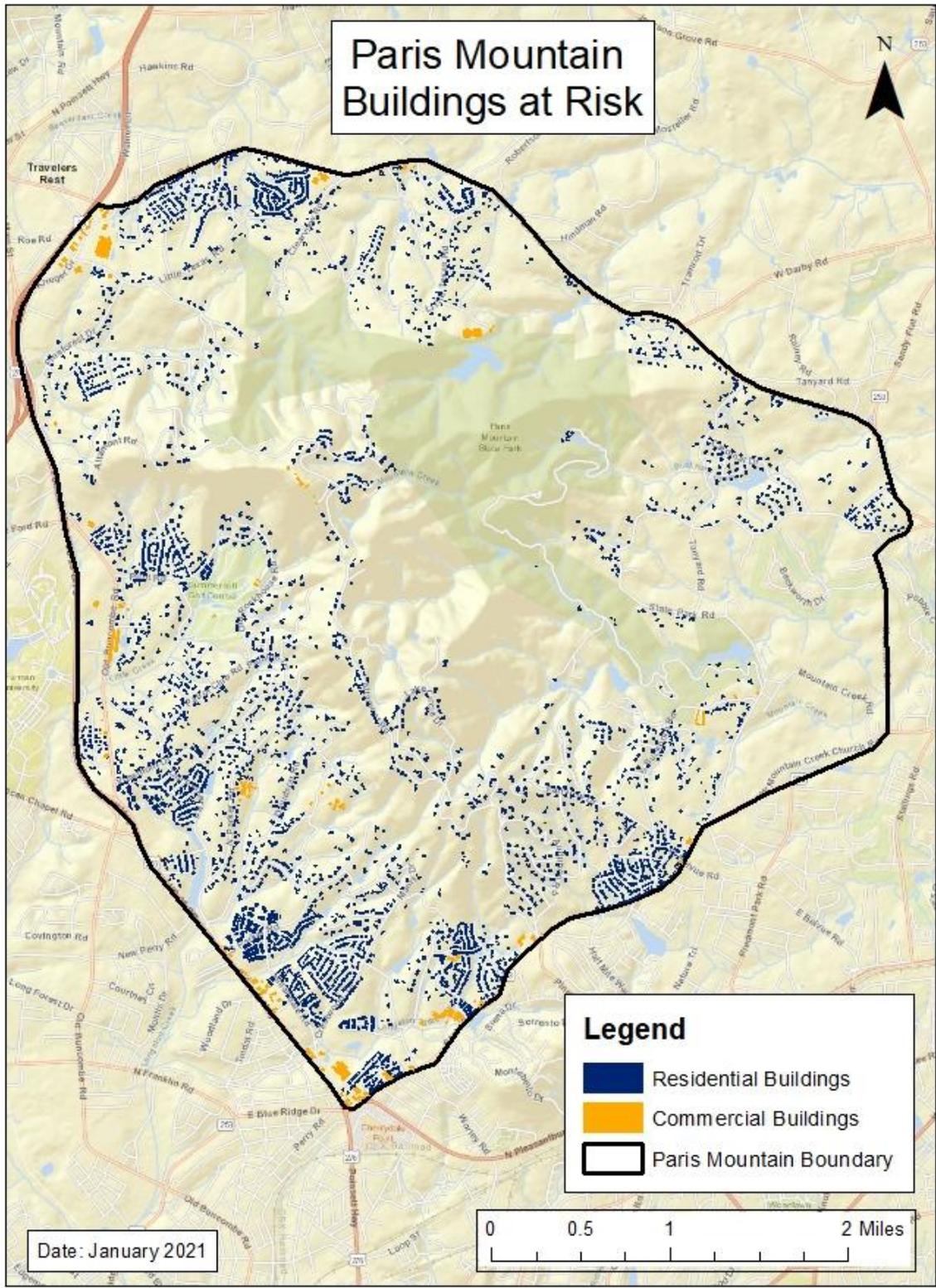


Figure 8-1: Paris Mountain Buildings at Risk

The SouthWrap analysis performed by the SCFC provides additional data on the density of housing in the planning area. See Table 8-3 and Figure 8-2 below. Residential housing is concentrated on the Southern, Western, and Eastern edges of Paris Mountain, with scattered housing throughout the central area. It should be noted that there are slight differences in population and structure numbers between this report and the SouthWrap analysis due to slightly different planning areas.

Table 8-3: Housing Density of Paris Mountain

Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
LT 1hs/40ac	16	0.2 %	1,119	13.6 %
1hs/40ac to 1hs/20ac	32	0.4 %	694	8.5 %
1hs/20ac to 1hs/10ac	149	1.9 %	1,096	13.4 %
1hs/10ac to 1hs/5ac	311	4.0 %	1,153	14.1 %
1hs/5ac to 1hs/2ac	1,349	17.5 %	2,034	24.8 %
1hs/2ac to 3hs/1ac	5,050	65.5 %	2,021	24.6 %
GT 3hs/1ac	800	10.4 %	87	1.1 %
Total	7,707	100.0 %	8,204	100.0 %

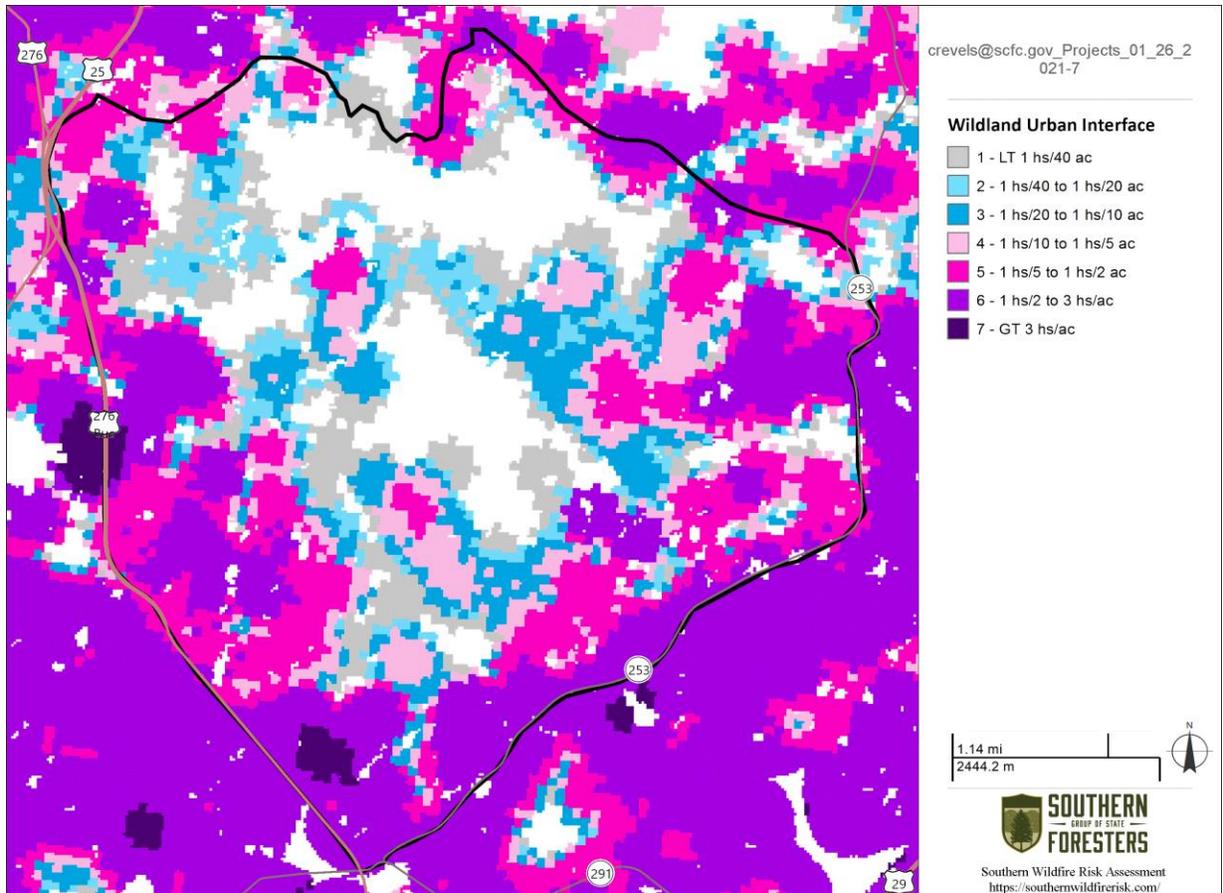


Figure 8-2: Housing Density of Paris Mountain

Natural Resources at Risk: In addition to people and hard infrastructure, the Paris Mountain planning area is home to several valued natural resources. These natural resources include Paris Mountain State Park, a designated National Register listed Historic District (contained within the State Park), and three (3) separate Naturaland Trust protected properties.

As of the writing of this report, the Naturaland Trust website indicates the Trust has purchased and protected key parcels around the state park, shown in Figure 8-3. The first parcel was 33 acres situated on Brissy Ridge, a beautiful hardwood forest. This property was transferred to the State Park for long-term management. An additional purchase was the Furman Face, which occupies approximately 58 acres of the wooded western face of the mountain. This property can be seen from Greenville, Poinsett Highway, downtown Travelers Rest, Furman University, and the Swamp Rabbit Trail.

Paris Mountain State Park Expansion

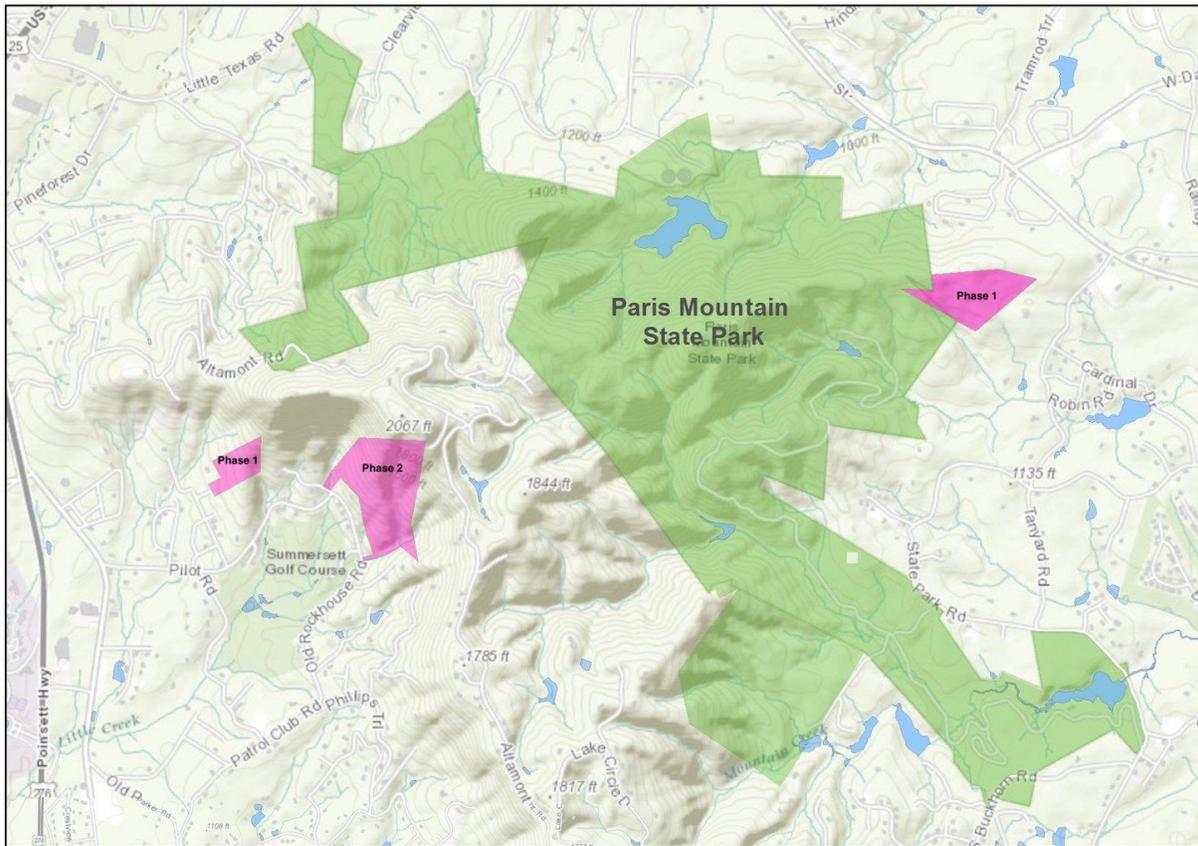


Figure 8-3: Paris Mountain State Park and Naturaland Trust Properties

Source: <http://www.naturalandtrust.org/paris-mountain>

“Paris Mountain State Park is located six miles north of downtown Greenville. It encompasses 1,700 acres of forest, streams, and lakes, including Lake Placid, which was created in 1898 to provide drinking water for the City of Greenville. Most Park structures were created in the 1930s by the Civilian Conservation Corps.

The Park is designated as a Discover Carolina site, making education a top priority, and recognizing that the park’s location in the City of Greenville makes it an ideal destination where students can learn about our natural world. The efforts of the Paris Mountain State Park Friends make much of this possible.”

Source: <https://southcarolinaparks.com/discover-nature-paris-mountain>

“Paris Mountain is significant for its association with the establishment and development of a system of state parks in South Carolina. As one of sixteen state parks constructed in the state by the Civilian Conservation Corps (CCC), Paris Mountain is expressive of the conservation, recreation, and design ethic of the early twentieth century state parks movement. Specifically, Paris Mountain is significant for its association with early utilitarian conservation efforts in South Carolina before the 1930s, and the establishment of local recreational parks during the Great Depression. Paris Mountain also reflects the

rustic style of park architecture and landscape design. Buildings and structures in the park were built using local materials, such as rubble stone and roughhewn logs, in a manner that harmonized with the natural environment. The CCC structures are grouped into three main areas, all surrounding or close to lakes. The most concentrated development occurs along the south side of Lake Placid. This section of the park includes picnic spots, the bathhouse, swimming area, amphitheater, athletic field, and park administrative buildings. The area around Sulphur Springs and Mountain Lake includes trails, picnic areas, and the archery range. Hidden deep within the park is the Buckhorn organized group camp, which consists of a lodge and camper cabins. All of these areas are joined by park roads, which serve to unify the overall park design. Listed in the National Register April 30, 1998.”

Source: <http://www.nationalregister.sc.gov/greenville/S10817723049/index.htm>

All of the Paris Mountain planning area resources combined, constitute substantial value to the community that should be protected from wildfire hazard. This plan considers mitigation measures to protect people, infrastructure, and natural resources to the extent practical.

SouthWRAP Risk Assessment

The SouthWRAP analysis prepared by the SCFC provides additional insight into the potential risk of wildfire in the Paris Mountain planning area. The sections below are taken substantially from the “Southern Wildfire Risk Assessment Summary Report”.

Wildland Urban Interface (WUI) Risk Index: “The Wildland Urban Interface (WUI) Risk Index is a rating of the potential impact of a wildfire on people and their homes. The key input, WUI, reflects housing density (houses per acre). The location of people living in the Wildland Urban Interface and rural areas is key information for defining potential wildfire impacts to people and homes.

To calculate the WUI Risk Rating, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. By combining flame length with the WUI housing density data, the location where there is the greatest potential impact to homes and people was determined. Figure 8.4 illustrate the results of the WUI Risk Interface model.”

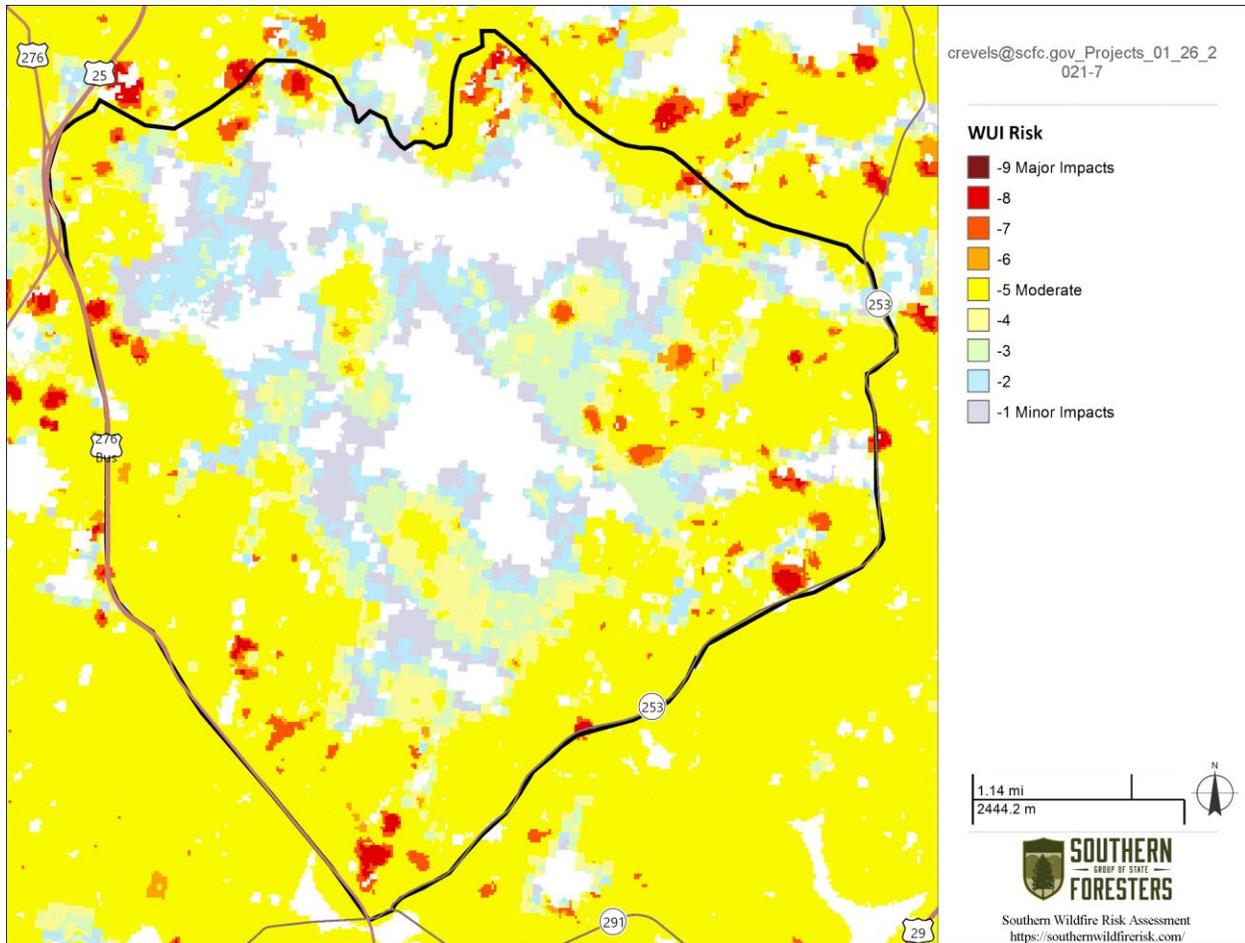


Figure 8-4: Paris Mountain Wildlands Urban Interface Risk

Community Protection Zones (CPZ): Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the “Where People Live” housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance. This is referred to as the Secondary CPZ.

General consensus among fire planners is that for fuel mitigation treatments to be effective in reducing wildfire hazard, they must be conducted within a close distance of a community. The WUI housing density has been used to reflect populated areas in place of community boundaries (Primary CPZ). This ensures that CPZs reflect where people are living in the wildland, not jurisdictional boundaries.

Secondary CPZs represent a variable width buffer around populated areas that are within a 2-hour fire spread distance. Accordingly, CPZs will extend farther in areas where rates of spread are greater and less in areas where minimal rate of spread potential exists. Secondary CPZ boundaries inherently incorporate fire behavior conditions.

Primary CPZs reflect areas with a predefined housing density, such as greater than 1 house per 20 acres. Secondary CPZs are the areas around Primary CPZs within a 2-hour fire spread distance.

Figure 8.5 illustrates the results of the CPZ analysis.



Figure 8-5: Paris Mountain Community Protection Zones

This data combined with local understanding of the wildfire hazard and potential risks will help inform Section 9, Potential Damages /Cost Assessment and Section 10, Mitigation Initiatives.

9. POTENTIAL DAMAGES/COST ASSESSMENT

Estimating damages from a potential wildfire incident is a difficult task. There are many variables that impact costs including location of the fire within the planning area (i.e., inhabited vs. uninhabited area), size, duration, and level of preparedness of the impacted community. There are initial attack costs, damages to infrastructure, and social costs. The following paragraphs provide some general information regarding costs of wildfires across the nation and a generalized estimate of potential damages associated with a potential wildfire in the Paris Mountain planning area.

Wildfires are associated with two major types of cost: damage cost and suppression cost. The damage cost of a wildfire is estimated from loss and damage caused to property values, building values, natural resources and human life. According to the National Institute of Standards and Technology (NIST) report, “The Costs and Losses of Wildfires”, annual damage costs in the U.S are estimated to range from \$63.5 billion to \$285 billion. Wildfire suppression costs are the costs spent to control and put out fires. This includes the costs to pay for equipment and federal and state firefighting crews. Wildfire suppression costs in the U.S. have increased from an annual average of about \$425 million from 1985 to 1999 to \$1.6 billion from 2000 to 2019, according to data from the National Interagency Fire Center. This increase in wildfire suppression costs is in part due to an increase in frequency of wildfires, but also due to the growing urban wildland interface that places more development in danger of wildfires, forcing firefighters to protect human developments at any cost. The NIST report estimates that the true annual fire suppression costs range from \$7.6 billion to \$62.8 billion. While suppressing wildfires is expensive, the estimated suppression costs remain much less than the estimated damage costs from wildfires. Investing in a well-prepared firefighting response can limit wildfire damage, which ultimately saves money by reducing the damage costs of wildfires.

The Southeast U.S. sees about 45,000 wildfires and more than one million acres burned per year, according to Wildland Fire in the Southeast. While the Western U.S. is often in the national spotlight because of the region’s frequent large wildfires, the Southeast remains at significant risk to wildfires. The Southeast has a higher percentage of population living in the wildland urban interface than any other region in the U.S., increasing the risk of wildfire damage costs for the area. The population of the Southeast is expected to continue to grow, thereby increasing urban sprawl and the wildland urban interface area, which ultimately will increase the damage risk of wildfires to the Southeast.

Greenville County’s most recent large wildfire was the Pinnacle Mountain fire. The fire was met with a fast-acting and aggressive firefighting response, with suppression costs estimated to total \$5 million. Due to that well-prepared response, no homes were damaged, and no lives were lost, so the damages cost associated with the fire was minimal. Compare that to the Chimney Tops 2 fire in Tennessee that began in similar conditions but was met with a slower firefighting response and greater complexity with the increased wildland urban interface. More than 2,400 homes were destroyed, 14 people were killed, and it cost an estimated \$2 billion in damages. The estimated suppression costs were \$8.8 million, almost twice as much as the Pinnacle Mountain fire suppression costs. The Chimney Tops 2 Fire Report, performed by the National Park Service, determined that the lack of fire preparedness caused the response to be overwhelmed by the wildfire, and they therefore recommended enhancing the regions preparedness and fire planning for the future. The difference in damage and suppression costs between the two wildfires illustrates how a well-prepared firefighting response can be the difference in saving billions of dollars’ worth of damage and human lives.

The Paris Mountain area contains great value at risk of wildfire damage. It includes approximately 3,968 residential buildings valued at \$747 million and 153 commercial buildings valued at \$82.5 million. The total tax value of the Paris Mountain area is about \$890.5 million, and the population of Paris Mountain is 8,827. Based on data from the SCFC, it is estimated that a response to even a small wildfire in the Paris Mountain area could cost from \$65,000 to \$200,000. This number could increase depending on the variables mentioned at the beginning of this section. However, the cost of response could save up to \$890.5 million in damages in addition to saving thousands of lives.

10. MITIGATION INITIATIVES

Introduction

The following sections describe overall strategies that are commonly employed to mitigate potential damage from a wildfire, specific mitigation actions identified by the WMT to be implemented in the Paris Mountain planning area, and the methodology employed to prioritize and include these initiatives in the 2020 HMP. The WMT was provided with the hazard and risk assessment results and an overview of mitigation strategies. The group then used workshop settings to identify specific initiatives. The DMC, established by in 2020 HMP, was responsible for prioritizing the mitigation measures identified by the WMT.

Wildfire hazards and risks are unique to each planning area and require unique solutions to reducing the potential for wildfire and the ensuing damage. The Paris Mountain planning area also presents unique challenges as noted below.

- While most structures are located at or near the base of Paris Mountain in relatively flat terrain, there is large accumulation of communications equipment at the top of the mountain and a State Park located on the opposite side of the mountain from the higher density residential area. This creates multiple areas of concern located in “opposite corners” of the planning area.
- The approximately 4,000 total residential and commercial structures are also spread across the planning area encircling the majority of the base of the mountain. Additionally, to go from one populated area to another, the perimeter roads must be utilized (i.e., there is limited access from one neighborhood directly to another).
- Related to the issues of limited access and the spread of areas needing protection, the SCFC SoWRAP analysis indicated that the WUI index areas of “major impact” are also spread across the planning area rather than being congregated in a more singular location.
- The planning area contains both a State Park and protected land trust area. These areas provide access for individuals living outside of the planning area and, further, Paris Mountain State Park offers overnight camping potentially increasing the possibility of human caused wildfire.
- Paris Mountain has areas of very steep terrain limiting the operation of heavy equipment.
- There are three Fire Departments tasked with providing service to the planning area.

Even though the Paris Mountain planning area presents certain challenges to mitigating wildfire losses, it also has several benefits that should be leveraged in devising a mitigation plan.

- An active home-owners association
- Firewise planning effort led by the SCFC
- Multiple responding fire departments (While this can create complications, it also provides firefighting resources from multiple directions)

Overarching strategies and individual initiatives should consider both the unique challenges for the planning area as well as the available resources. The next section discusses overall strategies that may be applicable to the Paris Mountain planning area.

Overview of Mitigation Strategies

As with any hazard mitigation planning effort, multiple layers of defense are best. Approaching mitigation from a wholistic viewpoint provides redundancy and, generally, a more effective strategy. The following paragraphs describe common wildfire mitigation strategies and their application to the Paris Mountain planning area. To the extent practical, multiple individual mitigation initiatives from each of these strategies should be represented in the final plan.

Community Outreach and Education

With over 90% of all wildfires being started by humans, it makes sense that educating the public should be a major component of wildfire mitigation. Helping residents better understand wildfire causes, response, and self-protection measures can significantly reduce not only the likelihood of wildfire, but also the damages incurred should a fire occur. Because there are many visitors to the planning area (Paris Mountain State Park), there is also a need to educate non-residents, especially on the dangers of campfires.

Education can be achieved effectively through several activities including informative signs, learning trails, seasonal mailers, homeowner workshops, State Park educational events, and programs such as Firewise. Because there are active homeowner’s associations in the planning area, a Firewise planning effort underway, and an established education program at the State Park, these groups should be a key element in developing a robust public education campaign.

Fuel management

Obviously, fuel is a key ingredient to any wildfire. Effectively managing the type and quantity of fuel within the planning area is fundamental to reducing the potential / intensity / duration of any fire. There are several means of managing fuel including prescribed burning, mechanical thinning, and snag removal. For the most part, these specific efforts should be undertaken only by professionals; however, there are several things a property owner can do to help mitigate the risk. Examples of this would include clearing small debris around the property, choosing fire resistant vegetation and landscape design, and refrain from any outdoor burning on dry windy days. A strong working relationship between landowners, Greenville County, fire departments, the SC Department of Parks, Recreation and Tourism (SCPRT), and the SCFC may be necessary to facilitate this strategy.

Fireproof Structures

Decreasing the vulnerability to fire of individual structures is dependent upon each home / business owner taking some responsibility to protect themselves. Although the Greenville County building codes offer some level of protection for new structures, there are additional measures builders and owners can employ to make their structure more resilient. Likewise, existing structures can be retrofitted to provide greater levels of protection. Examples of fire protection techniques are located below. Finally, performing a critical facility risk assessment would identify the more critical structures within the planning area, determine each structure’s vulnerability to fire, and prepare individual retrofitting plans.

- | |
|--|
| <p>Common Structure Fireproofing Techniques</p> <ul style="list-style-type: none">• Site Layout• Ignition Resistant Roofs• Ember Resistant Exterior• Window Protection• Fire Rated Doors• Louvers and Vents with fire dampers• Sprinkler Systems |
|--|

Fireproof the landscape

The probability of a structure surviving a wildfire greatly increase with the creation of a defensible space around the structure. States more susceptible to wildfire, like California, require a defensible space around homes. These requirements range in width and number of zones, but all are intended to add further protection to individual structures.

Defensible spaces are created using fire retardant materials, plants, and mulches, clear and visible street signs and house numbers, regular removal of debris and trash, trimming of trees, etc. Each zone has a distinct strategy and becomes more specific the closer to the structure the zone becomes.

Sprinkler systems, fire breaks and fuel breaks can also add levels of protection to individual structures. Below is a brief description of each of these techniques.

- Defensible space: A defensible space is a natural and/or landscaped area around a structure that has been maintained and designed to reduce fire danger. The practice is sometimes called “Firescaping”.
- Sprinkler systems: Sprinkler systems provide the ability to keep the space around the home wet during a wildfire event.
- Fire breaks: Firebreaks are fuel-managed areas meant to stop fire propagation. They are areas without any fuel, so there is nothing available for the fire to spread to. Examples include roads, trenches, and streams. See Figure 10-1.
- Fuel breaks: Fuel breaks are fuel-managed areas meant to hamper fire propagation. They are areas with reduced amounts of fuel available for fires to burn. Examples include thinned vegetation and Firewise landscaping. See Figure 10-1.

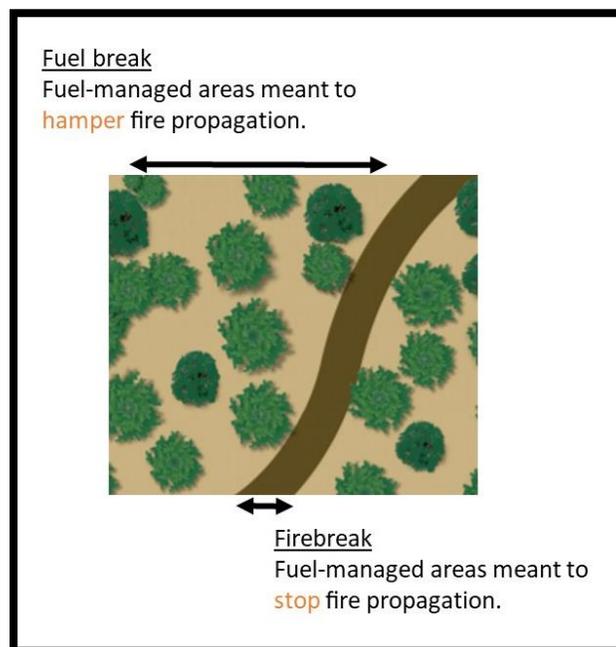


Figure 10-1: Comparison of a fuel break and a fire break

Improve fire response

Should a wildfire event occur, a quick and appropriate response can mean the difference in it being a very minor event or a major disaster. There are currently two separate fire departments that have responsibility for responding to a wildfire in the Paris Mountain planning area including: Piedmont Park Fire Department and Duncan Chapel Fire Department. These departments are well equipped and properly trained. Communication channels between the departments and the SCFC have been established, however, identifying and supplying additional needs to support these departments is paramount. The Sheriff's Office Air Support Unit and the Travelers Rest Fire Department were also mentioned as possible resources to aid in firefighting.

Appropriate access to all areas is another key element to a proper response. Mitigating areas with limited access, ensuring that roads are sufficient for firefighting equipment to maneuver, identifying and maintaining landing areas for helicopter support, locating evacuation routes, and other access issues should be identified and addressed.

Training

Like public outreach for citizens, training for both firefighters and citizens alike regarding proper wildfire fighting techniques and fire safety is essential. It is becoming well-known that landowners taking appropriate measures towards protecting their homes along with quick and effective fire-fighting response can keep costs and damages to a minimum. Fire departments are constantly training and preparing for all firefighting situations, so supporting local fire departments with the financial resources to maintain relevant training is an appropriate mitigation measure.

Techniques, equipment, and preparedness are all areas of focus that require financial support and appropriate training. While local fire departments might be the first to respond to a wildfire on Paris Mountain, the SCFC is a needed resource as they have specialized training and equipment to deal with wildfires. In addition, the SCFC has developed training devices such as an interactive tabletop exercises that can be used to simulate a wildfire given chosen conditions. These exercises demonstrate fire behavior and allow the agency to develop strategies to prevent and respond if a situation were to occur.

The landowner should also maintain a level of education on wildfire risk in their area along with strategies to minimize the risk of a wildfire damaging their property. Community support such as the Firewise program offer educational materials and strategies to assist with this. Maintaining communication with local support efforts such as emergency responders can help identify and resolve potential obstacles before an emergency occurs.

Research and risk assessment

Fire response plans are built from multiple pools of research gathered on risk, infrastructure, landscape, fuel, etc. Understanding which areas are at the highest risk of wildfire is key to developing a fire response plan that adequately addresses that risk. Proper evacuation and emergency response routes must be developed from accurate infrastructure information. Research on fuel loads across the landscape can inform which areas need a reduction in fuel to reduce the risk of fire, and where fire breaks would be most effectively placed. Research and risk assessments should be performed periodically to ensure that fire response plans are developed from accurate and up-to-date information.

- Fuel management / Fire studies
- Weather Monitoring

Individual Mitigation Initiatives

Development of wildfire mitigation initiatives began with a review of the overall mitigation strategies defined in the previous section by the WMT. A workshop was then held to discuss individual initiatives relevant to each strategy. Approximately 21 individual mitigation measures were initially identified. One additional mitigation measure was created by the DMC during their review of the proposed WMT measures to make a total of 21 scored mitigation measures.

Initiative Descriptions

The WMT met on July 1, 2021, to identify potential mitigation measures for incorporation into the plan. Each of the initiatives has been categorized by strategy type and is briefly described below.

Category 1: Community Outreach and Education

The WMT identified a variety of outreach and education activities (listed below). It is believed that many of these activities can be funded through the existing HMGP Public Outreach Funding.

- a. Send postcards or mailers to residents and businesses in the planning area
- b. Present at Homeowners Association meetings
- c. Provide information to local Realtors regarding wildfire risk and mitigation within the planning area
- d. Provide information to local builders regarding fire resistant buildings
- e. Support Fire Department door to door “blitz” to distribute wildfire mitigation information and residential smoke alarms
- f. Organize a “Touch a Truck” event to educate residents on wildfire mitigation and response
- g. Coordinate with Paris Mountain State Park regarding education events (incorporate wildfire mitigation into State Park education activities)
- h. Identify potential venues to provide information to such as local churches, schools, and other public organizations

It is recommended that these activities be organized into a comprehensive community outreach and education program. During the prioritization process, the DMC recommended adding information into the public education material related to wildlife. Topics should include items such as being aware of additional wildlife on roadways during an event, avoiding fleeing and injured wildlife, not allowing domestic animals to interfere with fleeing wildlife, being aware of a larger presence of wildlife in urbanized areas during and immediately after an event.

Category 2: Fuel management

Proper fuel management is significant in reducing the likelihood of a wildfire starting. It is recommended that Greenville County support community fuel reduction efforts by:

- a. Providing roll-off containers / fuel reduction trailers to collect and dispose of natural debris
- b. Organizing fuel reduction workdays / chipping and disposal days
- c. Providing economic incentives for creation of defensible spaces

Category 3: Fireproof Structures

The County should encourage the use and installation of fireproof structures to help decrease fire risk and damage, since those structures help to slow and prevent the spread of fire. Detailed information for fireproofing of structures can be found through the Firewise program and CWPP (Community Wildfire Protection Plan).

- a. Greenville County should provide information and incentives for building structures using fireproof materials and techniques.

NOTE: The WMT suggested incentives for residential sprinkler systems. There was discussion by the DMC during the scoring process regarding this measure and it was decided to broaden the scope of the measure to include support for use of additional fireproof materials and techniques.

CWPP: <https://www.forestsandrangelands.gov/documents/resources/communities/cwpphandbook.pdf>

Firewise: <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA>

Category 4: Fireproof the landscape

The County will fireproof the landscape by creating fire breaks and fuel breaks to slow and stop the spread of fires. These fire breaks and fuel breaks may include methods like thinning vegetation and incorporating Firewise landscapes. Detailed information for fireproofing the landscape can be found through the Firewise program and CWPP (Community Wildfire Protection Plan).

- a. Create Fire Breaks and Fuel Breaks
 - i. Naturaland Trust
 - ii. Paris Mountain State Park
 - iii. Individual landowners

CWPP: <https://www.forestsandrangelands.gov/documents/resources/communities/cwpphandbook.pdf>

Firewise: <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA>

Category 5: Improve fire response

To improve fire response, the County will enhance communications within the planning area. Enhanced communication can speed up the response time to fires which is a critical component to reducing and preventing fire risk. Greenville County's fire response encompasses the emergency communications in place to respond to fires.

- a. Utilize the Nextdoor app or similar social platforms
- b. Identify a fireplug (Community leader) for each community or HOA
- c. Enhance emergency responder communications
- d. Engage communication tower operators

Category 6: Training

It is important for community members to be educated and trained on fire risks and procedures to follow when a fire starts in the area. Firewise and Fire Adapted communities not only prepare plans for fire prevention and damage reduction, but also increase awareness and understanding of wildfire mitigation.

- a. Develop Firewise and / or Fire Adapted communities

Category 7: Research and risk assessment

Research and risk assessments should be performed periodically to ensure that fire response plans are developed from accurate and up-to-date information. The planning area’s existing infrastructure should be evaluated to determine possible improvements.

- a. *Incorporate “Wildfire Overlay Districts” into County land planning activities* (See [Land use planning can reduce wildfire risk to homes and communities - Headwaters Economics](#))

- b. Prepare an assessment of ingress / egress issues with prioritized action plan
 - i. Consider reversible lanes, alternative routes, emergency access roads
 - ii. Identify “Safe Zones” within the planning area
 - iii. Identify evacuation routes out of and emergency routes into the planning area

- c. Prepare Wildlife Assessment
 - i. Contact DNR to develop an assessment on wildlife activity in the planning area and any appropriate action steps.

Mitigation Initiative Scoring and Prioritization

For the sake of consistency between plans and because of the effectiveness of previous prioritization efforts, the DMC opted to use the same system as used in the 2020 HMP.

It was noted, however, that for future scoring both the criteria and process should be revisited and modified as appropriate. Submitting an initial scoring to the DMC by the consultant appeared to speed up the process without significantly influencing the results.

The scoring criteria is contained in Table 10-1 and the final prioritization is contained in Table 10-2

Table 10-1: Initiative Scoring Criteria

Priority Criterion	Numeric Score
Strategy Effectiveness	
No effect on Risk or Hazard	0
Affects several structures within the County	1
Affects many structures within the County	2
Affects most structures within the County	3
Percentage of Population Benefited	
Less than 10% benefited	0
10% to 50% benefited	1
51% to 75% benefited	2
Greater than 75% benefited	3

Time to Implement	
Cannot be implemented	0
Longer than one year	1
Within one year	2
Immediate	3
Time to Impact	
Cannot be implemented	0
Longer than one year	1
Within one year	2
Immediate	3
Cost to County	
Completely Unaffordable	0
Expensive, but manageable	1
Cost is easily managed	2
Little to no cost	3
Cost to Others	
Completely Unaffordable	0
Expensive, but manageable	1
Cost is easily managed	2
Little to no cost	3
Funding Source	
No known funding source available	0
Requires outside funding	1
Requires budget consideration	2
Within existing county budget	3

Community Support	
Opposed by the entire community	0
Acceptable only to those affected by the project	1
Some community opposition	2
Acceptable community wide	3
Project Feasibility	
Not possible	0
Accomplished with extensive design and planning	1
Accomplished with some design and planning	2
Easily accomplished	3

Table 10-2: Prioritized Initiatives

Proposed Mitigation Activities	Strategy Effectiveness	Population Benefited	Time to Implement	Time to Impact	Cost to County	Cost to Others	Funding Source	Community Support	Project Feasibility	Total Score	Overall Rank
Category 1: Community Outreach and Education											
a Post cards	1	1	3	1	3	3	3	3	3	21	2
b HOA meetings	1	1	3	1	3	3	3	3	3	21	2
c Realtor info	2	2	3	1	3	3	3	3	3	23	1
d Builder info	2	2	3	1	3	3	3	3	3	23	1
e Door blitz	1	1	3	1	3	3	3	3	3	21	2
f Touch a Truck	1	1	2	1	3	3	3	3	3	20	4
g Paris Mtn. State Park Education	2	2	2	1	3	2	3	3	3	21	2
h Venue info centers	1	1	2	1	3	3	3	3	3	20	4
Category 2: Fuel Management											
a Roll-off containers	1	0.5	2	3	2	3	3	3	3	20.5	3
b Fuel reduction workdays (Chip & Disposal)	1	0.5	2	3	2	3	2	3	3	19.5	5
c Defensible space incentives	1	0.5	1	2	2	3	3	3	2	17.5	7
Category 3: Fireproof Structures											
Information / Incentives regarding Fireproof Construction Techniques	1	0.5	2	2	3	1.5	3	3	2	18.0	6
Residential sprinkler incentives										0	
Category 4: Fireproof the Landscape											
a Create fire breaks and fuel breaks	1	3	1	3	0.5	0.5	1	2	1	13	10
Category 5: Improve Fire Response											
a Nextdoor app	1	3	1	3	0.5	0.5	1	2	1	13	10
b Fireplug	1	3	1	3	0.5	0.5	1	2	1	13	10
c Emergency Response Communications	2	1	1	3	1	1	1	3	1	14	9
d Engage Communication Tower Operators	1	3	3	1	3	3	1	1	1.5	17.5	7
Category 6: Training											
a Firewise / Fire Adapted communities	1	0.5	1	1	3	3	2	3	1.5	16	8
Category 7: Research and Risk Assessment											
a Wildfire Overlay Districts	1	1	1	1	2	2	3	1	2	14	9
b Ingress / Egress Assessment	1	1	1	1	2	3	2	3	2	16	8
c Prepare Wildlife Assessment	1	1	1	1	2	3	2	3	2	16	8

Incorporation into 2020 Multi-Jurisdictional Hazard Mitigation Plan

Development of the Paris Mountain Wildfire Mitigation Plan was identified as a mitigation measure in the 2020 HMP. The development of this Plan followed the same process as that of the 2020 HMP (e.g., public input, stakeholder involvement, hazard and risk assessment, etc.). After review by County staff, the draft plan was

submitted to the Wildfire Mitigation Team for additional review. A copy of the Plan was submitted to the South Carolina Emergency Management Division as a courtesy.

The Paris Mountain Wildfire Mitigation Plan is now an annex to the Greenville County Multi-Jurisdiction Hazard Mitigation Plan and will be reviewed and updated using the same protocols as the HMP

11. ACTION PLAN

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
Community Outreach & Education (Category 1)	Provide Information to Realtors Regarding Wildfire Risk and Mitigation (Activity C)	<ol style="list-style-type: none"> Determine method of information distribution to realtors (brochures, pamphlets, presentations, online resources). Develop a list of realtors who serve the planning area. Distribute the information to the realtors. 	Greenville County EMD	HMGP	23	1
Community Outreach & Education (Category 1)	Provide Information to Local Builders Regarding Fire Resistant Buildings (Activity D)	<ol style="list-style-type: none"> Determine method of information distribution to local builders (brochures, pamphlets, presentations, online resources). Develop a list of local builders to target. Distribute the information to the local builders. 	Greenville County EMD / Codes Enforcement	HMGP	23	1
Community Outreach & Education (Category 1)	Send Postcards/Mailers to Residents and Businesses in the Planning Area (Activity A)	<ol style="list-style-type: none"> Design postcards/mailers with wildfire safety information. Develop a mailing list of residences and business. 	Greenville County EMD	HMGP	21	2
Community Outreach & Education (Category 1)	Present at HOA Meetings (Activity B)	<ol style="list-style-type: none"> Identify HOAs willing to have the County present at their meetings. Design the presentation. Schedule the meetings. 	Greenville County EMD	Budget	21	2
Community Outreach & Education (Category 1)	Support Fire Department "Blitz" to distribute wildfire and smoke alarm information (Activity E)	<ol style="list-style-type: none"> Determine staff and resources to help distribute information from the Fire Departments. Contact each Fire Department to coordinate schedule of events. 	Greenville County EMD/ Participating Fire Departments	Budget	21	2

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
Community Outreach & Education (Category 1)	Coordinate with Paris Mountain State Park on Education Events (Activity G)	<ol style="list-style-type: none"> 1. Identify coordinating partner at Paris Mountain State Park. 2. Determine appropriate topics 3. Develop educational materials & resources that can be incorporated into their education events. 	Greenville County EMD, Paris Mountain State Park	Budget	21	2
Fuel Management (Category 2)	Provide Roll-off Containers / Fuel Reduction Trailers (Activity A)	<ol style="list-style-type: none"> 1. Identify areas that require fuel reduction containers and the number of containers required to service them. 2. Notify residents of schedule for when containers will be dropped off and picked up. 3. Distribute the containers as scheduled. 	Greenville County Solid Waste	Budget	20.5	3
Community Outreach & Education (Category 1)	Organize a “Touch a Truck” Event (Activity F)	<ol style="list-style-type: none"> 1. Determine the location(s) and schedule of the event. 2. Communicate with the fire department(s) to have a truck and staff available for the event. 3. Distribute advertisements for the event on social media, through mailers, etc. 4. Hold the event. 	Greenville County EMD / Fire Department(s)	Budget	20	4

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
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Community Outreach & Education (Category 1)	Provide Information to Realtors Regarding Wildfire Risk and Mitigation (Activity C)	<ol style="list-style-type: none"> 1. Determine method of information distribution to realtors (brochures, pamphlets, presentations, online resources). 2. Develop a list of realtors who serve the planning area. 3. Distribute the information to the realtors. 	Greenville County EMD	HMGP	23	1
Community Outreach & Education (Category 1)	Provide Information to Local Builders Regarding Fire Resistant Buildings (Activity D)	<ol style="list-style-type: none"> 1. Determine method of information distribution to local builders (brochures, pamphlets, presentations, online resources). 2. Develop a list of local builders to target. 3. Distribute the information to the local builders. 	Greenville County EMD / Codes Enforcement	HMGP	23	1
Community Outreach & Education (Category 1)	Send Postcards/Mailers to Residents and Businesses in the Planning Area (Activity A)	<ol style="list-style-type: none"> 1. Design postcards/mailers with wildfire safety information. 2. Develop a mailing list of residences and business. 	Greenville County EMD	HMGP	21	2
Community Outreach & Education (Category 1)	Present at HOA Meetings (Activity B)	<ol style="list-style-type: none"> 1. Identify HOAs willing to have the County present at their meetings. 2. Design the presentation. 3. Schedule the meetings. 	Greenville County EMD	Budget	21	2
Community Outreach & Education (Category 1)	Support Fire Department "Blitz" to distribute wildfire and smoke alarm information (Activity E)	<ol style="list-style-type: none"> 1. Determine staff and resources to help distribute information from the Fire Departments. 2. Contact each Fire Department to coordinate schedule of events. 	Greenville County EMD/ Participating Fire Departments	Budget	21	2

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
Community Outreach & Education (Category 1)	Identify Potential Venues to Provide Information (Activity H)	<ol style="list-style-type: none"> 1. Contact potential participating public organization and venues. 2. Distribute information for display. 3. Periodically refresh brochures and pamphlets. 	Greenville County EMD	HMGP	20	4
Fuel Management (Category 2)	Organize Fuel Reduction Workdays (Activity B)	<ol style="list-style-type: none"> 1. Identify staff or contractors to perform work. 2. Determine the frequency and schedule of fuel reduction workdays. 3. Notify community of work status. 	Greenville County EMD / Public Works / SCFC	Budget	19.5	5
Fireproof Structures (Category 3)	Provide Information / Incentives Regarding Fireproof Construction Techniques. (Activity A)	<ol style="list-style-type: none"> 1. Develop information packets. 2. Determine appropriate incentives, if any. 3. Make information readily available through website, brochure racks, presentations to Home Builders Assoc. 	Greenville County EMD / Codes Enforcement	Budget	18	6
Fuel Management (Category 2)	Provide Incentives for Creating Defensible Spaces (Activity C)	<ol style="list-style-type: none"> 1. Research the cost and techniques for creating defensible space. 2. Determine appropriate incentives to be given for creating defensible space. 3. Make information readily available through website, brochure racks, presentations to HOAs. 	Greenville County EMD / Fire Departments / SCFC	Budget	17.5	7

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
Improve Fire Response <i>(Category 5)</i>	Engage Communication Tower Operators in Planning Process <i>(Activity D)</i>	None identified	Greenville County EMD	Budget	17.5	7
Training <i>(Category 6)</i>	Develop Firewise and/or Fire Adapted Communities <i>(Activity A)</i>	None identified	SCFC	SCFC	16	8
Research and Risk Assessment <i>(Category 7)</i>	Prepare an assessment of ingress/egress issues with prioritized action plan <i>(Activity B)</i>	<ol style="list-style-type: none"> 1. Evaluate the use of reversible lanes, alternative routes, and emergency access roads. 2. Identify safe zones within the planning area. 3. Identify evacuation routes out and emergency routes in. 	Greenville County	Budget	16	8
Research and Risk Assessment <i>(Category 7)</i>	Prepare Wildlife Assessment <i>(Activity C)</i>	<ol style="list-style-type: none"> 1. Identify consultant Or DNR to assist with assessment. 2. Conduct assessment. 3. Provide results to appropriate agencies and homeowner groups. 	Greenville County EMD / SCDNR	Budget	16	8
Improve Fire Response <i>(Category 5)</i>	Enhance Emergency Response Communications <i>(Activity C)</i>	None identified	Greenville County Fire Department(s)	Budget	14	9
Research and Risk Assessment <i>(Category 7)</i>	Incorporate Wildfire Overlay Districts into County Land Planning Activities <i>(Activity A)</i>	<ol style="list-style-type: none"> 1. Determine the characteristics of the overlay district. 2. Present findings to the planning commission. 	Greenville County Planning	Budget	14	9

Mitigation Category	Activity	Relevant Sub-tasks	Responsible Party	Funding Source	Priority Score	Priority Ranking
Fireproof the Landscape <i>(Category 4)</i>	Create Fire Breaks and Fuel Breaks <i>(Activity A)</i>	<ol style="list-style-type: none"> 1. Identify areas to create fire breaks and fuel breaks in, based on the risk of fire and the feasibility of installation. 2. Obtain permission from landowners to perform work. 3. Determine staff or contractor to perform work. 	Greenville County EMD / Fire Departments / SCFC	Budget	13	10
Improve Fire Response <i>(Category 5)</i>	Nextdoor App <i>(Activity A)</i>	None identified	Greenville County EMD	Budget	13	10
Improve Fire Response <i>(Category 5)</i>	Develop a “fire plug” <i>(Activity B)</i>	None identified	Greenville County EMD	Budget	13	10

Appendix A

Agendas, Meeting minutes, Sign-in sheets, & Presentations from
WMT/DMC/Public Meetings

Appendix B

SouthWrap Analysis courtesy of SCFC