COMMUNITY WILDFIRE PROTECTION PLAN

McCarthy — Kennicott

VALDEZ - COPPER RIVER
DIVISION OF FORESTRY & FIRE PROTECTION

ALASKA DIVISION OF FORESTRY & FIRE PROTECTION

A Cooperative Agreement Grant provided funding through BLM, Glennallen Field Office to SOA, Valdez-Copper River Area Forestry & Fire Protection. We appreciate the opportunity this grant gave our office to create, develop and execute writing ten (10) Community Wildfire Protection Plans for the Copper River Basin. Partnerships like this help agencies plan, collaborate, and take action to make our communities safer and better prepared in the event of large-scale wildland fire.

The Valdez-Copper River Area Community Wildfire Protection Plans have been created and written by Emily Hjortstorp, CWPP Project Coordinator, and Jenny Moser, Wildland Fire Prevention Lead, along with help and input from the local community and 3rd party resources. Guidelines suggested in “Preparing a Community Wildfire Protection Plan – A Handbook for Wildland-Urban Interface Communities” that is posted on the State of Alaska Website were followed during the development of this plan. An interactive website and a local Valdez-Copper River Area Forestry logo were also created through this grant funded project.

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Executive Summary

Wildland fire is a natural event in the boreal forest, which extends throughout much of Alaska, including the Copper River Basin. Being a fire-prone ecosystem, the effects of fire are needed to regenerate old forests, introduce nutrients to the soil, and create a mosaic pattern on the landscape of new-growth vegetation, which provides diversity and valuable animal habitat. While fires in the wildlands of Alaska can be beneficial, they are extremely destructive to our communities, infrastructure, areas of cultural significance and resource values. These areas must be protected from the threat of wildland fire. Thunderstorms and associated lightning strikes are a frequent cause for wildland fire concern during the summer. An even greater threat of wildland fire is posed by human-caused fires, often started in or around our communities, which cause more damage with less acres burned than lightning caused wildland fire in a remote area.

Proper planning and preparation can reduce the destructive effects of wildland fire. This Community Wildfire Protection Plan (CWPP) analyzes the risk of wildland fire to the Kennicott / McCarthy community planning area and mitigation efforts to reduce future wildland fire hazards.

The community risk/hazardous fuels assessment confirms that the fuel accumulation and threat of danger from wildland fire to Kennicott / McCarthy is high. This rating is due to vegetative fuel types and configuration in and outside the community. This rating is due to vegetative fuel types and configuration in and outside the community. Hazards that reside in the Kennicott / McCarthy planning area consist of expanses of dry grass during pre-season green up, long response times for emergency resources with limited radio communications and a lack of subsurface water to fill fire engines year-round. Many homes do not have adequate defensible space and are surrounded by hazardous debris including inoperable vehicles, dilapidated trailers, and buildings.

Additionally, in the 1990s, the Kenai Peninsula and Copper River Basin experienced a spruce beetle (Dendroctonus rufipennis) outbreak that affected nearly 2.3 million acres by its peak in 1996, killing most large diameter spruce trees in many parts of these regions (Werner et al. 2006). The Copper River Basin saw large scale infestation from Alaska spruce beetle for many years during this outbreak, resulting in heavy fuel loading of standing and fallen beetle-killed spruce. The result of over a decade of this epidemic is heavy fuel loading of standing and fallen beetle killed spruce. Spruce beetle is a natural forest disturbance much like wildland fire, which can cause an increase in fuel loading and resistance to suppression efforts. These conditions set the stage for a catastrophic wildland fire event if efforts are not taken to reduce the risk.

Based on community input from the 2021/2022 survey results, top hazards Kennicott / McCarthy residents identified include lack of clear road signage, access is frequently cut off due natural events, there is one road in and out, inadequate communications and long response times for emergency responders, unsafe burning practices for both locals and tourists, homes need to be firewised, and equipment and training needs for the Volunteer Fire Department, as well as no subsurface water source, only surface water sources are available to fill equipment.

The community risk and wildland fire hazard ratings are used to create an action plan to reduce the risk of catastrophic wildland fire. The plan evaluates various risk elements, encompassing vegetation types prone to fueling fires, such as black and white spruce, mixed hardwood forests and grass and shrub lands. These fuels pose high flammability and can contribute to fires of intense magnitude. Additionally, within the community, there are added hazards like tall dry grass during pre-green up, debris, abandoned inoperable vehicles near residences, and challenges to emergency responders increasing the risk and hazards of wildland fire potential and emergency response. Beyond the community periphery, corresponding vegetative fuels extend wildland fire risk.

Though natural barriers like the Kennicott River, Nizina River and elevated terrain with sparse vegetation offer some defense, notable vulnerabilities persist, to include high concentration and continuous fuels. Additionally, the local Volunteer Fire Department (VFD) encounters obstacles due to limited resources, training, and equipment. The Alaska Division of Forestry & Fire Protection (DOF) has prolonged response times of 210+ minutes by road and 60+ minutes by helicopter.

Background

The Kennicott / McCarthy Community Wildfire Protection Plan (CWPP) is a collaborative effort created in response to the 2003 Healthy Forest Restoration Act (HFRA) which directs communities at risk for wildland fire to develop a risk assessment and mitigation plan. The Community Wildfire Protection Plan (CWPP) process assists communities in developing an appropriate and desired wildland fire protection plan to guide future mitigation efforts. Completion of this CWPP involved the following steps:

- Identify stakeholders, land management agencies, and interested parties.
- Establish a community planning area.
- Develop a community risk assessment.
- Ongoing opportunities for community input through surveys, public meetings, and the creation of a dedicated website.
- Address priorities through stakeholder meetings and public input.
- Development of an action plan and task-matrix.
- Finalization of the plan with a total of three public community meetings throughout the process.

Kennicott / McCarthy's first Community Wildfire Protection Plan was accepted in 2011. A cost share program was created and implemented the following year to assist homeowners with the cost that they encountered to create defensible space around their homes (Firewise). This was a highly successful program that resulted in many homeowners clearing trees and creating adequate defensible space around their residents. The homes that were treated need to be maintained. Additionally, some identified problems remain ongoing, such as removal of debris, trash, and inoperable vehicles surrounding homesites to allow fuel reduction efforts to further take place, road labeling, and maintenance. Creating a cost share program that can be implemented in the following years to assist homeowners with costs that they encounter to create defensible space around their homes is a goal outlined in the Action Plan. The natural conditions surrounding Kennicott / McCarthy remain equally concerning including large expanses of black spruce forest around the community, beetle killed trees, and fuel loading of dead and down trees which all pose a threat to the wildland-urban interface.

Collaboration

The Alaska Division of Forestry & Fire Protection (DOF)/Valdez-Copper River Area office partnered with members to help with the identification, assessment, and prioritization of areas with greatest risk and vulnerability in the event of a wildland fire.

- **Bureau of Land Management (BLM)**
- **Bureau of Indian Affairs (BIA)**
- **Fjørdland Fire Solutions LLC**
- **Kennicott / McCarthy Volunteer Fire Department**
- **Local landowners, business owners and community**
- **McCarthy Area Council**
- **Valdez-Copper River Area Division of Forestry & Fire Protection (DNR)**
- **Wrangell - St. Elias National Park and Preserve (NPS)**

COMMUNITY PROCESS

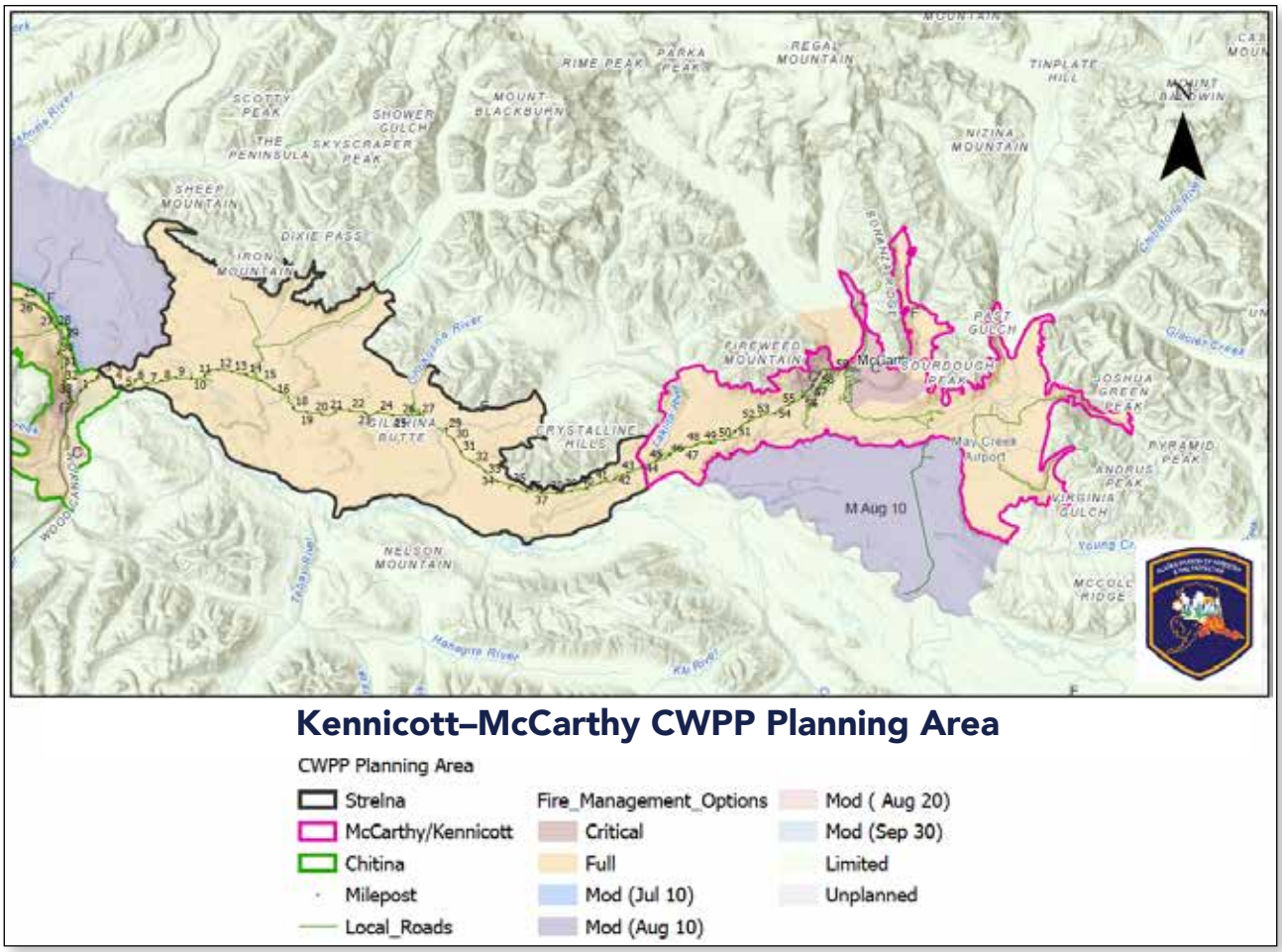
Community input was solicited through various channels in Kennicott / McCarthy, including formal and informal meetings, attendance at public events, online and mail-delivered surveys, social media platforms, and a collaborative website showcasing the latest information. All ideas were gathered and analyzed to determine the priority needs and actions incorporated in this plan.

CWPP PLANNING AREA

A Wildland Urban Interface (WUI) Boundary is the line where human development meets and intermingles with undeveloped wildland and vegetative fuels. The Kennicott / McCarthy (WUI) Boundary is designated to incorporate the surrounding Critical and Full-Fire-Management option, which includes all residents and infrastructure of the area as well as the surrounding lands that would cause a threat in the event of a wildland fire. A fire management option is a classification assigned by the jurisdictional agency that provides fire protection and determines the initial response to a wildland fire. The goal is to mitigate the potential of catastrophic wildland fire within this boundary by recognizing the hazards, prioritizing, and developing an action plan with clear goals and objectives.

Critical-Fire-Management option is defined by the State of Alaska and Alaska Fire Service as “The highest priority for suppression actions. Lands in wildland urban interface and other densely populated areas where there is an immediate threat to human life, primary residences, inhabited property, community-dependent infrastructure, and structural resources designated as National Historic Landmarks should be considered for the Critical Management Option. This classification is applicable to an entire village or town as well as a single inhabited structure. “

Full-Fire-Management option is defined by the State of Alaska and Alaska Fire Service as “High priority but below Critical. Provides for protection of moderately populated areas, cultural and paleontological sites, developed recreational facilities, physical developments, administrative sites and cabins, structures, high-value natural resources, and other high-value areas.”



The Kennicott / McCarthy Community Wildfire Protection Planning Area covers from mile 44 to the end of the McCarthy Road at mile 59 and continues 12 miles to the north to include the Wrangell - St. Elias National Park and Preserve historic mining site of Kennicott and associated surrounding land. The boundary follows the eastern edge of Root Glacier including parts of Bonanza, Jumbo and Amazon Creek. The planning area wraps around Bonanza Ridge following the McCarthy Creek drainage which includes the McCarthy Creek Road Trail and continues up to Lubbe Creek and the foothills of the Wrangell Mountains. Continuing south, the edge of this planning area goes around Sourdough Peak following the Nizina River, encompassing both banks to the fork of the Nizina and Chitistone River, the western border follows as far south as Young Creek where it turns east along the Nizina River to the confluence of the Chitina River. This planning area includes the communities of both McCarthy and Kennicott as well as the University, May Creek and Nizina subdivisions.

In 2011 McCarthy and Kennicott adopted their first Community Wildfire Protection Plan and subsequently became an Alaska Firewise Community by educating and adopting Firewise Practices and holding annual Firewise workdays within the community.

Community Profile

McCarthy and Kennicott are remote communities located within the Wrangell - St Elias National Park and Preserve.

Kennicott is a historic mining community situated, in the Wrangell - St. Elias National Park and Preserve. This town was once flourishing, full of workers who came to the area in search of wealth. Copper was discovered here in 1900. The Copper River and Northwest railway provided transportation for mining supplies, food, and people.

The Kennicott Copper Corporation mine was in full operation for 27 years and made the company more than $100 million. Because there were many restrictions, living in the company owned town, the community of McCarthy, just four miles away, was established. McCarthy quickly grew into a major town with a school, hospital, saloon, and brothel. By 1938, the copper deposits were mostly gone, and the mine was shut down; McCarthy fell into disrepair. Almost all the people moved away, the railway services were discontinued and by the 1970's the population was near zero, leaving Kennicott and McCarthy ghost towns.

In the 1980's the Carter Administration created the Wrangell - St. Elias National Park and Preserve which is 13+ million acres. Although technically accessible by road, McCarthy and Kennicott are remote communities with very limited access by a seasonally maintained road. Today, according to the 2020 census, there are roughly 107 people that live year-round in the McCarthy-Kennicott area. Due to the remote location of these communities' modern amenities such as running water and grid power are not available for local homes.

The road system is made up of narrow gravel roads. There are two privately owned bridges that can be accessed for a fee: one that crosses the Kennecott River into McCarthy, and one across McCarthy Creek to access the University Subdivision. There is a gravel runway located between Kennecott and McCarthy, and several small private air strips throughout the area. Landline phone services are provided in town by Copper Valley Telecom. There is cell phone service through Verizon as well as Copper Valley Telecom. Electricity is provided primarily by the way of personal generators.

Tourism is the main source of income. Natural features include massive glaciers, mountains, and rivers that attract the international outdoor community. This wilderness claims the largest area of any protected land in the Western Hemisphere. The Wrangell - St. Elias National Park and Preserve is the largest National Park in North America.

The area is rich in natural resources and wildlife, including dall sheep, moose, bear, mountain goats and many predators that support traditional trapping. Salmon, grayling, dolly varden and trout thrive in the lakes, rivers, and streams. Berries, mushrooms, and other natural fauna play a vital role in the subsistence lifestyle most year-round residents depend on.

In 1986 the Kennecott Mine was declared a National Historic Landmark District that is administered by the National Park Service. It consists of several old, large mining buildings, some which have been rehabilitated for current use. Other buildings are left to crumble away with time.

LOCATION

The Community of McCarthy is in the Copper River Basin in South Central Alaska. The general geographic location is approximately 61.256° north latitude, -142.55° west longitude, township 5 south, range 44 east, section 16, Copper River Principal Meridian.

The Community of Kennicott is in the Copper River Basin in South Central Alaska. The general geographic location is approximately 64.835° North latitude, -147.744° west longitude, township 4 south, range 14 east, section 28, Copper River Principal Meridian.

POPULATION

According to the 2020 census data the population of Kennicott / McCarthy is 107 people. During the summer months there is a large influx to the communities population due to tourists and seasonal inhabited structures.

CRITICAL FACILITIES (INFRASTRUCTURE)

There are a total number of 138 homes in the Kennicott / McCarthy communities, 57 are occupied and 81 vacant, recreational cabins or dilapidated homes.

Other community buildings in Kennicott / McCarthy include a VFD building and an EMS building, two lodges, a hotel, several flight services, wilderness guide services, rental cabins, bed and breakfast establishments, campgrounds, various eateries, as well as a commercial construction company. There is a museum, a ball field with structures, the National Park Service buildings, the Tony Zack community building, and wilderness guiding service buildings. The state-owned public use McCarthy Airport is located northeast of the business district of McCarthy where year-round mail services are provided.

Seasonally inhabited structures and businesses include B&B's, hotels, campgrounds, eateries, flight seeing services, as well as National Park Service buildings.

Kennicott / McCarthy has a limited infrastructure. All roads are dirt or gravel and minimally maintained by DOT up to the foot bridge at the Kennicott River. There is no power plant, transfer station or dump in this area.

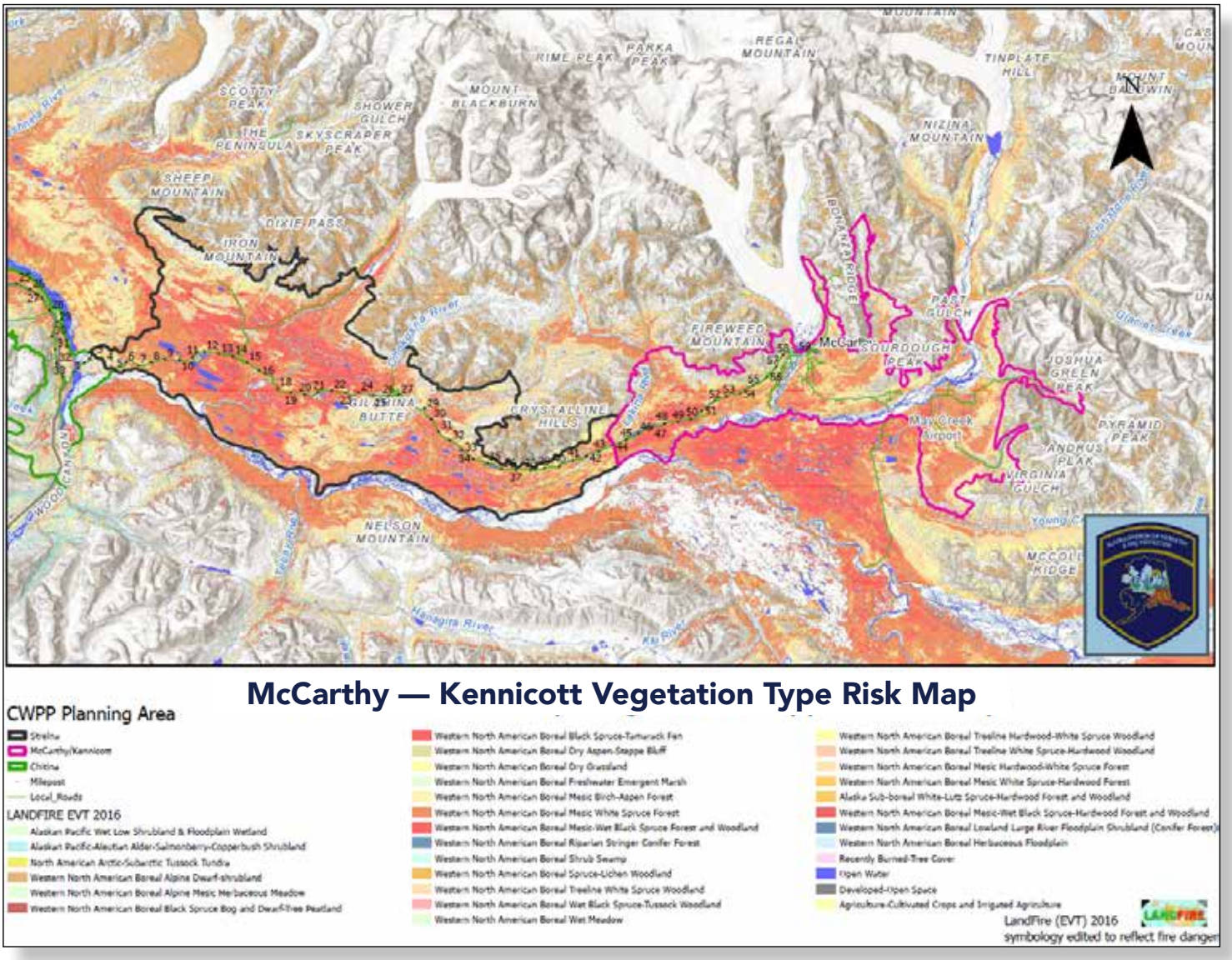
SEASONAL FACTORS

During the summer, the population of Kennicott / McCarthy soars with an influx of summer residents as well as tourists to explore the great outdoors, learn about the Kennicott Copper Mine and enjoy the solitude of the Wrangell - St. Ellias National Park. This increase of Tourists, locals and returning residents to this area poses an increased risk of wildland fire within the WUI. Summer thunderstorms bring frequent lightning from mid-June to mid-August bringing the potential of lightning caused wildland fires.

WILDLAND FIRE HISTORY

Large fire history in the surrounding area:

- **2016** lightning caused Steamboat Creek Fire burned over 18,316 acres southwest of the Kennicott / McCarthy planning area within the Chakina Fire burn scar.
- **2011** Gilahina Fire burned over 1,065 acres northwest of the Kennicott / McCarthy planning area.
- **2009** lightning caused Chakina Fire burned over 56,414 acres southwest of the Kennicott / McCarthy planning area.
- **1948** Lackina River Fire burned over 14,069 acres west of the Kennicott / McCarthy planning area.
- **1915** Sourdough Hill Fire burned over 384,000 acres burning from Chitina to the Kennicott River and from the Chitina River to the Wrangell Mountains north.
- **1915** Kennicott Fire burned 64,000 acres burning from Kennicott to the Nazina River
- **From 1940 to the present,** numerous human caused fires can be found in the Alaska Fire History Location database within Kennicott / McCarthy CWPP Planning area. These, wildland urban interface (WUI), fires were smaller in size; however, if they were not contained while small, they could have led to a catastrophic outcome.



RISK/HAZARD ANALYSIS, AVAILABLE FUELS

The Copper River Basin is classified as Fire Regime Group IV, which means a Stand-Replacement-Severity fire is expected every 35-100+ years.

The image above shows vegetative fuels with the color corresponding to their flammability or fire danger in prime fire weather conditions. Fuels shown in shades of red constitute coniferous needle-bearing trees, primarily black or white spruce, which are highly flammable in high fire danger conditions. Orange tone vegetative fuels consist of a more mosaic mix of spruce and hardwoods or more open canopy structure. While still highly flammable, these vegetative fuel types constitute less of a threat than a continuous closed canopy forest. Yellow tone vegetative

fuels display hardwood, willow, and alder type shrubs and grassland areas, while the green and blue tones show the subalpine brush component found near and above the tree line at higher elevations. In the right conditions, these areas can still burn and show resistance to control; however, they are less of a threat than the spruce component of the boreal forest in the Kennicott / McCarthy planning area.

Other areas of concern include spring pre-green up conditions, where tall and matted dry grass is abundant around homes and businesses.

COMMUNITY RISK ASSESSMENT

Rating Elements

1. **RISK/HAZARD ANALYSIS** of available fuels **inside** community (inside community to 1 mile)
2. **RISK/HAZARD ANALYSIS** of available fuels **outside** community (1–10 miles)
3. **BARRIERS,** natural and man-made
4. **FIRE PROTECTION RESOURCE AVAILABILITY**
5. **COMMUNITY FIREWISE RATING**
6. **OVERALL COMMUNITY RATING**

1. INSIDE COMMUNITY:

The rating area includes lands within one mile of the community in all directions. The rating is based on history/likelihood of fire in the community and the availability of hazard fuels.

Rating: High

Based on potential ignition sources and surrounding fuel types, the risk of fire spreading from within the community is high. Fires that start within the community are primarily human-caused and could be extinguished by community members if they have the necessary equipment and training. The times of highest concern are spring when pre-green up conditions exist, and tall, thick, and often matted grass is prevalent around many structures. Additionally, debris, trash, and inoperable vehicles are prevalent within the community boundary, creating a hazard. Many residents and businesses use burn barrels to dispose of organic waste. This area sees a large influx of recreational users in the spring, summer, and fall (tourists traveling to the Wrangell – St. Elias National Park and Preserve, Kennicott Copper Mine, rafters, and hunters). Camping in non-designated spots is very common, and these users pose a very high risk of leaving campfires unattended or not fully extinguishing their fire. Wildland fuels within one mile of Kennicott / McCarthy in all cardinal directions consist primarily of spruce and spruce-mixed hardwood forest with pockets of beetle-killed trees.

2. OUTSIDE COMMUNITY:

The rating area is from 1–10 miles outside the community and is based on the history/likelihood of fire in the area and the availability of hazard fuels.

Rating: High

The potential for large fires to impact Kennicott / McCarthy is high. The prevalence and high concentrations of spruce (black spruce, white spruce, spruce/hardwood mix), insect (beetle-kill), and disease in mixed boreal forest and grass (seasonal cured tall standing or matted), are very receptive to wildland fire in high fire danger conditions. In addition to the influx of recreational users in the spring, summer, and fall, thunderstorms and associated lightning strikes are a frequent cause for wildland fire concern during the summer. Additionally, vehicles utilizing non designated camping sites or traveling on off road trails could ignite fires in dry grass or vegetative fuels.

3. BARRIERS:

This includes water, natural and human made features.

Rating: Moderate

The community has natural and constructed barriers that provide protection from fuels less than 1 mile away in at least two cardinal directions. The Chitina River and Nazina River provide protection from a large-scale wildland fire to the south, while the Kennicott River provides protection from the west. Other natural water features, such as lakes and creeks, are consistent throughout the area and can slow wildfire spread under certain conditions. Gravel roads and other human-made openings are present throughout the planning area including a shaded fuel break in the University Subdivision. Traveling north from McCarthy, the McCarthy airport is located one mile northeast of the McCarthy townsite and about 3.5 miles southwest of Kennicott. These barriers could help slow fire growth or provide a place of engagement for firefighting resources. Although Kennicott / McCarthy has significant waterways spanning the eastern and southern sides of its CWPP boundary due to the prevalence of spruce between the waterways and the community of Kennicott / McCarthy, one or both waterways could be jumped by wildland fire in high to extreme fire conditions. Kennicott / McCarthy is determined to be in the risk/hazard analysis category of Moderate.

4. FIRE PROTECTION RESOURCE AVAILABILITY:

Includes local and agency resources.

Rating: High

A rating of high for resource availability criteria states that adequate initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away. The Division of Forestry & Fire Protection (DOF) has statutory authority to protect forested lands from wildland fire on state, private, and borough lands and has a contractual agreement with the BLM Fire Service to provide protection of federal jurisdiction and Native lands. Valdez-Copper River Area (DOF) initial response times are 210+ minutes by road and approximately 60+ minutes by helicopter. Other air resources are 1.5+ hours out, and extended attack resources could be as long as 12 hours away. The Kennicott / McCarthy Volunteer Fire Department (VFD) response area is from mile 52 of McCarthy Road to the end of the McCarthy Road at Kennicott Copper Mine. Strelna Volunteer Fire Department has a mutual aid agreement to assist the Kennicott / McCarthy VFD in the event of a fire; however, they have longer response times. Equipment, training, and radio communications are needs of the Kennicott / McCarthy VFD. Due to the terrain, radio communication is non-existent in many parts of the Kennicott / McCarthy planning area.

5. COMMUNITY FIREWISE RATING:

Includes landscaping, construction, water supply and access.

Rating: High

LANDSCAPING: Less than 35% of homesites and community buildings have a clearing of flammable vegetation at least 30 feet around the home for firefighting equipment; coniferous brush and dead/overhanging branches are removed; trees are pruned 6-10 feet above the ground; lawn is mowed and watered regularly, and ladder fuels are removed from the yard; remaining trees are spaced at least 30 feet apart at crowns; garden equipment (hoses and hand tools) are kept on the property.

CONSTRUCTION: Less than 35% of homes are made of fire-resistant or non-combustible construction materials. Roofing materials range from metal to wood shake roofs. Many structures do not have skirting around the bottom or other general Firewise and Home Hardening recommendations, such as covering vents and openings with wire mesh, cleaning organic debris off roofs and other surfaces that trap leaves and needles to prevent ember entrapment and ignition.

WATER SUPPLY: Less than 35% of homesites and community buildings have a reliable water source. Many homeowners, renters, and businesses rely on hauling water from Tazlina, on average, about 10 miles to and from the paid water well back to their home, community building or business.

ACCESS: The main access route, McCarthy Road, is a dirt road that is at least two lanes wide in most areas but is not clearly marked with mile markers or addresses. Ample turnaround space for vehicles/fire equipment exists in less than 35% of homes and community buildings. Many remote properties are only accessible by seasonably limited tails or restrict access roads. Due to persistent landslides within the Copper Basin, all roads that exist along bluffs and rivers are susceptible to erosion. If there is no ongoing construction or road closures, there exists more than one safety zone with only one escape route.

Escape Routes:

1. McCarthy Road — east to west

Safety Zones:

1. McCarthy Airstrip — accessed by the east side of the McCarthy Road located one mile northeast of the McCarthy townsite and about 3.5 miles southwest of Kennicott
2. Mile 55 Kiosk Area — accessed at mile 55, south side of McCarthy Road
3. West Side Campground — located on the west side of the Kennicott River foot bridge at the end of the McCarthy Road
4. Kennicott Glacier Lake Shore — accessed by west side McCarthy parking area to the north

Safety Zones, continued:

5. Kennicott Glacier Toe — accessed by the east side of the McCarthy bridge across the road from the McCarthy airstrip
6. Nizina River Gravel Bar — accessed at the southeast end of the Nazina Road
7. Kennicott River Gravel Bar — accessed by the west side of the Kennicott River continuing south
8. Meatza Wagon Gazebos — accessed by Old Wagon Trail in Kennicott

6. OVERALL COMMUNITY RATING:

OVERALL RATING CHART SUMMARY

1. **RISK/HAZARD ANALYSIS** of available fuels inside community to 1 mi	HIGH
2. **RISK/HAZARD ANALYSIS** (available fuels outside community 1–10 mi)	HIGH
3. **BARRIERS**	MODERATE
4. **FIRE PROTECTION RESOURCE AVAILABILITY**	HIGH
5. **COMMUNITY FIREWISE RATING**	HIGH

The overall assessment, based off the findings, shows the threat of danger from wildland fire for the communities of Kennicott / McCarthy is high.

Wildland fire risk to the Kennicott / McCarthy community using Wildfirerisk.org is high. McCarthy is higher than 84% of communities in the United States. Data for Kennicott is not available. Risk is determined by the Risk to Homes national percentile rank of the selected community, county, tribal area, or state. Low is less than 40th percentile; medium is 40th –70th percentile; high is 70th–90th percentile; Very High is equal to or greater than 90th percentile. More information regarding this rating can be found at www.wildfirerisk.org.

Action Plan

The Kennicott / McCarthy Community Wildfire Protection Plan (CWPP) aims to address the wildland fire risks in the Kennicott / McCarthy area, located in the Copper River Basin in Southcentral Alaska. This region is prone to wildland fires due to its boreal forest ecosystem, which requires fire to regenerate and maintain ecological balance. However, wildland fires pose significant threats to the community, its infrastructure, and areas of cultural significance. Frequent lightning strikes and human activities are the major causes of wildland fires in the area.

The plan assesses various risk factors including the types of vegetation that can fuel fires, such as black and white spruce, mixed hardwood forests, grass and shrublands. These fuels are highly flammable and can lead to high-intensity fires. Within the community, there are additional hazards like tall, dry grass, debris, and inoperable vehicles near homes, and inadequate road signage. Outside the community, similar vegetative fuels extend the risk zone up to 10 miles away.

Natural barriers such as water ways and high elevation terrain provide some protection, but there are significant gaps. The local volunteer fire department (VFD) faces challenges due to limited resources, wildland fire training and equipment needs. Incoming emergency resources experience long response times and limited radio communication

By addressing these concerns and implementing appropriate measures, the plan aims to reduce the wildland fire risk to Kennicott / McCarthy, making it safer for residents and preserving its natural and cultural resources.

PRIORITIZED ASSESSMENT FINDINGS

1. Dry grasses especially around structures during pre-green up
2. Community roads do not have clear road signs
3. Homes and businesses need to be Firewised
4. Long response times for first responders / firefighters
5. Driveways inaccessible to emergency vehicles
6. Right of way road widening
7. VFD training and equipment needs
8. Unsafe burning practices
9. Public wildland fire education
10. Lack of adequate communications
11. Create an evacuation plan
12. Evacuation and safety zone signage
13. Lack of free subsurface water source
14. Long Lake shaded fuel break
15. Secondary Road (Mile 50.5) shaded fuel break
16. Identity other fuel reduction projects and re-treatment of existing fuels projects
17. Remote wildland urban interface helispots and cash sites
18. Standing dead timber mitigation
19. Support local fuel crews
20. Protection of Native heritage site
21. Biomass viability

TASKS AND MATRIX OF MITIGATION MEASURES

The following table is a Task Matrix and identifies solutions for each prioritized assessment finding listed in the previous section, to ensure proper risk mitigation, and potential entities that may address these tasks.

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Dry grasses especially around structures during pre-green up (Implementation)	1. Educate home and business owners on dangers of pre-green up dry grass and removal actions. 2. Implement mitigation program through grant funding.	Business Owners Homeowners State of Alaska Division of Forestry & Fire Protection
Community roads do not have clear road signs (Implementation)	1. Update maps with standardized pace names. 2. Clear brush around existing road signs. 3. Work with DOT to install new road signs.	State of Alaska Department of Transportation McCarthy Area Council McCarthy Volunteer Fire Department Wrangell - St. Elias National Park and Preserve
Homes and businesses need to be Firewised (Implementation)	1. Educate homeowners on Firewise and home hardening principles. 2. VFD participation on home/structure assessments and creation of defensible space. 3. Apply for a Firewise grant program that will establish a cost share program for homeowners. 4. Identify/designate an area or equipment for the community members to dispose of woody mass byproduct. 5. Apply for grant program and funding for a community cleanup project for removal of hazardous materials such as but not limited to inoperable vehicles, tires, and other hazards. 6. Complete a hazardous materials cleanup project on homes/structures within the planning area. 7. Adopt State of Alaska Stewardship Program model for Firewise home assessments. 8. Reinstate Firewise Community status through appropriate measures.	Bureau of Indian Affairs Homeowners McCarthy Area Council Kennicott / McCarthy Volunteer Fire Department State of Alaska Department of Environmental Conservation State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Long response times for first responders/firefighters (Implementation)	1. Support VFD training needs. 2. Advertise for the recruitment of new VFD members.	Kennicott / McCarthy Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Driveways inaccessible to emergency vehicles/address ingress and egress concerns (Implementation)	1. Initiate contact with AK DOT and Native entities to have an assessment done and recommendations to widen main roads. 2. Apply for grants to assist homeowners in widening existing roads and driveways to support large firefighting apparatus to include brush clearing and/or widening roads.	McCarthy Area Council State of Alaska Department of Transportation State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Right of way road widening (Implementation)	1. Cut back spruce to right of way limits where it is primary though black spruce.	Bureau of Indian Affairs McCarthy Area Council State of Alaska Department of Transportation State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
VFD training and equipment needs (Implementation)	1. Continue wildland fire response program with training, equipment, and coordination with the State of Alaska Copper River DOF office. 2. Strengthen local prevention programs in coordination with the State of Alaska Copper River DOF office. 3. Work with Matcom to utilize phone notifications in absence of adequate radio communications. 4. Advertise for the recruitment of new VFD members. 5 Seeking funding for new fire apparatus.	Kennicott / McCarthy Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection
Unsafe burning practices (Implementation)	1. Provide VFD with radio training. 2. Implement wildland fire and debris burning safety programs into the community. 3. Hold community fire safety events and education opportunities. 4. Post signage and information around community, campgrounds, and recreation use sites.	Kennicott / McCarthy Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection
Public wildland fire education (Implementation)	1. Promote teaching general wildland fire knowledge to the community with emphasis on safe burning practices and creating defensible space through Firewise and Home Hardening programs. 2. Continue wildland fire education outreach in schools.	Bureau of Indian Affairs Kennicott / McCarthy Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Lack of adequate communications (Implementation)	1. Work with DOF to set up a permanent or seasonal repeater in Kennicott / McCarthy. 2. Coordinate use with multiple agencies including EMS and VFD. 3. Update VFD radios	State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Create an evacuation plan (Planning)	1. Have agencies work with each other to create a community emergency plan. 2. Include a centralized community contact list. 3. Include maps with road signage and house identifiers (in conjunction with community Firewise mapping). 4. Adopt Alaska Ready, Set, Go standards. 5. Work with the State of Alaska Emergency Coordination Center and Copper Valley Telephone to set up an emergency alert system.	Bureau of Indian Affairs Copper Valley Telephone Local Emergency Planning Committee McCarthy Area Council Pennsylvania State University State of Alaska Division of Homeland Security and Emergency Management State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Evacuation and safety zone signage (Planning)	1. Determine areas that signs should be installed. 2. Seek funding to implement community evacuation signs. 3. Work with community members install signs. 4. Identify primary and secondary escape routes and safety zones for remote access locations.	Bureau of Indian Affairs McCarthy Area Council State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Lack of free subsurface water source (Implementation)	1. Identify area for community well to be drilled. 2. Apply for a grant to fund the project.	Copper River Development Association Kennicott / McCarthy Volunteer Department McCarthy Area Council
Long Lake shaded fuel break (Implementation)	1. Determine viability to construct a small-scale shaded fuel break around structure clusters where topography and fuels are present. 2. Extend fuel break to south of Long Lake tying into hardwoods and connecting back into the McCarthy Road.	Bureau of Indian Affairs McCarthy Area Council State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Secondary Road (Mile 50.5) shaded fuel break (Implementation)	1. Cut back spruce in right of way limits. 2. Identify closest safety zone. 3. Identify escape route.	Bureau of Indian Affairs State of Alaska Department of Transportation State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Identity other fuel reduction projects and re-treatment of existing fuels projects (Planning)	1. Determine areas where spring pregreen up grasses pose a threat. 2. Determine areas of beetle-kill and other dead-standing timber. 3. Utilize wildfire exposer mapping to identify other infrastructure to be protected, plan fuel reduction / fuels removal project to protect them. 4. Address work through mitigation plans. 5. Identify natural barriers that can be opened to crate shaded fuel break and/or fuel break. 6. Identify existing fuel projects that need retreated. 7. Impalement appropriate measures to complete re-treatment. 8. Determine viable locations for remote helispots and wildland fire cache locations.	Bureau of Indian Affairs Bureau of Land Management State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Remote wildland urban interface helispots and cache sites (Planning) (Implementation)	1. Identify and construct strategic helispots throughout Kennicott / McCarthy. 2. Helispots should correspond with a written structure protection plan and could include pre-established agency gear cashes. 3. Construct helispots at points that are dual purpose. i.e. fuel break / safety zone.	Bureau of Indian Affairs Kennicott / McCarthy Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Standing dead timber mitigation (Implementation)	1. Determine areas of beetle-killed and other dead-standing timber can be accessed. 2. Explore viability of opening or gaining access to these aeras for community / private firewood or other viable biomass opportunities. 3. Public outreach to make these areas known.	Bureau of Indian Affairs State of Alaska Department of Transportation State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Support local fuel crews (Implementation)	1. Coordinate with Fuels Crew, VFDs and DOF for training. 2. Work with Crews to prioritize community projects.	Bureau of Indian Affairs State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Protection of Native heritage sites (Implementation)	1. Native entities internally identify heritage sites to be protected. 2. Implement appropriate measures and desired fire suppression tactics for protecting these areas. 3. Insure they are denoted as “other land” contact land manager on Know Sites Database.	Bureau of Indian Affairs Bureau of Land Management State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Biomass viability (Implementation)	1. Continually reevaluate the viability of biomass solutions in Kennicott / McCarthy and outlying communities.	Bureau of Indian Affairs McCarthy Area Council State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve

Summary, Review, and Updating Process

The community of Kennicott / McCarthy has a high risk of wildland fire potential and impact. Due to the type of fuels both inside and outside of the community, fire protection resource availability, and the overall community Firewise rating to include safety zones and escape routes, are all given the score of high wildland fire potential. Combined with the moderate rating for natural and manmade barriers, Kennicott / McCarthy's overall assessment findings show a high threat of danger from wildland fire.

Wildfirerisk.org outlines McCarthy's wildland fire risk of 84% higher than other communities throughout the United States. (July 2024) There is no data available for Kennicott.

Through collaboration on this CWPP, community members and organizations, Native entities, Wrangell - St. Elias National Park and Preserve, and the Kennicott / McCarthy VFD will take first steps to mitigate the potential negative impacts from wildland fire. The community along with its entities are encouraged to continue fuels mitigation, education, and implementation that are consistent with the Alaska Firewise program.

This is a living document, where changes can be discussed and made at any time. Review and updates to this CWPP is recommended to take place every three (3) years, not to extend past five (5) years. The Community Risk Assessment and Action Plan needs to be reviewed and updated by subject matter experts, through solicited information via public meetings with community members and landowners.

The following table represents the timeline that the Kennicott / McCarthy's CWPP needs to be reviewed, updated and when it expires.

REVIEW: 3 YEARS	UPDATE: 5 YEARS	EXPIRE: 10 YEARS
December 1, 2028	December 1, 2030	December 1, 2035

Signature Page

This plan has been reviewed and approved by the following:

Signed by:
X Norm McDonald – State of Alaska Forestry & Fire Protection, Deputy Director (Fire) Date
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State of Alaska Forestry & Fire Protection, Deputy Director (Fire)

X JOSHUA SCOTT Digitally signed by JOSHUA SCOTT Date: 2026.01.09 13:11:26 -09'00' Date

Wrangell - St. Elias National Park and Preserve

X William M. Dunk Jr. Digitally signed by WILLIAM DUNK Date: 2026.01.14 13:40:29 -09'00' Date

Bureau of Land Management

X JOLENE JOHN Digitally signed by JOLENE JOHN Date: 2026.01.16 12:00:17 -09'00' Date

Bureau of Indian Affairs

X Date

Ahtna Inc.

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X Christopher Chester Date
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VFD Community Representative

Signed by:
X Jeremy Pataky · MAC President Date
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McCarthy Area Council Representative

Appendix A

The Community Wildfire Protection Plan (CWPP) is a collaborative effort created in response to the 2003 Healthy Forest Restoration Act (HFRA) which directs communities at risk for wildland fire to develop a risk assessment and mitigation plan (Community Wildfire Protection Plan Guidance, 2023). The HFRA includes the following guidance:

> The minimum requirements for a CWPP as described in the HFRA are: (1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties. (2) Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure. (3) Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan *(H.R.1904 - Healthy Forests Restoration Act of 2003, 2003).*

Additionally, the Alaska Interagency Fire Management Plan, of which the State of Alaska Division of Forestry & Fire Protection is a signatory, recognizes that each of the land-managing Federal and State agencies and ANCSA corporations in Alaska have their own missions, goals, and objectives related to their lands and that to effectively prioritize and manage Alaska wildland fires there is a need to consider the full spectrum of initial responses to wildland fire; from suppression actions designed to contain and control wildland fire growth, to periodic surveillance of wildland fires that are allowed to spread naturally across the landscape. To accomplish this, jurisdictional organizations and protecting agencies have collaboratively assigned one of four wildland fire management options (Critical, Full, Modified, and Limited) to nearly all lands in Alaska. Pre-identified Wildland Fire Management Options allow fire managers to:

- Quickly prioritize areas for protection actions and the allocation of available initial attack firefighting resources to achieve protection objectives.
- Optimize the ability to achieve land use and resource management objectives and integrate fire management, mission objectives, land use, and natural resource goals.
- Reinforce the premise that the cost of suppression efforts should be commensurate with the economic, social, and resource values identified for protection. (*Alaska Interagency Wildland Fire Management Plan*, 2024).

Wildland fire management in Alaska is a joint effort among federal, state, local, and tribal governments, native organizations, local fire departments, communities, and landowners. The land management agencies, also known as jurisdictional agencies, have the overall land and resource management responsibilities as provided by federal,

state, or local law. The “Alaska Master Cooperative Wildland Fire Management and Stafford Act Response Agreement” improves Alaskan fire management agencies’ efficiency in responding to wildland fire by facilitating the coordination and exchange of personnel, equipment, supplies, services, and funds while sustaining activities such as prevention, preparedness, communication and education, fuels treatment and hazard mitigation, fire planning, response strategies, tactics and alternatives, suppression, and post-fire rehabilitation and restoration.

Furthermore, future conditions for wildland fire hazards, including climate change; an intensified pattern of wildland fire is emerging in Alaska as rapidly increasing temperatures and longer growing seasons alter the state's environment. Both tundra and boreal forest regions are seeing larger and more frequent wildland fires. The impacts of these fires are felt across the state. In response to changing wildland fire patterns, Alaska's fire management agencies are adapting quickly. The use of remote sensing tools, such as data from satellites, and science-based decision making have been a critical component in responding to intensified wildland fire seasons (State of Alaska State Hazard Mitigation Plan, 2023).

The Statewide Operating Plan (SOP) is applicable to all signatory parties to the Alaska Master Agreement (AMA). Its purpose is to address statewide issues affecting cooperation, interagency working relationships and protocols, financial arrangements, sharing of resources, and joint activities/projects.

Jurisdictional agencies (as identified in the Alaska Master Agreement) are responsible for all planning documents (e.g., land use plans, resource management plans, fire management plans, and decision support documents) for a unit’s wildland fire and fuels management program.

Protecting agencies (as identified in the Alaska Master Agreement) are responsible for implementing the actions documented and directed by the appropriate planning and decision support documents for initial and extended attack on wildland fire incidents. They provide supervision and support including operational oversight, direction, and logistical support to incident management teams (IMTs) (*Alaska Master Cooperative Wildland Fire Management and Standford Act Response Agreement*, 2020).

The State of Alaska Forest Action Plan (FAP) seeks to prioritize areas where forests matter most to Alaska’s people—forest lands and wildland urban interface areas that have been identified through the robust Alaska Interagency Wildland Fire Management Plan as having resources requiring fire protection; private forest lands including Alaska Native corporation lands; and state forests and state land classified for forestry. This plan also highlights the following key goals relevant to fire management on State of Alaska lands:

1. Cultivate fire adapted communities
2. Manage fuels to reduce risk to communities & to benefit forest ecosystems (*2020 Forest Action Plan*, 2020)

Similarly, the National Cohesive Wildland Fire Management Strategy Addendum Update (Addendum Update) identifies new drivers impacting the wildland fire management system. As Federal agencies, states, tribes, and the private sector all ramp up work together to meet the challenge of the wildland fire crisis, stakeholders are challenged to reach beyond individual, organizational, and historical silos to collectively define and understand their risk; set landscape-level and community-wide priorities; share and co-manage risk across boundaries and jurisdictions; accept some short-term risk for long-term benefit; and collectively invest in outcome-based approaches and activities, rather than outputs. The Addendum Update elevates critical issues like climate change and environmental justice and defines key challenges that are not limited to one agency or organization, provides new guidance for stakeholders addressing today's wildland fire challenges and aims to "safely and effectively extinguish fire, when needed; use fire where allowable; manage natural resources; and collectively, learn to live with wildland fire." The updated National Cohesive Strategy goals include:

1. Resilient Landscapes – Landscapes, regardless of jurisdictional boundaries are resilient to fire, insect, disease, invasive species and climate change disturbances, in accordance with management objectives.
2. Fire Adapted Communities – Human populations and infrastructure are as prepared as possible to receive, respond to, and recover from wildland fire.
3. Safe, Effective, Risk-based Wildland fire Response – All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildland fire management decisions (Wildland Fire Leadership Council, 2023).

Ultimately, the Community Wildfire Protection Plan (CWPP) process aligns with the goals outlined by the National Cohesive Strategy and the State of Alaska Forest Action Plan, and offers prescriptive recommendations based on feedback gathered at the community level, while referencing Fire Management Response Guidance from the AIWFMP, Stafford Act and SHMP. This collaborative planning process assists communities in developing an appropriate and desired wildland fire protection plan to guide future mitigation efforts. Completion of this CWPP involved the following steps:

1) Identify stakeholders, land management agencies, and interested parties.
2) Establish a community planning area.
3) Develop a community risk assessment.
4) Ongoing opportunities for community input through surveys, public meetings, and the creation of a dedicated website.
5) Address priorities through stakeholder meetings and public input.
6) Development of an action plan and task-matrix.
7) Finalization of the plan with a total of three public community meetings throughout the process.

Appendix B

Assessment of Hazard, Barriers, and Defensible Space Rating Criteria (Community Risk Assessment)

Rating Elements

1) Risk/Hazard Analysis of available fuels inside community (inside community to 1 mile)
2) Risk/Hazard Analysis of available fuels outside community (1-10miles)
3) Barriers
4) Fire Protection Resource Availability
5) Community Firewise Rating
6) Overall Community Rating
7) Wildfire Risk to Communities (wildfirerisk.org) Rating Summary

Risk/Hazard Analysis, Available Fuels

The Copper River Basin is classified as Fire Regine Group IV, which means a stand replacement severity fire is possible every 35-100+ years.

1. **Inside Community**: The rating area includes lands within one mile of the community in all directions. The rating is based on history/likelihood of fire in the community and the availability of hazard fuels.

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 1

FUELS (predicted fire behavior based on historic summertime weather with hot, dry conditions)	Alaska Fire Return Interval: High 0-99 years	Where Found:
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high intensity: high spotting potential: high*	HIGH	
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate intensity: moderate spotting potential: high*	HIGH	
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high intensity: moderate: spotting potential: low*	HIGH	
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread:* moderate intensity: moderate spotting potential: moderate	MODERATE	
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low intensity: low spotting potential: low*	MODERATE	
Deciduous Brush (includes willow & alder) *rate of spread: low intensity: low spotting potential: low*	LOW	
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch) *rate of spread: moderate intensity: High spotting potential: High*	MODERATE	

Narrative description fuels within one mile of community.

2. **Outside Community**: The rating area is from 1-10 miles outside the community and is based on the history/likelihood of fire in the area and the availability of hazard fuels.

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 2

FUELS (predicted fire behavior based on historic summertime weather with hot, dry conditions)	Alaska Fire Return Interval: High 0-99 years	Where Found:
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high intensity: high spotting potential: high*	HIGH	
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate intensity: moderate spotting potential: high*	HIGH	
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high intensity: moderate: spotting potential: low*	HIGH	
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread:* moderate intensity: moderate spotting potential: moderate	MODERATE	
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low intensity: low spotting potential: low*	MODERATE	
Deciduous Brush (includes willow & alder) *rate of spread: low intensity: low spotting potential: low*	LOW	
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch) *rate of spread: moderate intensity: High spotting potential: High*	MODERATE	

Narrative description fuels 1-10 miles from community.

3. **Barriers**

Standards for rating natural and constructed (human-made) barriers:

Low Fire Danger: The community has a natural or constructed barriers that provide thorough protection from fuels less than 1 mile away in at least 3 cardinal directions. An example of this would be a small community sandwiched between a major river and a runway, or a community on an island

Moderate Fire Danger: The community has natural or constructed barriers that provide thorough protection from fuels less than 1 mile away in at least two cardinal directions. Communities may have multiple barriers affecting a rating. Examples are airstrips separating a community from significant outside fuels, communities set amidst less flammable vegetation types, or communities situated on major rivers.

High Fire Danger: Any barriers that exist which provide protection from fuels less than 1 mile away in fewer than two cardinal directions. Examples of insignificant barriers are small streams or sloughs with narrow riparian zones situated in highly flammable fuel types.

BARRIER RATING CHART

Barrier Type	Rating for Community (Low, Moderate or High Fire Danger)	Where Found:
Water Features		
Other Natural Features		
Constructed (Human-made) Features		
Overall Community Barrier Rating		

Narrative description of natural barriers.

Narrative description of constructed (human-made) barriers.

4. Fire Protection Resource Availability

FIRE PROTECTION RESOURCES RESPONSE CHART

Response Time	Risk	Kind of Response (List resources available for initial attack)
Adequate initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away.	High	
Adequate initial attack resources are 30- 75 minutes away and adequate extended attack can be in place in 8-12 hours.	Moderate	
Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than 8 hours.	Low	
Overall Fire Response Rating		

Narrative description of fire protection resources.

5. Community Firewise Rating

Alaska Firewise Standards for Creating Defensible Space

Landscaping: There is a clearing of flammable vegetation at least 30 feet around the home for firefighting equipment: coniferous brush and dead/overhanging branches are removed; trees are pruned 6-10 feet above the ground; lawn is mowed and watered regularly, and ladder fuels are removed from the yard; remaining trees are spaced at least 30' apart at crowns; garden equipment (hoses and hand tools) are kept on the property.

Construction Guidelines: Home is made of fire-resistant or non-combustible construction materials (especially important for roofing); vents are covered with wire mesh no larger than 1/8 inch; at least two ground-level doors exist; at least two means of escape exist in each room.

Water Supply Guidelines: Home has a reliable water source, 3 to 4 sprinklers and enough hose to circle the home.

Access Guidelines: Access roads are at least 2 lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment. Clear of Flammables/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away (at least 30 feet) from the house; all debris or refuse is picked up regularly.

COMMUNITY FIREWISE FOR DEFENSIBLE SPACE RATING CHART
(Overall community assessment, not individual structures)

Alaska Firewise Standards	Low Excellent Over 65% of homesites and community buildings meet standard	Moderate Between 35- 65% of homesites and community buildings meet standard	High Less than 35% of homesites and community buildings meet standard
Landscaping			
Construction			
Water Supply			
Clear of Flammables/ Refuse/ Debris (flammables stored properly & area cleared)			
Overall Rating			

Narrative description of fire protection resources.

6. Overall Community Rating

OVERALL RATING CHART

Category	Rating
Risk/Hazard Analysis of available fuels inside community (inside community to 1 mile)	
Risk/Hazard Analysis of available fuels outside community (1-10miles)	
Barriers	
Fire Protection Resource Availability	
Community Firewise Rating	

Narrative on other contributing factors to risk and mitigation of wildland fire in this community.

7. **Wildfire Risk to Communities (wildfirerisk.org) Rating Summary**

Appendix C

Fjørdland Fire Solutions

C.1 — RISK ASSESSMENT AND ACTION PLAN

CONTENTS

COMMUNITY CONCERNS

- Remoteness of different communities
- Single access egress
- Improper burning practices
- VFD equipment and capabilities
- Communication issues
- Black spruce concentrations

MCCARTHY/KENNICOTT 3 FJØRDLAND FIRE SOLUTIONS

1

Establish Exposure Model Map/Update Existing Fire Department Sitemap

Associated Tasks

1. Update existing sitemap with a focus on standardization of place names
    a. Focus on places with more than one commonly used name and make the one standardized name known
2. Create mapping system of Mccarthy/Kennicott Community to determine which structures are most at risk of wildfire exposure
    a. Metrics should include fuels, topography and terrain-driven wind influences
    b. Use exposure model mapping system to establish community defensible space priorities
3. Coordinate public outreach to inform homes/neighborhoods of their risk determinations, as well as standardized names

Additional Notes

Exposure Model Mapping to be made public so-as to encourage a sense of individual homeowner responsibility for the Firewising of their own homes. Focus on road signage and site signage for standardization of place names. Consider adding signage to Safety Zones

2

Shaded Fuel Breaks Around Structures to South of Long Lake

Associated Tasks

1. Examine the viability/construct small-scale shaded fuel breaks around these structure clusters where topography and fuels call for them and where land ownership borders allow for them
    a. Tie fuel breaks into hardwoods and Mccarthy Road where possible

3

Shaded Fuel Breaks Around Structures off of Secondary Road at Mile Marker 50.5

Associated Tasks

1. Examine the viability/construct small-scale shaded fuel breaks around these structure clusters where topography and fuels call for them and where land ownership borders allow for them
    a. Tie fuel breaks into hardwoods where viable

4

Community Firewise/Defensible Space

Associated Tasks

1. Educate public in the fundamental need for Escape Routes and Safety Zones for every household/business
2. Reinstitute WUI Grant Cost Share Incentive Program for private/homeowner fuels reduction around structures
3. Adopt and apply Alaska Firewise Standards to all at-risk structures
    a. Firewise should include ample escape routes and safety zones for every household, as well as alternate escape routes and safety zones. If escape routes/safety zones are not viable, construct them
    b. Firewise should include evacuation plan for all pets and livestock
    c. Widen overgrown escape routes and establish ample ingress, egress, structural road capacities, and turnarounds for Emergency Vehicles
4. Post clear signage throughout community
5. Create system of structure mapping (including Firewise ratings) for land manager/emergency responder use
6. Pursue available funding pathways to the offsetting of homeowner cost of defensible space equipment i.e. exterior sprinklers
7. Provide community Firewise outreach and education
8. Institute program to remove junk vehicles and other hazmat

Additional Notes

It should be emphasized to the community that fuels reduction focus should be primarily on Spruce species and tall grasses.
Firewise efforts should be combined with Forest Stewardship Program directives.
It should be emphasized to community members that spruce is best cut at a certain time of year in order to mitigate the spread of spruce beetles.

5 Road Widening of Fuels/Structure Defensible Space on Secondary Road off of Mile Marker 50.5

Associated Tasks

1. Look for opportunities to cut back spruce to ROW limits where it is primarily through black spruce and does not have a hardwood/deciduous component
2. Emphasize to this community the need for a viable safety zone, escape route, and ample defensible space

Additional Notes

The focus on this community is due to its single access/egress as well as the prevalence of continuous black spruce.

6 Road Widening of Fuels on Road Intersecting Farm Creek and South Side of Airstrip

Associated Tasks

1. Look for opportunities to cut back spruce to ROW limits where it is primarily through black spruce and does not have a hardwood/deciduous component

Additional Notes

This road widening of black spruce to ROW gives a break within this community to mitigate an Urban Conflagration scenario.

7

Evaluation/Implementation of Potential Helispots in Remote Wildland Urban Interface

Associated Tasks

1. Identify and construct strategic helispots where necessary throughout Mccarthy/Kennicott
    a. Prioritization for helispots should correspond to the difficulty of current access by agency resources
    b. This mitigates the road condition and distance of Mccarthy/Kennicott Rd with the goal of faster agency response times
2. Helispots should correspond with a written structure protection plan and could include pre-established agency gear caches to streamline operations during large-scale structure protection operations
3. Look to construct helispots at points that are deemed dual purpose, i.e. incorporated into a strategic fuel break

Additional Notes

These potential helispots are to mitigate the remoteness of Mccarthy/Kennicott.
A close working relationship with the Alaska Smokejumpers and the Alaska Smokejumper Paracargo Program would be beneficial to mitigate the access issues of Mccarthy/Kennicott Rd.

8

Improved EMS Communication Coverage

Associated Tasks

1. Determine the best location, then deploy an agency radio repeater for Emergency Services use to mitigate gaps in radio communication coverage
2. Work closely with Strelna Community and Chitina Community to determine the best locations of repeaters

9

Update Community Emergency Plan

Associated Tasks

1. Update Community Emergency Plan
    a. Include updated and centralized community contact list
    b. Include maps with road signage and house identifiers (in conjunction with community Firewise mapping)
2. Identify and mitigate all communication issues that could arise during an emergency situation

10

VFD Training & Funding

Associated Tasks

1. Apply for Federal/State Grants to bolster VFD with improved infrastructure, equipment and training
    a. Frequent training and standardization of Standard Operating Procedures between VFD, DOF and Park Service employees
    b. Increased Wildfire training and equipment

Additional notes

Emphasis on Wildfire Training for VFD including but not limited to FFT2. Emphasis should be placed on equipment that benefits both the VFD and DOF/Agency Firefighters i.e. Water Tenders.

11

Additional Water Sources

Associated Tasks

1. Identify strategic points to create additional water sources with fast fill capability
    a. If possible, implement a year-round water source

12

Protection of Native Heritage Sites and Allotments

Associated Tasks

1. Identify heritage sites/allotments to be protected and implement appropriate measures
    a. Create improved mapping of heritage sites and allotments so that agency firefighters can locate and protect.

13

Community Woody Mass Disposal Site

Associated Tasks

1. Identify/designate an area for the community/private landowner to dispose of woody mass byproduct of community Firewise and fuel reduction projects
    a. Ideal area would be easily accessible
    b. Allow community access to repurpose woody mass accumulation for firewood, biomass, etc.

14

Biomass Viability

Associated Tasks

1. Continually reevaluate the viability of biomass solutions in Mccarthy/Kennicott and outlying communities, including the viability of cooperating with other communities' programs
2. Explore the possibility of biomass utilization of byproducts of the mitigation of community firewise efforts

15

Standing Dead Timber Mitigation

Associated Tasks

1. Determine areas in which beetle-kill and other dead-standing timber can be accessed
2. Explore the viability of opening or gaining access to these areas for the purpose of community/private firewood or other viable biomass opportunities
3. Public outreach to make these areas known

16

Public Wildfire Education

Associated Tasks

1. Explore the viability of teaching general wildfire knowledge to the community with emphasis on basic wildfire behavior
2. Reinstitute/continue wildfire education outreach in schools
3. Special emphasis on safe homeowner burning practices

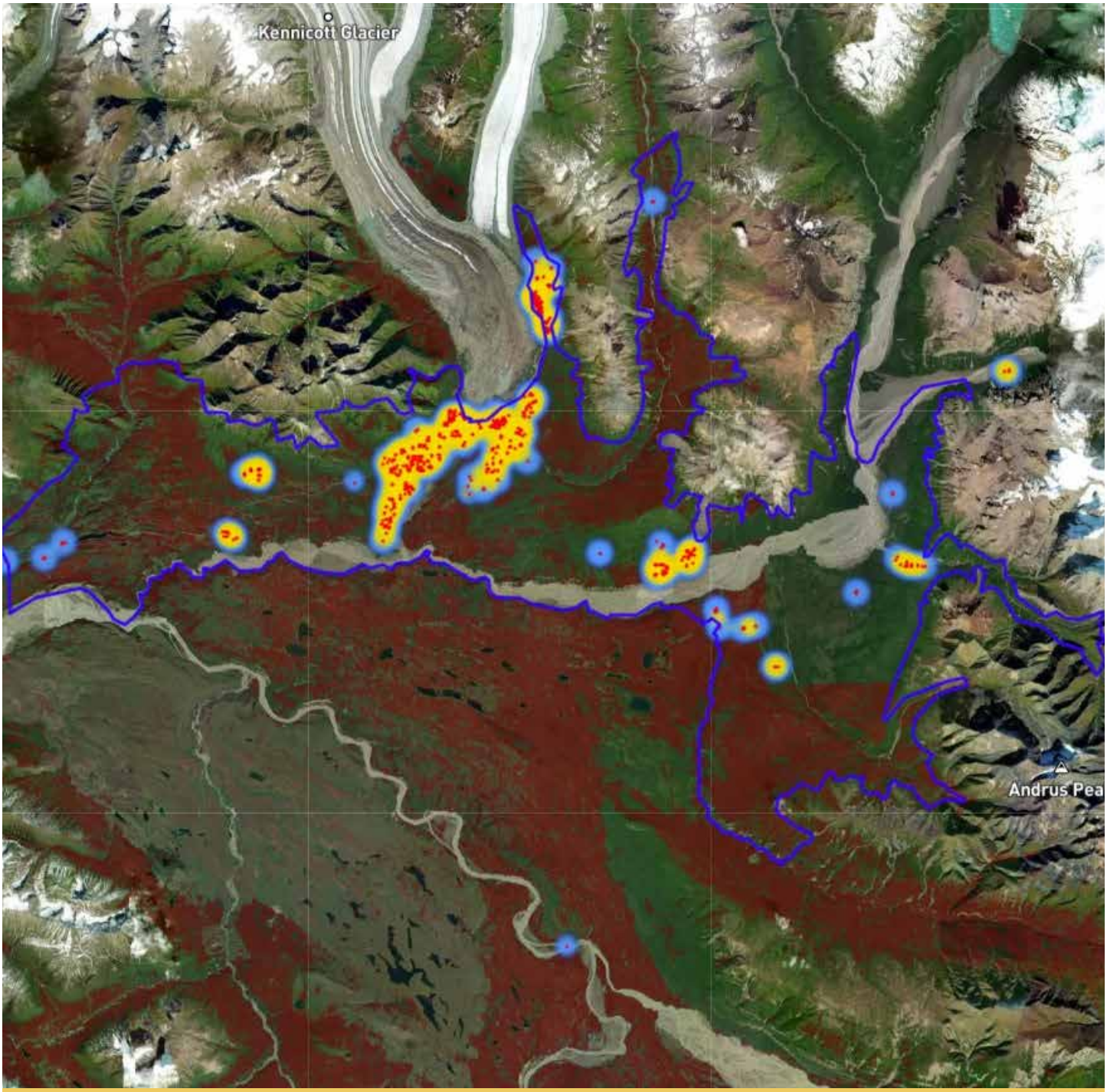
Additional Notes

Emphasis in education should be placed foremost on the need for Primary and Secondary Escape Routes and Safety Zones for every household.

C.2 — MAPS

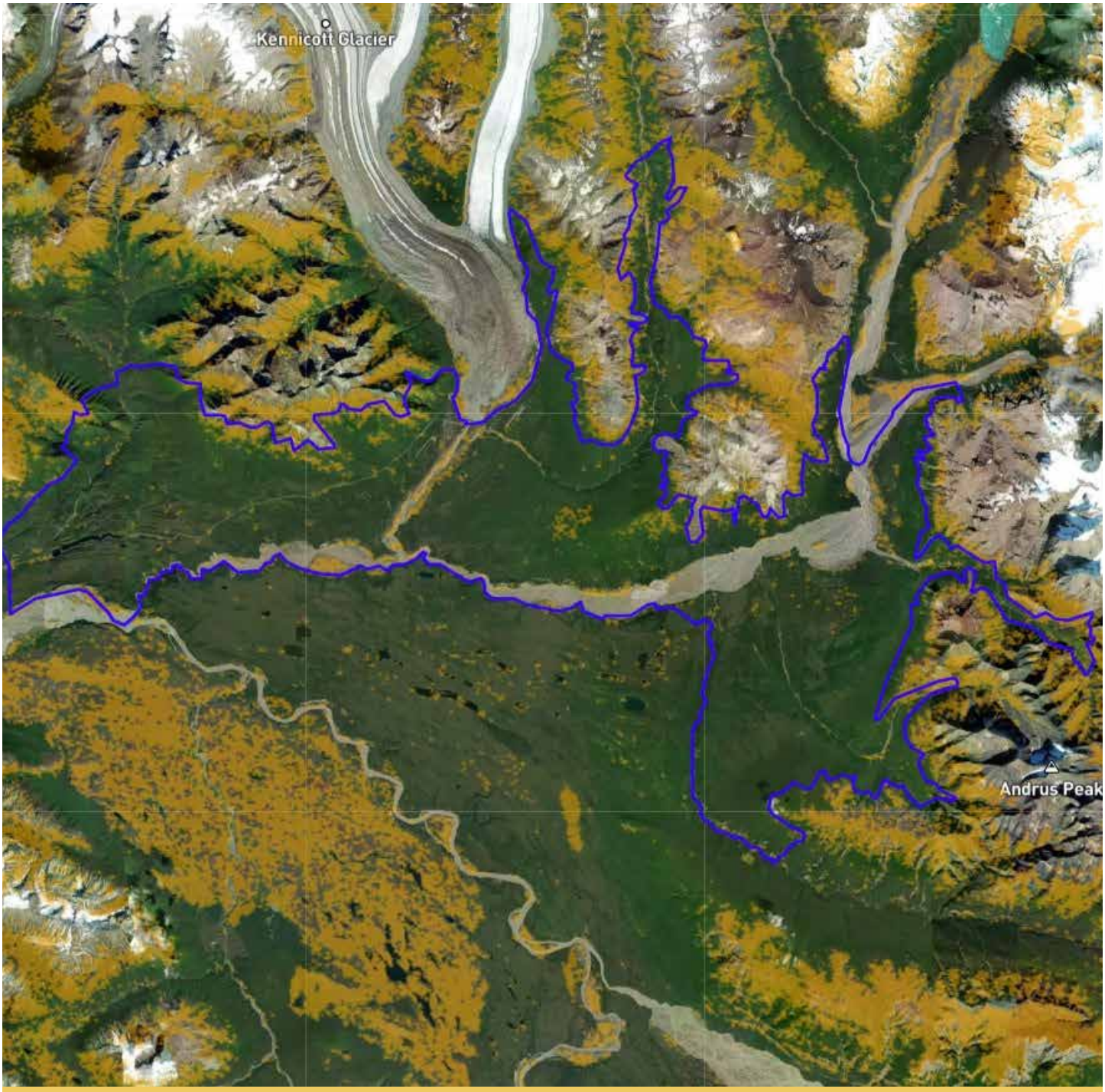
MAPS APPENDIX

MCCARTHY/KENNICOTT 12 FJØRDLAND FIRE SOLUTIONS



STRUCTURE DENSITY MAP WITH SPRUCE IN RED

MCCARTHY/KENNICOTT 13 FJØRDLAND FIRE SOLUTIONS



GRASSES IN GOLD

MCCARTHY/KENNICOTT 14 FJØRDLAND FIRE SOLUTIONS

Assessment of Fuels Risk/Hazard, Barriers, Fire Protection Resources, and Firewise

Community: **Mccarthy/Kennicott**

Rating Elements

1) Risk/Hazard Analysis of available fuels inside community (inside community to 1 mile)
2) Risk/Hazard Analysis of available fuels outside community (1-10 miles)
3) Barriers
4) Fire Protection Resource Availability
5) Community Firewise Rating
6) Overall Community Rating
7) Wildfire Risk to Communities (wildfirerisk.org) Rating Summary

Risk/HazardAnalysis, Available Fuels

The CopperRiver Basin is classified as Fire Regime Group IV, which means a stand replacement severity fire is possible every 35-100+ years.

1. **Inside Community**: The rating area includes lands within one mile of the community in all directions. The rating is based on history/likelihood of fire in the community and the availability of hazard fuels.

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 1

FUELS (predicted fire behavior based on historic summertime weather with hot, dry conditions)	Alaska Fire Return Interval: High 0-99 years	Where Found:
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high intensity: high spotting potential: high*	HIGH	Refer toMaps Appendixfor all relevantfuel types
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate intensity: moderate spotting potential: high*	HIGH	
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high intensity: moderate: spotting potential: low*	HIGH	
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread:* moderate intensity: moderate spotting potential: moderate	MODERATE	
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low intensity: low spotting potential: low*	MODERATE	

Deciduous Brush (includes willow & alder) *rate of spread: low intensity: low spotting potential: low*	LOW	
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch) *rate of spread: moderate intensity: High spotting potential: High*	MODERATE	

Notes on fuels within one mile of community:
Due to the prevalence and various concentrations of spruce (Black Spruce all types, White Spruce, Spruce/Hardwood mix), Insect and Disease in Mixed Boreal Forest (beetle-kill), and Grass (seasonal cured tall standing or matted), Mccarthy/Kennicott is determined to be in the Risk/Hazard Analysis category of: HIGH

2. **Outside Community**: The rating area is from 1-10 miles outside the community and is based on the history/likelihood of fire in the area and the availability of hazard fuels.

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 2

FUELS (predicted fire behavior based on historic summertime weather with hot, dry conditions)	Alaska Fire Return Interval: High 0-99 years	Where Found:
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high intensity: high spotting potential: high*	HIGH	Refer toMaps Appendixfor all relevantfuel types
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate intensity: moderate spotting potential: high*	HIGH	
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high intensity: moderate: spotting potential: low*	HIGH	
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread:* moderate intensity: moderate spotting potential: moderate	MODERATE	
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low intensity: low spotting potential: low*	MODERATE	
Deciduous Brush (includes willow & alder) *rate of spread: low intensity: low spotting potential: low*	LOW	
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch) *rate of spread: moderate intensity: High spotting potential: High*	MEDIUM	

Notes on fuels 1-10 miles from community:

Due to the prevalence of spruce (Black Spruce all types, White Spruce, Spruce/Hardwood mix), Insect and Disease in Mixed Boreal Forest (beetle-kill), and Grass (seasonal cured tall standing or matted), Mccarthy/Kennicott is determined to be in the Risk/Hazard Analysis category of: HIGH

3. Barriers

Standards for rating natural and constructed (human-made) barriers:

Low Fire Danger: The community has natural or constructed barriers that provide thorough protection from fuels less than 1 mile away in at least 3 cardinal directions. An example of this would be a small community sandwiched between a major river and a runway, or a community on an island

Moderate Fire Danger: The community has naturalorconstructed barriers that provide thorough protection from fuels less than 1 mileawayinat least two cardinal directions. Communities may have multiple barriers affectingarating. Examples are airstrips separating a community from significant outside fuels, communitiesset amidst less flammable vegetation types, or communities situated on major rivers.

High Fire Danger: Any barriers that exist whichprovideprotection from fuels less than 1 mile away in fewer than two cardinal directions. Examplesofinsignificant barriers are small streams or sloughs with narrow riparian zones situatedinhighlyflammable fuel types.

BARRIER RATINGCHART

Barrier Type	Rating forCommunity (Low, Moderate or High Fire Danger)	Where Found:
Water Features	Major River/River	South of CWPP Boundary/Splits Community
Other Natural Features	Glacial Moraine/High Elevation Unburnable	North of Mccarthy/West of Kennicott
Constructed (Human-made) Features	None	
Overall Community Barrier Rating	**MODERATE**	

Notes onnatural and constructed (human-made) barriers:

Due to significant barriers within proximity, Mccarthy/Kennicott is determined to be in the Risk/Hazard Analysis category of: MODERATE

4. **Fire Protection Resource Availability**

FIRE PROTECTION RESOURCES RESPONSE CHART

Response Time	Risk	Kind of Response
~~Adequate initial attack resources are more than~~ 75 minutes away and adequate extended attack resources are more than 12 hours away.	High	~~(Listresourcesavailablefor initial attack)~~
Adequate initial attack resources are 30- 75 minutes away and adequate extended attack can be in place in 8-12 hours.	Moderate	
Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than 8 hours.	Low	
Overall Fire Response Rating	**HIGH**	

Notes on fire protection resources:

Duetoresponse times for adequate initial attack resources and extended attack resources, Mccarthy/Kennicott is determined to be in the Risk/Hazard Analysis category of:HIGH

5. **Community Firewise Rating**

Alaska Firewise Standards for Creating Defensible Space

Landscaping: There is a clearing of flammable vegetation at least 30 feet around the home for firefighting equipment: coniferous brush and dead/overhanging branches are removed; trees are

pruned 6-10 feet above the ground; lawn is mowed and watered regularly, and ladder fuels are removed from the yard; remaining trees are spaced at least 30' apart at crowns; garden equipment (hoses and hand tools) are kept on the property.

Construction Guidelines: Home is made of fire-resistant or non-combustible construction materials (especially important for roofing); vents are covered with wire mesh no larger than 1/8 inch; at least two ground-level doors exist; at least two means of escape exist in each room.

Water Supply Guidelines: Home has a reliable water source, 3 to 4 sprinklers and enough hose to circle the home.

Access Guidelines: Access roads are at least 2 lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment. Clear of Flammables/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away (at least 30 feet) from the house; all debris or refuse is picked up regularly.

Suggested Mccarthy/Kennicott Community Escape Routes and Safety Zones:

(To be ultimately determined by Agency Personnel)

Safety Zones:

1) Mccarthy Airport

2) Camp Kennicott parking lot

3) glacial moraine

Escape Routes:

1) Mccarthy Road

COMMUNITY FIREWISE FOR DEFENSIBLE SPACE RATING CHART
(Overall community assessment, not individual structures)

Mccarthy/Kennicott FJØRDLAND FIRE SOLUTIONS

Alaska Firewise Standards	Low Excellent Over 65% of homesites and community buildings meet standard	Moderate Between 35- 65% of homesites and community buildings meet standard	High Less than 35% of homesites and community buildings meet standard
Landscaping			X
Construction			X
Water Supply			X
Access Guidelines/ Combustibles			X
Overall Rating			**HIGH**

Notes on defensible space within this community:
Due to inadequate defensible space around more than 65% of structures/allotments, non-fire-hardened construction methods of more than 65% of structures, inadequate water supply to more than 65% of structures/allotments, and inadequate access to more than 65% of structures/allotments (including inadequate access due to various

combustibles/HAZMAT),Mccarthy/Kennicott isdetermined to be in the Risk/Hazard Analysis categoryof:HIGH

6. Overall Community Rating

OVERALLRATINGCHART SUMMARY

Category	Rating
Risk/Hazard Analysis of available fuels inside community (inside community to 1 mile)	**HIGH**
Risk/Hazard Analysis of available fuels outside community (1-10 miles)	**HIGH**

Barriers	**MODERATE**
Fire Protection Resource Availability	**HIGH**
CommunityFirewise Rating	**HIGH**

Notes on other contributing factors to risk and mitigation of wildland fire in this community: Also of note in the Mccarthy/Kennicott Community is the predominance of continuous black spruce, as well as challenging access/egress.

7. Wildfire Risk to Communities (wildfirerisk.org) Rating Summary:

Mccarthy/Kennicott, through the Overall Rating Chart Summary, has received an overall rating of: HIGH

Per wildfirerisk.org, Mccarthy/Kennicott has also received a rating of VERY HIGH in the category of Vulnerable Populations due to the fact that people of this community may be disproportionately impacted by wildfire because of social or economic factors.

McCarthy — Kennicott

COMMUNITY WILDFIRE PROTECTION PLAN