

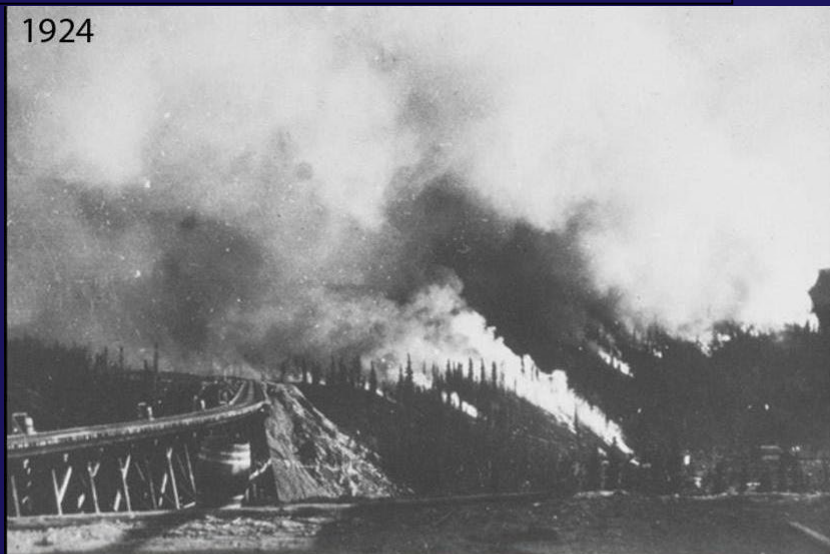


December 2024

# MCKINLEY VILLAGE DENALI BOROUGH



1924



2010



## COMMUNITY WILDFIRE PROTECTION PLAN (AS UPDATED)



# McKinley Village Community Wildfire Protection Plan Update

This McKinley Village CWPP update should be read with the respective CWPP documents for Denali Borough, Cantwell, Healy, and Anderson, including the Appendices A, B, C and D.

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# McKinley Village Community Wildfire Protection Plan Update

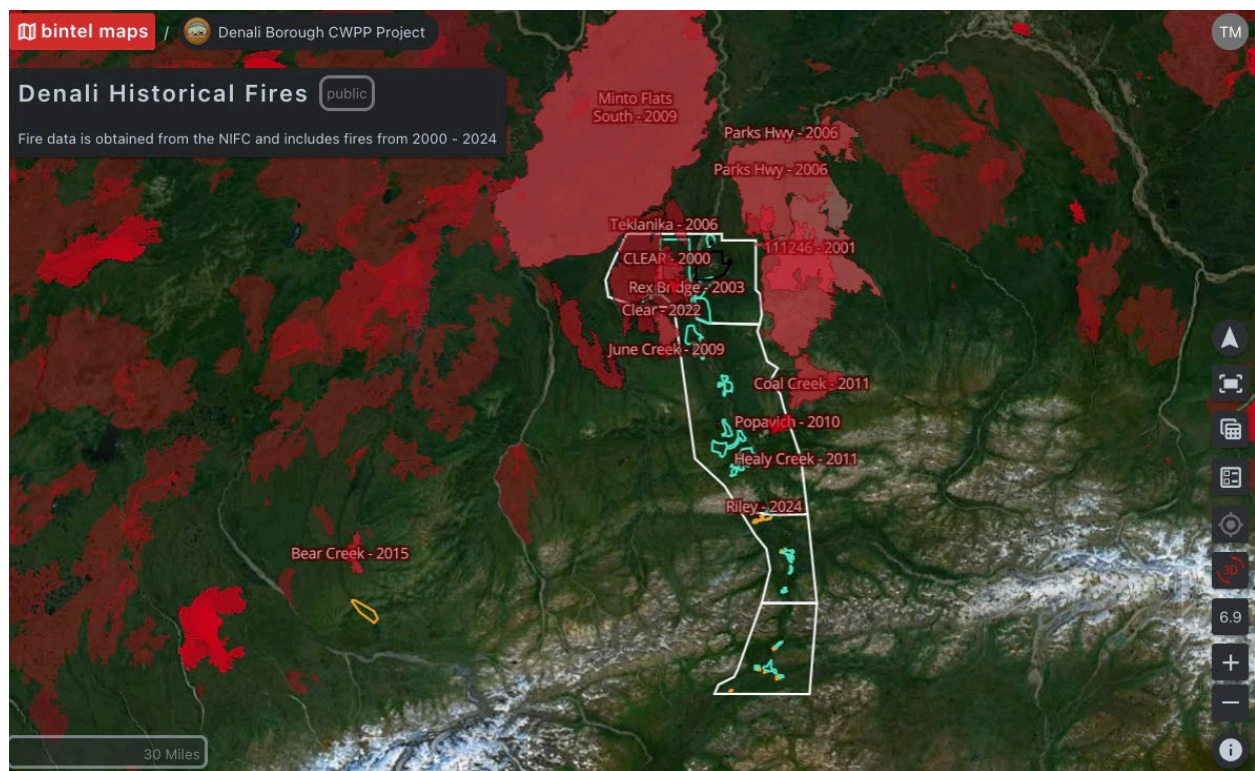


Figure 1 – Denali’s Fire History

The northern territory of the Denali Borough is constantly exposed to large fires, mostly in remote areas, but that danger is moving south. Climate change has lengthened the fire season and other factors such as beetle kill are driving greater levels of concern for public safety, forest health and preservation of a remote way of life. This plan is a step in the journey towards more resilient communities with a uniquely Alaska self-reliant, collaborative and continuous approach.


# McKinley Village Community Wildfire Protection Plan Update

## Mutual Agreement Page

This updated Community Wildfire Protection Plan (CWPP) has been developed as a part of the CWPP process undertaken by the Denali Borough under the following guidelines:

- it was to be a collaborative and inclusive effort
- it identifies and prioritizes areas for hazard reduction and recommends mitigation methods to improve fire survivability of people, property and the environment in the residential areas of the Borough.
- It recommends measures to reduce ignitability of structures throughout the area addressed by the plan.

The following land management agencies and emergency service providers represented concur with the content and recommendations of this Community Wildfire Protection Plan:

  
Tess Morin (Jan 24, 2025 20:16 MST)

Jan 24, 2025

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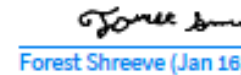
McKinley VFD, Chief, Tess Morin

  
Norman McDonald (Jan 30, 2025 17:47 AKST)

Jan 30, 2025

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Division of Forestry & Fire Protection, Deputy Director: Fire, Norman McDonald

  
Forest Shreeve (Jan 16, 2025 13:44 AKST)

Jan 16, 2025

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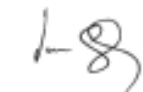
Denali Borough, Emergency Manager, Forest Shreeve

  
Chris Noel (Jan 16, 2025 16:50 AKST)

Jan 16, 2025

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Denali Borough, Mayor, Chris Noel



Feb 11, 2025

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Denali National Park & Preserve, Deputy Superintendent and Agency Administrator for DENA, Vernon Cody



## McKinley Village Community Wildfire Protection Plan Update

Joe Bovee

Joe Bovee (Jan 24, 2025 08:05 AKST)

Jan 24, 2025

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Ahtna Inc, Vice President of Land and Resources, Joe Bovee

Branden Petersen

Branden Petersen (Jan 31, 2025 09:20 AKST)

Jan 31, 2025

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Bureau of Land Management, Fire Management Officer, Branden Petersen

This CWPP is one of four written for areas in the Denali Borough. This content should be read in context of the information and recommendations for the full borough and adjoining CWPPs.

**This CWPP should be reviewed in three (3) years, by 12/31/27, updated in five (5) years, 12/31/29 and expires in ten (10) years, 12/31/2030.**

# McKinley Village Community Wildfire Protection Plan Update

## Collaborators and Contributors

We wish to acknowledge and thank the organizations listed below that contributed to the development of the this updated McKinley Village report and the Denali Borough CWPP.

**Denali Borough, Office of the Mayor (DB)**

**Alaska Division of Forestry and Fire Protection (AK-DOF)**

**Ahtna, Incorporated (Ahtna)**

**Denali National Park (DNP)**

**McKinley Volunteer Fire Department (McKinley VFD)**

**Golden Valley Electric Association (GVEA)**

Each of the above organizations contributed some or all of the following:

- Provided and aided in review of the CWPP content
- McKinley VFD— department concerns, readiness and suppression resources
- Shared planning with the Borough
- Provided cultural and management information regarding native lands in the study area
- Provided content relative to fire history and fuels management in the study area
- Provided input to community protection priorities and community input regarding the feasibility and desirability of fuels treatment project areas and methods
- Shared emergency services and evacuation planning

# McKinley Village Community Wildfire Protection Plan Update

## Introduction & Definitions

### About this Update

This Community Wildfire Protection Plan (CWPP) is an update to the McKinley Village 2023 CWPP. It has been developed by McKinley Village as a part of the CWPP process undertaken by the Denali Borough (DB).

This McKinley Village Community Wildfire Protection Plan (McKinley CWPP) is in response to the 2003 Healthy Forest Reforestation Act (HFRA) which encourages communities to develop a risk assessment and then allows the community itself, in a collaborative effort with agencies, to develop its own mitigation plan for wildfire. Guidance for the format of the McKinley CWPP is based on the 2005 Alaska Interagency Community Wildfire Protection Plan Guide (2005 AICWPPG) from the Alaska Department of Natural Resources. This updated McKinley CWPP will provide direction for ongoing and future wildfire hazard mitigation efforts and will allow participating agencies and individual landowners to take advantage of HFRA and federal Community Wildfire Defense Grant benefits, including prioritization for these and other federal/state programs and funding.

The objective of this update is to address the objectives identified in the original CWPP and extend others with the benefit of the Denali Borough project. This update will further some of the following goals of the original McKinley 2023 CWPP:

- Assess, along with collaborating agencies, the current risk posed by wildfire to the McKinley Village Area and Community.
- Identify, develop, and promote initial mitigation measures designed to protect lives and identified values within the community from threat of wildfire; and set up a format for the identification and consideration of future measures.
- Identify, develop and promote ongoing education, informational sources, and training for residents, with an emphasis on individual property owners' skills, means, and amenability, in mitigation and fuel reduction.
- Identify and develop emergency response and local fire protection resources and capabilities in planning, wildfire size up, warning/evacuation, and initial attack.
- Identify, develop, and employ a format for continued collaboration, both within the Village and between the Village and its Agency collaborators.

Some of the recommendations in this update are addressed by Alaska State requirements and other laws and ordinances. It is not the intention of this update to reiterate all applicable code, but rather to stress practices and concepts likely to mitigate undesirable effects of fire to life, property and the environment in the CWPP area. Every attempt has been made to ensure compliance with federal and state law, however, many of the recommendations in this document and the associated appendices may not have the force of law or differ from existing



## McKinley Village Community Wildfire Protection Plan Update

legal standards. Legal requirement should not be inferred from any recommendation in this update without the specific reference to a legal standard. Codes and ordinances may vary depending on location and the authority having jurisdiction. Readers are encouraged to familiarize themselves with all legal statutes affecting their location and situation.

This update and the associated appendices present the results of additional study to identify and quantify wildland fire hazards in the Wildland-Urban Interface (WUI) and Wildland Intermix (WI) Communities of the study area. The WUI is referred to in some documents as the Urban Edge Ember Zone. It is the area where encroaching wildland fuels could create a fire hazard to what would be an urban/suburban development in a different setting. The WI consists of Communities where wildland fuels surround homes. Several authorities including the US Fire Administration, the International Wildland-Urban Interface Code (IWUIC) and the National Fire Protection Association (NFPA) also recognize an “Occluded” category of interface communities that includes developed areas surrounding wildland fuel islands of less than 1,000 acres.<sup>1</sup> In terms of hazard analysis and mitigation these communities are defined and treated as similar to WUI Communities, therefore it is unnecessary and confusing for our purposes to create a separate class for them. The Interface/Intermix Community Hazard Rating system (ICHR) used in the additional analysis considers significant fuel islands inside WUI Communities as an additional hazard source.

This appended study focuses on areas of the highest residential density and deals primarily with life safety and structural ignitability. Updates and future studies may be necessary should the need arise to focus on unpopulated land, sparsely populated areas, other values at risk or areas of special interest.

This information is the result of an analysis of the expected severity of fire effects utilizing a combination of computer modeling and field data analysis. A discussion of the dominant structural ignitability hazards in the Communities of the study area is included in the separate appendix. This information allows for the prioritization of mitigation efforts. From an analysis of this data, solutions and mitigation recommendations are provided to aid land managers, landowners, residents, fire officials, and other collaborators in planning and implementation. This format is designed to help Communities clarify and refine priorities for protecting life, property, and critical infrastructure in the WUI/WI.

### Alaska Report Requirements

This 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. 1 The HFRA includes the following guidance:

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<sup>1</sup> National Institute of Standards and Technology Technical Note 2205, March 2022, page 3 (footnote 1)

## McKinley Village Community Wildfire Protection Plan Update

*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. 2*

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.3*

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.4

Acknowledging increased complexity in fire management practices, the State of Alaska State Hazard Mitigation Plan (SHMP) notes that future conditions for wildland fire hazards, including climate change, highlight an intensified pattern of wildland fire that is emerging in Alaska as rapidly increasing temperatures and longer growing seasons alter the state's environment. Both

## McKinley Village Community Wildfire Protection Plan Update

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. 5

Additionally, 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. 6

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. 7

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). 8

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.* 9

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:

## McKinley Village Community Wildfire Protection Plan Update

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. 10*

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 also referencing Fire Management Response Guidance from the AIWFMP, the Stafford Act and the 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.*

For details on community and stakeholder engagement and comments collected during the public comment period see the Denali Borough CWPP.

### Definitions and Acronyms

For the purposes of the additional reports the following definitions apply:

**Area of Interest (AOI)** – The most populated areas of the Denali Borough have been broken down into four subdivisions based primarily on fire department response coverage: Anderson, Healy, McKinley Village, and Cantwell. As a result of this project, an individual CWPP has been generated for each of these subdivisions focusing on the Communities within that subdivision. The term Area of Interest (AOI) refers to the individual geographic area covered by each of these four subdivisions and not the total area covered by the entire Borough or this document.

**Area of Special Interest (ASI)** - Generally, a non-residential area having a profound effect on wildfire hazards and/or hazard mitigation for one or more of the Communities of the AOI. ASIs may also be non-residential areas of special cultural significance threatened by fire. In the special case of the Denali Borough, some residential areas outside the study area boundaries having a significant effect on Communities within the study area boundary, as well as certain

## McKinley Village Community Wildfire Protection Plan Update

areas of undeveloped land slated for residential development, have been included as ASIs within one of the four individual AOI CWPPs in the DB effort.

**Communities** – The appended study divides the general McKinley Village community into WI/WUI areas of the highest residential density into “Communities” that represent similar dominant wildfire hazards and are geographically contiguous. Community boundaries are based on factors relating to wildfire propagation and impacts including, but not limited to, density, structural flammability, fuels, topography and suppression resources, rather than political, HOA or traditional neighborhood boundaries. Non-residential land such as large commercial or government-owned tracts have been excluded. The Community boundaries and ICHR hazard ratings are shown in Figure 1 and Table 1 on Pages 7 and 8. Wherever the word Community is capitalized in this report it refers to this technical definition rather than any common meaning of the word community.

**Fire Behavior Analyst (FBAN)** – An expert required to run and interpret the fire behavior analysis using the IFTDSS program.

**Hazard** – Hazard is the combination of the Interface/Intermix Community Hazard Rating (ICHR) derived from the WUI/WI Community field surveys and the analysis of fire behavior potential and likelihood of occurrence, which is derived from IFTDSS (definition below) and the Athena Probability analysis. Data generated by these models has been integrated into the ICHR rating system to provide a single measure of hazard in the developed portions of the study area. Hazard attempts to quantify the severity of undesirable wildfire effects on the values at risk.

**Home Ignition Zone (HIZ)** – As defined by NWCG, the home itself and the area within 100 feet.<sup>i</sup> Other authorities extend this to 200 feet or the property boundary. Extended distances may also be required to compensate for topographic conditions. For the purposes of this CWPP we will consider conditions within 100 feet of the home or to the edge of the property line, whichever is less, to be the HIZ. Hazards in this zone principally determine the likelihood of home ignition during severe wildfires.

**Interface/Intermix Community Hazard Rating (ICHR)** – is a model designed to create a relative rating of fire hazard to Communities within the Wildland Urban Interface and Wildland Intermix (WUI/WI). ICHR is based on data collected in the field emphasizing home ignition zone ignitability and operational factors whereas IFTDSS fire behavior and Integrated Hazard data from the LBP analysis focus on the probability of occurrence and severity of fire in the wildland fuels in and surrounding Communities. The data generated by IFTDSS and a GIS zonal analysis of geographic conditions is integrated into ICHR to provide a single measure of Community hazard.

**Interagency Fuel Treatment Decision Support System (IFTDSS)** - is a fire analysis desktop application designed to simulate potential fire behavior characteristics such as spread rate, flame length and fireline intensity under a given set of weather and fuel conditions. It was created and maintained by the USFS. When combined with the Landscape Burn Probability analysis (LBP) IFTDSS gives a view of the threat context a structure, or group of structures, is

## McKinley Village Community Wildfire Protection Plan Update

exposed to from an approaching wildland fire, however IFTDSS fire behavior outputs do not address the flammability of man-made structures themselves.

**Landscape Burn Probability (LBP)** - LBP evaluates the likelihood a fire will occur by combining two models into one landscape map.

**National Wildfire Coordinating Group (NWCG)** - The NWCG was established in 1976 to provide national leadership to enable interoperable wildland fire operations among federal, state, local, Tribal and territorial partners.

**Probability** – is the likelihood of a significant fire occurrence. This is primarily determined by the fire history of the area, the LBP model of IFTDSS, and the custom artificial intelligence modeling from of Athena Intelligence.

**Risk** – The definition of risk varies widely. In some cases, it involves the probability of a wildfire event capable of severe negative effects on values. In other cases, it is synonymous with the predicted severity of undesirable fire effects. Due to the lack of agreement regarding a precise definition the contractor to the DB in its study have chosen not to use the term “Risk”, other than in the context of Values at Risk and as defined by Athena Intelligence in their proprietary Voice of the Acre probability analysis. For such reports, “Hazard” will be used to describe the predicted severity of fire effects and “Probability” to describe the likelihood of a significant wildfire occurrence.

**Values at Risk (VAR)** - are the tangible values identified by residents as being important to sustainable life in the study area (e.g., life safety, property conservation and critical infrastructure.)

**Wildland Intermix (WI)** – Areas of concentrated residential development (Communities) where homes are surrounded by wildland fuels. Homes in these areas exist in the context of natural fuels rather than as typical urban/suburban development.

**Wildland-Urban Interface (WUI)** – The area where encroaching wildland fuels create a fire hazard to structures that would be considered in a different setting, a traditional urban/suburban development.



## McKinley Village Community Wildfire Protection Plan Update

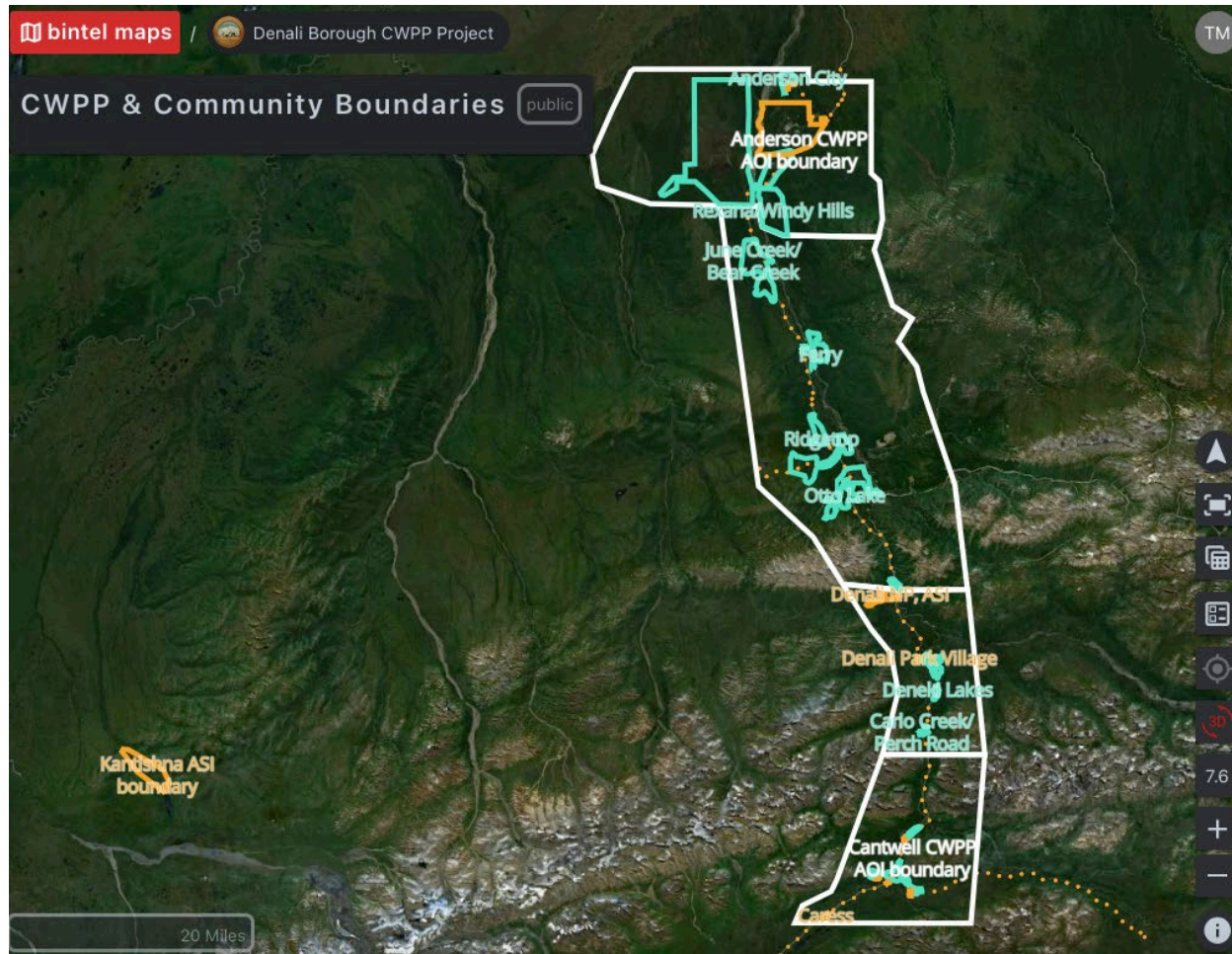


Figure 2 - CWPPs and Community Boundaries

## How to Use Reports

The various reports developed as a part of the overall CWPP process undertaken by the Denali Borough summarize the technical analysis of the Probability and Hazards of wildfire to the various CWPP areas and Communities in the Denali Borough. Recommendations designed to mitigate those hazards are discussed in detail in the four individual CWPPs that cover the most populated areas of the Denali Borough. Within the individual subdivision CWPPs a discussion of response capabilities, suppression/mitigation resources, and other relevant topics follow a technical analysis before presenting recommendations specific for each AOI. The primary emphasis of these reports is on specific recommendations intended to mitigate wildfire hazards. A brief discussion of Areas of Special Interest (ASI) not covered within one of the subdivisions CWPPs is included in the DB report as well as a list of potential grant funding resources.

## McKinley Village Community Wildfire Protection Plan Update

To serve the goal of keeping the updated materials as direct and streamlined as possible some of the information generated for this project has been included in separate appendices. Information pertinent to the Communities of all four individual CWPPs has been included in the Borough-wide CWPP. This format makes information available to those interested without requiring more general readers to deal with a larger, cumbersome single document. More detailed information is included in the appendices to this CWPP is as follows:

- *Appendix A: Community Hazard Zones.* Appendix A attached contains a hazard summary for each of the Communities within this updated CWPP. The summaries are useful as briefing material for outside responders or consultants who are not familiar with the study area.
- *Appendix B: HIZ Recommendations.* This appendix contains specific information regarding reducing hazards in the Home Ignition Zone (HIZ), including structure hardening as well as hazard mitigation within 100 feet of homes. These recommendations apply to all the Communities of the study area.
- *Appendix C: Methodology.* This includes technical information regarding methodology employed to generate the fire behavior and Community hazard analyses.
- *Appendix D: Consolidated Recommendations Table.* This table is a consolidated list of recommendations that appear in this update and related reports. This is for future use to aid in tracking, planning and completion.

Inclusion in an appendix rather than the main CWPP text does not in any way diminish the importance of the information. All appendices are important to understanding the threat wildfire poses to the study area and where and how to focus efforts to mitigate the undesirable effects of wildfire on life, property and the environment.

The focus of these new studies is on wildfire hazards in the WI/WUI areas of concentrated residential development and the mitigation actions are designed to promote life safety and reduce structural ignitability. Unpopulated areas, individual homes in wildland areas, commercial facilities and interests, government lands and other values that may be affected by wildfire are beyond the scope of the newer and more granular studies.

## Goals and Objectives

Strategic goals for this update project and the CWPP process undertaken by the Denali Borough include the following:

1. Improve life safety with respect to wildfire hazards to residents, visitors, and responders.
2. Evaluate and recommend methods to mitigate undesirable fire effects to property, infrastructure, and the environment.

## McKinley Village Community Wildfire Protection Plan Update

3. Evaluate previous and on-going mitigation efforts, if applicable, in the study area.

To accomplish these goals, the following objectives have been identified for this CWPP project:

1. Provide a more granular scientific analysis of the fire behavior potential of the study area.
2. Group densely populated areas into residential “Communities” (AKA Community Hazard Zones) that represent relatively similar fire hazard factors.
3. Identify and quantify factors that may limit (mitigate) hazards (undesirable fire effects to the values at risk) and recommend actions to reduce those hazards.

Other desired outcomes include:

1. **Promote wildfire hazard awareness:** Quantifying the probability of a significant ignition and the severity of wildfire effects will facilitate public awareness and assist in creating public action to mitigate the hazards.
2. **Improve wildfire prevention through education:** Community awareness through education can help reduce the risk of unplanned human-caused ignitions. Education can limit injury, property loss and even unnecessary death.
3. **Facilitate and prioritize appropriate hazardous fuel removal projects:** Organizing and prioritizing fuel management actions can provide stakeholders with the tools and knowledge to ensure projects are viable and valuable for residents.
4. **Identify and promote other actions designed to mitigate hazards and improve response:** The identification of Community planning areas and their associated hazards affecting probability and severity of undesirable fire effects can improve focus and accuracy of pre-planning and facilitate the implementation of cross-boundary, multi-jurisdictional hazard mitigation.

The authors of the studies and collaborators of this updated CWPP acknowledge the potential for complex issues associated with balancing the management of vegetation for fire resilience and ecosystem health with economic and lifestyle concerns of major landowners and residents

## McKinley Village Study Area

The unincorporated McKinley Village community is located within the Denali Park census-designated place in the Denali Borough, Alaska. For the purposes of this plan, we will refer to the area as McKinley Village, but it is also commonly referred to as both McKinley Park and Denali Park by residents. The local volunteer fire department is the McKinley Volunteer Fire Department, based out of the McKinley Village Community Center (MVCC).

The habitat surrounding McKinley Village is diverse and includes large glacial rivers and plains, boreal forest, and the northern foothills of the Alaska Range. This region is classified as a subarctic climate with traditionally very cold winters and mild summer temperatures. While the



## McKinley Village Community Wildfire Protection Plan Update

census designated place (Denali Park) includes a larger geographic area, this plan focuses on the location with the largest concentration of year-round residential and community structures: from Crabbies Crossing at the Nenana River (Milepost 231 of the Parks highway) to just past the Carlo Creek area (Milepost 220). See Figure 1 for an overview. Additional areas may be added in the future due to interest and growth patterns. Initial fire response in the community comes from the MVFD at milepost 230.

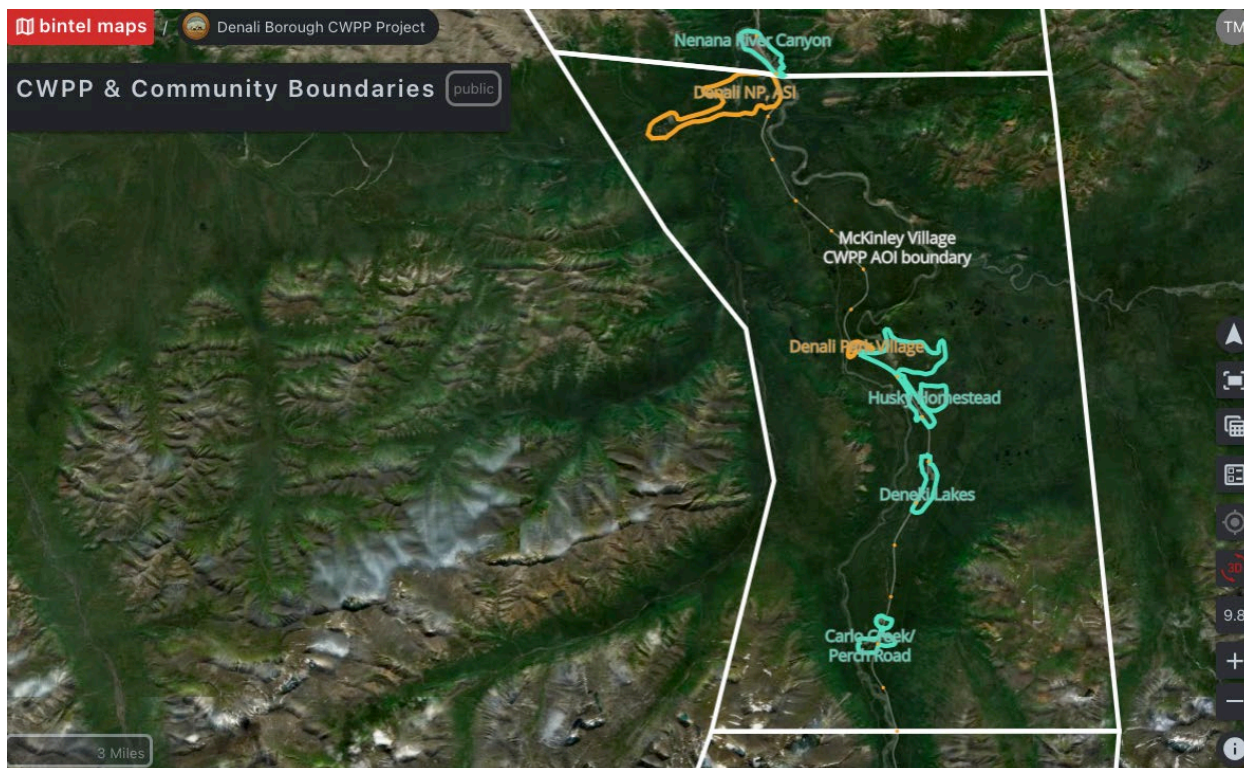


Figure 3 - McKinley Village Study Area (AOI)

### The Denali Borough

The Borough study area encompasses over 8.2 million acres, located 250 miles north of Anchorage, and 110 miles south of Fairbanks. The Borough covers over 12,000 square miles of extraordinary scenic and wild country, the highest mountain on the continent (Denali: 20,310 feet), extensive and productive natural resources, a diverse economy, and approximately 1,900 year-round residents.

The Healy and Cantwell CWPP Areas of Interest (AOI) are additional subdivisions of the AOI for the overall Denali Borough. The only incorporated city in the Borough is the City of Anderson. Two major highways provide access to the Borough, the George Parks Hwy (Alaska 3) runs approximately north/south through the entire Borough and the Denali Highway (Alaska 8) runs east/west through the Cantwell CWPP AOI.

## McKinley Village Community Wildfire Protection Plan Update

The Denali Borough was incorporated in 1990 and for the purposes of the overall borough project has been broken down into four subdivisions based primarily on fire department response coverage and locally recognized area divisions: these subdivisions include McKinley Village as well as Healy, Anderson, and Cantwell.

As part of this project, an individual CWPP section has been generated for each of these subdivisions focusing on the Communities within the AOI of each. See the definition above for “Communities”. Where appropriate, updated reports defer to the subdivision CWPPs.

**Note that all recommended mitigation must secure permission/permits from all landowners whose property is either proposed to be mitigated, used during the work, or is otherwise affected. Note that this includes promotion of respect for adjacent private property owners, respect for indigenous use and the use of all respective permitting processes.**

### Values

The safety of firefighters, residents of McKinley Village, and of the many travelers who are here during the fire season is the highest priority for firefighting personnel and the CWPP. Private property, improvements, cultural sites, and natural resources are other values of high concern. The adjacent Yanert Valley is known in the Native Ahtna language by a description- the “valuable headwaters”. The traditional Ahtna description of the Yanert River, which forms part of the Northern plan boundary, is Tl’ahwdicaaxi Na’, the “valuable headwaters” creek.

Residents living in the McKinley Village area enjoy access to beautiful wilderness lands, the rural lifestyle, and a strong sense of community. Both traditional and current values should be weighted highly when implementing the CWPP.

A specific structure of strategic value to the community is the McKinley Village Community Center (MVCC) run by a non-profit, which acts as the fire hall, community well, public gathering space, and the only year-round emergency shelter.

# McKinley Village Community Wildfire Protection Plan Update

## Community Profile

The McKinley Village CWPP area generally is bounded on the north and west by the Nenana River at “Crabbie’s Crossing” (George Parks Highway Milepost 231) and to the south at Milepost 220, just past the cluster of structures around Carlo Creek (Parks Highway Milepost 223.5). Most of the eastern boundary of the area consists of undeveloped Ahtna lands with a mix of state, borough and federal land ownership. Subareas within the CWPP are broken out in this update, including: Karma Ridge, Husky Homestead, Deneki Lakes, Carlo Creek/Perch Road, Denali Airstrip and the Denali Park Village (ASI).

This area includes the majority of residential and community structures in the area south of the Nenana Canyon commercial area and north of Cantwell. The area is accessible by one road, the George Parks Highway, and is approximately 130 miles from Fairbanks, the largest Interior community and closest hospital.

As a general matter, the Wildland Urban Interface (WUI) for the purpose of this plan is bordered by the Nenana River on the north and west, with federally owned Denali National Park and Preserve lands beyond the river. The eastern plan boundary is the high voltage transmission line known as the Intertie. The land that borders the Intertie is a mixture of state, borough, federal, Native/ANCSA, and private land. The southern boundary is the border of the MVFD fire service area at Milepost 220.

Two native allotments are located just outside the CWPP plan boundary, off approximately Milepost 228. The southern boundary is the cluster of private land and structures around Carlo Creek. AHTNA is an Alaskan Native Regional Corporation and is the largest landowner in the area. The Alaska Railroad in this area is located in the plan area with the tracks on the western side of the Nenana River within DNP.

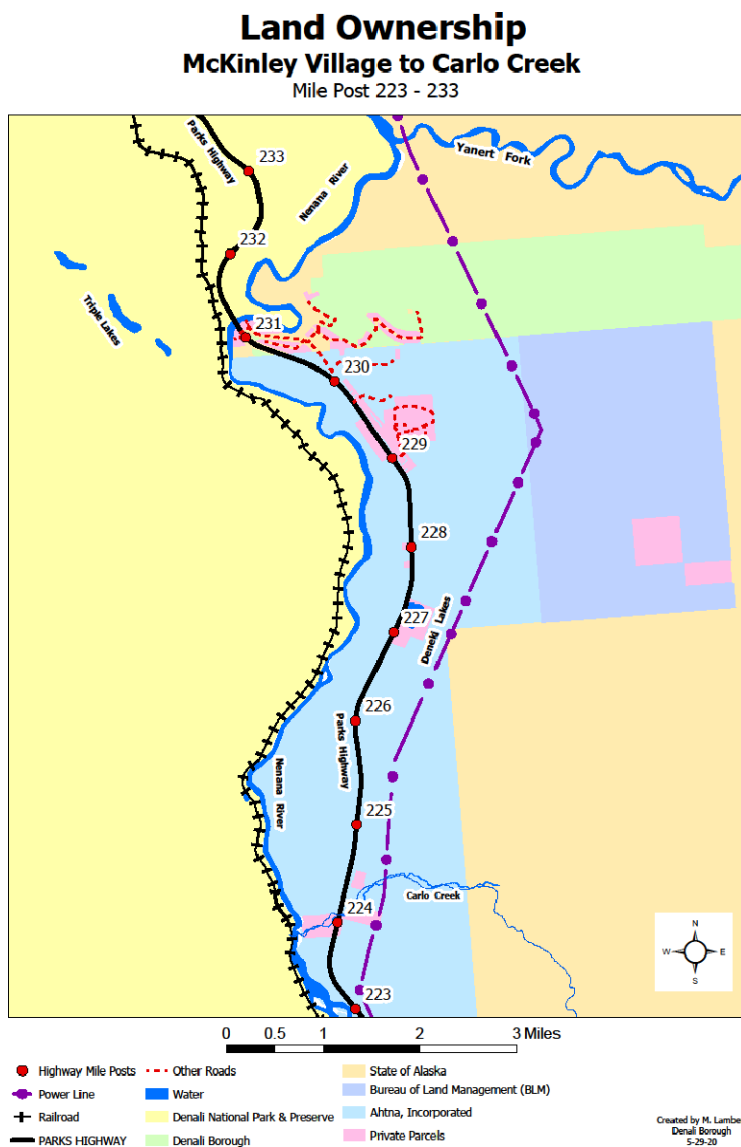


Figure 4 - Land Ownership



# McKinley Village Community Wildfire Protection Plan Update

- General Geographical Location:
  - a. Lat. 63.6513 Long: -148.8222
  - b. Township: 15S Range: 6W Fairbanks Meridian

## Population

Year-round residents (2020 U.S. Census): 163. Estimated year-round residents (2022 State of Alaska Dept. of Community and Regional Affairs): 149. These numbers include residents in the Denali National Park employee housing area at Milepost 237 so the actual residents in the McKinley CWPP area could be 30-50 people less.

The number of people in the area increases significantly from April to September during the traditional summer tourist season. Besides a large seasonal workforce housed in the area, there is also the potential for hundreds of additional overnight guests at area lodges, cabins, nightly rentals, campgrounds, and roadside pullouts. At the peak of summer (late June and July) it would not be unusual to have well over 2,000 people in the area overnight. This influx is largely comprised of older or seasonal people without their own cars, and dependent upon tour and shuttle buses for transportation. These additional factors make it much harder for them to respond to a wildfire evacuation situation and greatly increases an otherwise very high-risk factor during the wildfire season.

## Community Buildings and Utilities

The McKinley Village Community Center is a building that provides the following services: volunteer fire department hall (which includes a 12,000-gallon water cistern and emergency services radio repeater), access to the high-capacity community well for domestic water, and an indoor community space run by a non-profit for local celebrations, trainings, playtimes and other special events. The MVCC also provides the only year-round emergency shelter for the community, most recently activated during the extreme weather event and power failures during the winter of 2021-2022. A current project is adding a full capacity standby generator system to the center. The MVCC is located at Milepost 230 off the Parks Highway about .5 miles down the Old Parks highway, a wide gravel road.

## Residential Structures

There is not a list of current residential and commercial structures and their value in the area because borough property tax and building permits are not required. There are two platted subdivisions in the area, the Village View Subdivision, which straddles the Old Parks Highway, and the Denali Homestead Subdivision, accessed to the East off the Parks Highway at Milepost 228.9. The 2020 census reported 298 housing units at the time, with 36% occupied and 64% vacant and likely included seasonal housing located on commercial and federal property (DNP).

## McKinley Village Community Wildfire Protection Plan Update

This number in relation to the year-round population (163 in 2020) emphasizes the high number of seasonal and second homes in the area.

In the original CWPP, using satellite imaging, a rough estimate of 170 residential homes (both occupied and vacant) was made, which does not include outbuildings, or seasonal housing provided within commercial properties in the area such as Denali Park Village, Denali Cabins, Grizzly Bear, and the Carlo Creek lodges. These seasonal housings are often shared dorms, cabins, or trailers and cannot be counted from satellite images. This information appears accurate, but these numbers were not verified in this Update.

### Commercial and Non-Profit Structures

McKinley Village has a wide range of commercial businesses and associated structures in the area, with most of them open only in summer months (May – September). Nearly all the commercial businesses are related to tourism. In addition to the commercial properties listed below, there are an increasing number of houses available for nightly rental for at least part of the year which may well be included in residential house numbers (Info obtained from nightly rental websites in 2022).

McKinley Village businesses and non-profits with structures in the CWPP area in 2024:

- Grizzly Bear Resort – large lodge, cabins, campground, stores
- Denali Park Village – large lodge, restaurants and stores
- Denali Education Center (non-profit)- cabins, summer educational facility, year-round offices
- Tonglen Lake Resort – lodge, cabins, restaurant, summer community events, year-round office
- Traverse Alaska – tour company, offices and gear storage (year-round)
- Denali Air – flightseeing and aircraft hanger
- Denali Cabins – cabins and restaurant
- Husky Homestead – Sled dog tours (seasonal) and kennel operations year round
- Denali Jeep Excursions – tour company and vehicle storage
- Denali PT – physical therapist office (year-round)
- Camp Denali - year-round offices
- Deneki Lakes B and B
- Carlo House
- Moose's Brew Coffee
- Panorama Pizza Pub
- Creekside Cabins and Cafe – cabins, lodge, and restaurant
- Denali Hostel and Cabins – hostel, cabins
- Denali Perch Resort – cabins and restaurants
- Carlo Creek Lodge – cabins, and lodge

# McKinley Village Community Wildfire Protection Plan Update

## Infrastructure and Utilities

The Parks Highway (AK 3) provides road transport from McKinley Village to the rest of the state. The Alaska Dept. of Transportation maintains the paved highway, as well as a half mile of the gravel road called “Old Parks Highway” at Mile 230, which leads to the MVCC and Fire Hall.

There is one privately owned 5000’ airstrip in the McKinley Village area at Milepost 229. The airstrip is used as a base for a summer air taxi and flightseeing business, as well as being regularly used by locals with personal planes.

Electricity to the area from mile post 231 South, is provided by Golden Valley Electric Association (GVEA) on an overhead line from its substation in Cantwell. Besides above-ground local power lines along the highway and into subdivisions, there is the 138kV transmitting lines of the Alaska Intertie on the east side of the developed area that connects the GVEA power grid with southcentral Alaska utilities. Power to the Nenana Canyon and DNP comes from the Healy substation from the North on 138kV transmission lines.

MTA provides telephone and internet service to the area with above and below ground wires. GCI Communication Corp. (GCI) owns a buried fiber optic cable that parallels the Parks Highway, which provides service along the Park’s Highway route and access services to various telecommunications carriers in the area.

There are two cell phone towers and associated structures, including an MTA shelter, located in the area on top of a hill behind the airstrip at milepost 229.5. These are serviced by overhead power and underground telecommunications lines. One tower is owned and operated by AT&T Mobility, and the second tower is owned by Vertical Bridge, with the wireless facilities operated by GCI. Access is provided by a road through two locked gates at the airstrip crossing and eventually departing the east side of the Parks highway.

The Alaska Land Mobile Radio partnership, consisting of state, federal, and municipal entities, operates a microwave facility located at the top of Karma Ridge off the end of Yanert Road, above the Village View Subdivision. This is served by overhead power lines. It provides various telecommunications services for the SOA, the Alaska Railroad, the Denali Borough and the MVFD.

The MVFD maintains a stand-alone emergency radio repeater at its fire hall located at the MVCC.

Most commercial businesses and some year-round residents use water from personal wells, but there is a sizable part of the population that hauls water from the community well at the MVCC for personal use. This contributes to a poor score in the Risk/Hazard analysis as to water supply.

The MVFD does maintain a 12,000-gallon emergency water cistern at its fire hall located at the MVCC.

## McKinley Village Community Wildfire Protection Plan Update

There are no landfills, schools or government offices in the area. A BLM Field Office/cabin is located just outside the plan area to the south, at milepost 219.9.

Additionally, there are four gravel pits in the area, with all being active at various times within the last few years. Three of these gravel pits are owned by AHTNA Incorporated (milepost 228 pit, milepost 224.5 pit, and .4 Mile Old Parks Highway pit) and one by the State of Alaska (.5 Mile Old Parks Highway Pit).

### Industry

Tourism is the largest industry in the McKinley Village CWPP area. There are a large number of seasonal hotels, cabins, nightly rentals, restaurants, tours, educational facilities and offices catering primarily to summer visitors. Winter guided activities include trapping, hunting and dog sled tours in the state and federal lands beyond the McKinley Park area, but access begins from the Parks Highway. Construction of residential and commercial buildings is a year-round activity that also employs many residents

Other employers in commuting distance include the government at the federal, state, and borough level. This includes the National Park Service, Clear Space Force Station, Tri-Valley School, AK Dept of Transportation, and the Denali Borough. A few residents commute to jobs in the energy industry, which includes the Usibelli coal mine and GVEA power plant in Healy. There are 4 gravel pits in the area with varying levels of activity each year, but they often employ workers from outside the immediate area. There is a possibility of having construction work camps or project staging areas housed in one or more of them over the summer, as has currently been done in conjunction with road and bridge work in the adjacent DNP.

### Transportation

The George Parks Highway, also known as AK Route 3, is the only road in and out of the community and connects the two major population centers of Alaska, Fairbanks (130 miles North) and Anchorage (230 miles south).

The Alaska Railroad in this stretch is located outside of the immediate McKinley Village area with the tracks on the western side of the Nenana River in Denali National Park.

There is a private gravel airstrip located in McKinley Village at milepost 229 which is 5000 ft long and is accessed at milepost 229.

Trails in the McKinley Village/Yanert area are used as a means of transportation and recreation. Common recreation usage includes walking, biking, skiing, dog mushing, snow machine and all-terrain-vehicle travel. Dog teams have been a longstanding part of the community and there is a network of mushing and snowmachine trails east of the Parks Highway between Mile 229 and the Carlo Creek area that provide access to public lands beyond. Where applicable, access to cross Ahtna lands is provided through public easements and an Ahtna permit system. See: <https://www.ahtna.com/lands/land-permits/>

## McKinley Village Community Wildfire Protection Plan Update

A public boat launch used by private and commercial rafters in summer is available at Mile 231 by the Denali Park Village Resort.

Alaska Native Claims Settlement Act (ANCSA) 17 (b) public easement trails exist in the area, including a trail at Milepost 228 to a non-motorized hunting area to the East that is used heavily by hunters in the fall, as well as to access Native Allotments just outside the plan's Eastern boundary. Information on 17(b) easements and their use can be found at:

[https://www.blm.gov/programs/lands-and-realty/regional-information/alaska/17b\\_easements](https://www.blm.gov/programs/lands-and-realty/regional-information/alaska/17b_easements)

### Cultural Sites

There are seven identified prehistoric archeology sites and one historic site in the plan area that should be avoided, when possible, when actively fighting fire, or during planning for any fuel reduction in the plan area. The State of Alaska, Office of History and Archaeology (OHA) should be consulted when planning any ground-disturbing activities, and in the case of any incidental discoveries are made during fire events. Wildfires in and of themselves generally do not affect prehistoric archaeological sites but can impact historic sites and other cultural resources with surface components.

### Subsistence

A subsistence survey of Denali Park residents concluded the resource category with the greatest level of participation was vegetation (88%), which includes blueberries, low bush cranberries and mushrooms. Smaller percentages of individuals harvested and processed birds and eggs (10%) and large land mammals (7%). (Brown and Kostick 2017).

### Communities

The overall CWPP area has been divided into six Communities for the purposes of this update (and one Denali Park ASI). Communities in this McKinley Village CWPP:

McKinley Village ICHR Ratings (2024)		
Community Name	Score	Adjective Rating
Karma Ridge	78	Very High
Carlo Creek/Perch Road	71	Very High
Husky Homestead	62	High
Deneki Lakes	56	High
Denali Airstrip	48	Moderate
Rating Categories: Low < 30; Moderate 31-50; High 51-70; Very High 71-90; Extreme > 90.		

Table 1 - McKinley Community Hazard Ratings

- Karma Ridge (Yanert Road and Blueberry Hill)
- Husky Homestead



## McKinley Village Community Wildfire Protection Plan Update

- Deneki Lakes
- Denali Airstrip
- Carlo Creek/Perch Road
- Denali Park Village (ASI)

These Communities are not based on political or traditional neighborhood boundaries, but rather on factors relating to wildfire propagation and impacts including, but not limited to, density, structural flammability, fuels, topography and suppression resources. Karma Ridge, McKinley Village, Husky Homestead, Deneki Lakes, Carlo Creek and the Denali Airstrip Communities are the main focus of this updated CWPP.

## Fire History, Behavior and Probability

The Denali Borough overall has a unique wildfire history due to its vast wilderness and dry summers. Wildfires in this region have been influenced by both natural factors, like lightning, and human activities, particularly in more recent decades. The boreal forests in Denali, which consist of black and white spruce trees, are highly flammable, making the area susceptible to frequent wildfires. These fires play a crucial ecological role by renewing the forest, clearing out old vegetation, and creating new habitats for wildlife.

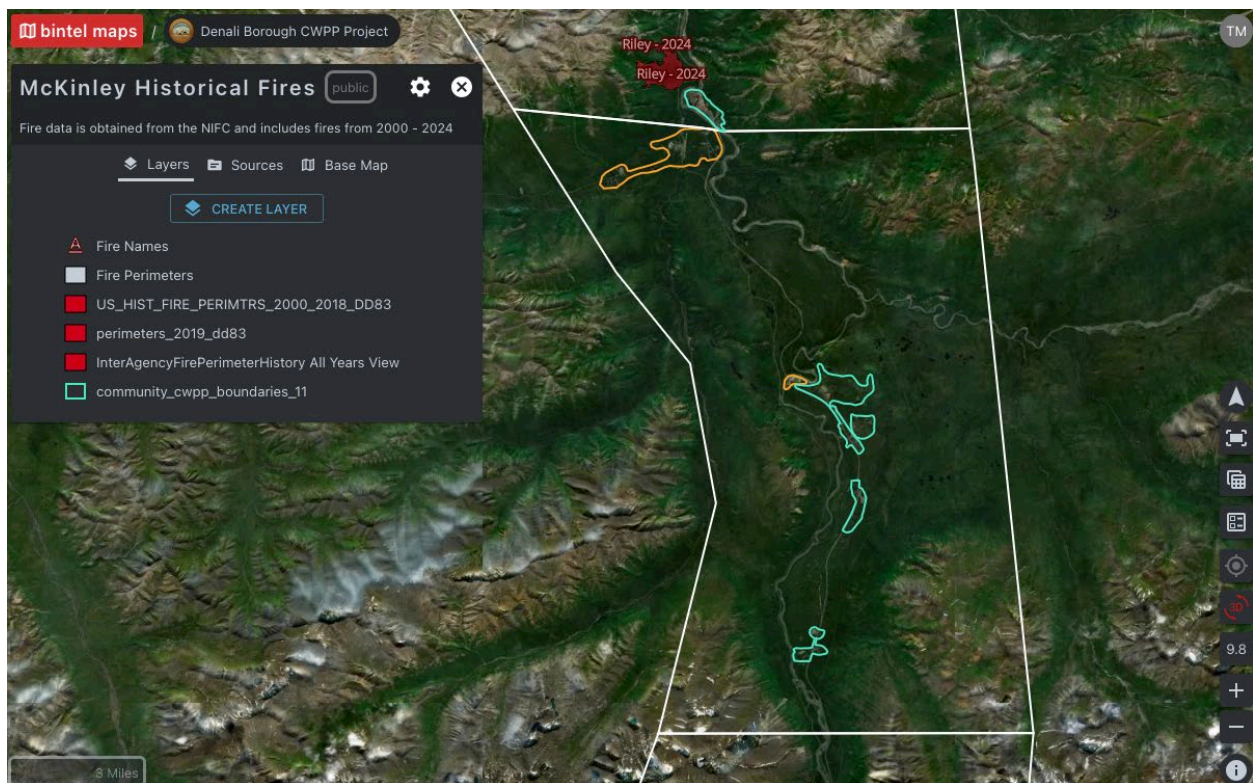


Figure 5 - Fires Over 100 acres since 2000



## McKinley Village Community Wildfire Protection Plan Update

Historically, the frequency and intensity of wildfires in Denali Borough have varied. In the early 20th century, wildfires were less frequent and mostly caused by natural occurrences such as lightning. However, with the expansion of human activities in the area, including tourism and construction, the number of human-caused fires began to increase. The summer of 2004 stands out as one of the most severe wildfire seasons in Alaska's history, affecting large areas across the state, including Denali Borough. That year, wildfires consumed over six million acres of land, driven by record-breaking high temperatures and dry conditions.

Denali National Park, a major feature of the borough, has developed fire management strategies aimed at both protecting human infrastructure and allowing natural fire regimes to play their role in the ecosystem. These efforts include controlled burns and firebreaks, which help to minimize the risk to communities while maintaining the natural cycle of fire.

In recent years, climate change has exacerbated wildfire risks in Denali Borough. Warmer temperatures, longer summers, and changes in precipitation patterns have led to drier conditions, making the region more vulnerable to large-scale fires. As a result, wildfires have become more frequent and intense, posing challenges for fire management agencies and residents alike. The Clear fire 2 years ago and the Riley fire this past year are discussed below.

### Recent Fire History

A number of large fires (fires greater than 100 acres) have occurred within three miles of the Denali Borough study area in the last 20 years. These include the 77,284-acre Clear Fire (2022), the 7,603-acre Birch Creek Fire (2023), the Slate Lake/Ridgetop Fire and the 3,953-acre Popovich Coal Seam Fire (2024) which flares up annually. Most of these have been in or near the Anderson or Healy AOIs, however the 2024 Riley Fire burned 436 acres in Denali National Park and came close to the McKinley Village CWPP northern boundary. During the fieldwork for this CWPP the 153,729-acre McDonald Fire was burning 30 miles north of the Anderson AOI in similar fuels and terrain. Smaller fires have also occurred in and near AOI boundaries.

The fire perimeters shown in **Figure 4** make it clear wildfire occurrence has historically been common in and near both the Anderson AOI and Healy AOI. Although the McKinley Village AOI and the Healy AOI do not have a recent history of large fires, the recent Riley Fire on nearby Denali National Park land and increasing insect and disease mortality in black spruce stands point to higher risk in the event of a prolonged drought and extreme wind conditions. Given the 100-year return cycle for fires in this area, it should be expected.

# McKinley Village Community Wildfire Protection Plan Update

## Riley Fire

The Riley Fire started on June 30, 2024 around 12:15 p.m.; the cause of the fire is under investigation. Alaska was at Preparedness Level 5 due to numerous fires in the state and local resources stretched thin. A complexity analysis indicated the need for a complex incident management team, due to the fire's proximity to infrastructure within Denali National Park & Preserve and the Nenana River Canyon. Initial attack



Figure 6 - Riley Fire July 4-11, 2024

included the Tanana Chiefs Conference Initial Attack Crew, 22 Bureau of Land Management Alaska Fire Service smoke jumpers, the McKinley Volunteer Fire Department, Tri-Valley Volunteer Fire Department, and the National Park Service (NPS) Alaska Western Area Fire Management Crew. The fire caused a power outage.

Evacuation notices were issued by the Denali Borough and Denali National Park on June 30th, setting up an Evacuation Information Center at the Tri-Valley Community Center in Healy. The Red Cross staffed a shelter at the Tri-Valley School. Businesses in the Nenana River Canyon closed with the power outage and evacuation orders, Denali National Park & Preserve also closed and evacuated staff. The Alaska Railroad reduced service.

The Alaska Complex Incident Management Team 2 took command of the fire on July 4 and established the incident command post at the Healy Tri-Valley School. Power was restored on July 4. Businesses reopened on July 6 and reached full capacity on July 7; the railroad resumed normal operations (without stops in Denali until the park opened). Evacuation status was lifted in the Denali Borough on July 6 and reduced to Ready in Denali National Park, which was lifted on July 9. Staff returned to the park and the park reopened on July 10.

The following Strategic Objectives for the fire were accomplished:

- The Riley Fire poses no future threat to infrastructure and values in Denali National Park & Preserve and the surrounding area.
- Power is completely restored to Nenana River Canyon and Park Headquarters and visitor facilities. The Alaska Railroad is operating uninterrupted with no wildfire-caused delays or interruption in passenger service.

# McKinley Village Community Wildfire Protection Plan Update

- Denali National Park & Preserve is fully reopened with no impacts from Riley fire to NPS or visitor operations.
- The park was fully reopened on Wednesday, July 10, at 0430.

The report called out Denali Borough:

*“Denali Borough was instrumental in establishing initial cooperator contacts during the emerging incident and was already holding daily meetings when Alaska CIMT 2 assumed command. Their work set a productive tone of collaboration that allowed the agency administrators, infrastructure partners including Golden Valley Electric Association and Alaska Railroad, as well as community partners including the Chamber of Commerce, community medical clinic, Alaska Waste, and resort properties to communicate and coordinate their decisions with a better understanding of how the entire community was integrated.”*

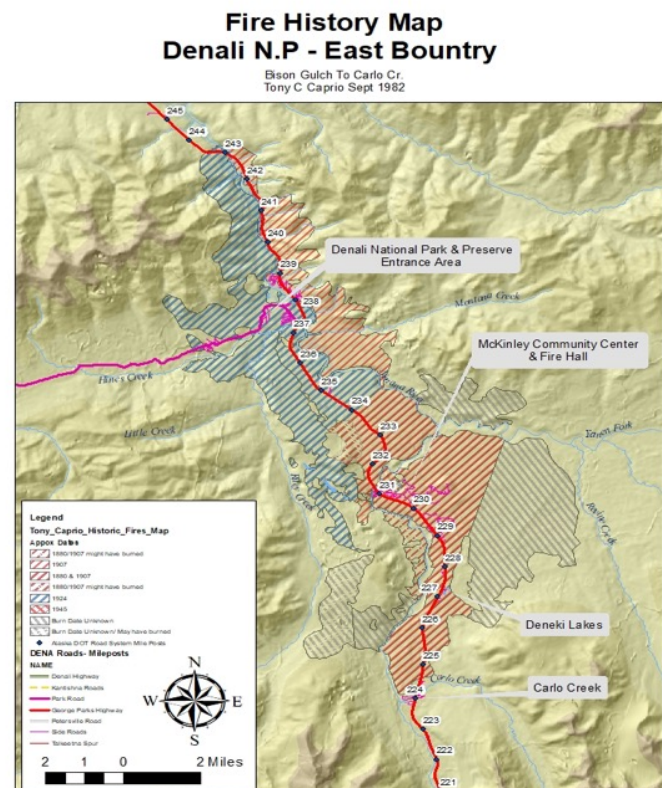
This information is taken from the Riley Fire Incident Summary, Alaska Complex Incident Management Team 2, Ed Sanford, Incident Commander.

## McKinley Village Historic Fires

Scars of large old fires can be seen today throughout the McKinley Village area. While there has not been an extremely large-scale wildfire in the CWPP area since 1924, a fire history map of the area, indicates the extreme potential for another catastrophic fire, as virtually all the McKinley Village CWPP area burned in two large fires around 1880 and 1907 (T. Caprio, 1982).

There is no record of the cause of those early fires. The 1924 fire was attributed to sparks coming off the railroad and the speed and damage done by the fire is a lesson on wildfire behavior in the area. A written description of the 1924 incident by local historian, Tom Walker, relates that:

*"Heavy rains in late July finally  
extinguished the threats but not before*



### Figure 7 - Historic Fire Map

## McKinley Village Community Wildfire Protection Plan Update

*the fires had consumed an estimated 35 square miles, and to as high as 2000' on the hillsides."*

### Sources of Ignition

The risk of fire starting inside and outside the community is high, based on potential ignition sources and surrounding fuel types. In 2021, 67% of all Alaskan wildland fires were started by humans, the remainder were started by lightning. Due to the scarcity of developed campsites, roadside camping and use of undeveloped roadside areas poses a definite ignition risk. See the Risk/Hazards Analysis section below. Fire history indicates a wildfire could swiftly endanger life and property if it moves into and through the area. In fact, nearly the entire plan area of 35 square miles has been burned in several historic events. Most residential and commercial infrastructure, including the two residential subdivisions in the plan area, utilize single access and egress roads located in proximity to continuous stands of Black and White spruce, which present the highest risk to the community. Virtually all power lines in the plan area, including the intertie on its Eastern boundary, are overhead. 100% of commercial power in the plan area is furnished on a single overhead powerline, running along the highway from Cantwell to the South.

### AICWPPG Risk/Hazard Analysis

The McKinley Village community has a very high risk of wildfire; higher than 92% of communities in the United States. (Short 2022). This risk is recognized throughout the area by residents.

Most of the area both within and surrounding McKinley Village is forested with continuous stands of black and white spruce. (Black Spruce Boreal Forest, Alaska Fuel Type Number 6, CFFDRS C2, FBFM TU4/TU5) Mixed stands of spruce and tall open birch shrubs are also present, intermixed with some kettle ponds and riparian vegetation. (Open Tall Shrub Birch, Alaska Fuel Type Number 5 and 27, FBFM SH3 and TU1) The stands of black and white spruce are highly susceptible to wildland fire. Under natural conditions, these forests will burn, with varying intensity, every 35 to 100 years. Fire has been excluded around the community, leading to the accumulation of hazardous fuels and expansion of forests dominated by spruce

The Alaska Fire Return Interval rating for the fuel types and lack of recent burning is already at a high level, with an additional component as to heightened intensity, rate of spread, and spotting potentials due to the arrival of the spruce beetle infestation in the plan area, (Alaska Fuel Type Number 54, FBFM SB2) and its anticipated spread throughout the plan area over the next /few years. (Stehn and Syrotchen, updated May 2024).

The risk of fire starting inside the community is high, based on potential ignition sources and surrounding fuel types. The area of highest concern is open burning on private property. Residential and commercial properties have a variety of hazardous materials including fuel oil and propane tanks, and above-ground utility lines.

## McKinley Village Community Wildfire Protection Plan Update

Burn barrels are used by some residential property owners to dispose of class A materials including cardboard and other burnable materials. The McKinley Village area is heavily traveled by visitors during the summer months who participate in recreational activities on and adjacent to the highway. Some local campgrounds provide fire pits for guests to have small warming fires, and ad hoc camping occurs in parking areas adjacent to the Highway. The Alaska Railroad corridor passes west of McKinley Village, across the Nenana River in Denali National Park. The most recent large fire the area saw was attributed to railroad activity in 1924, and the corridor brings a risk of wildland fire compounded with the potential for hazardous materials, as demonstrated by the recent Riley fire. Other contributing risk factors include periodic dry lighting and chinook winds. Power line maintenance on the Alaska Intertie and distribution lines also add to local fire risk. The alternate route(s) for all current proposals for an Alaska Natural Gas Line traverse the plan area, chiefly along its Eastern edge, with access roads proposed leading through the plan area from the Parks Highway.

As is the case for the entire Borough, residential and commercial infrastructure, including both residential subdivisions in the plan area, utilize single access and egress roads in proximity to continuous stands of Black and White spruce and present the highest risk to the community and will be the primary target of fire hazard mitigation planning efforts.

### Barriers and Natural Fuel Breaks

Barriers are zones that would help restrict large fire movement from coming into the community or spreading within the community. Barriers may be water, natural or manufactured. The McKinley CWPP area has water barriers on two sides in large, glacial-fed rivers. The Nenana River makes up the western boundary and the Yanert Fork of the Nenana is to the north. Fire history of the late 1800s and early 1900s, however, shows large wildfires have jumped the rivers, but they are known natural fuel breaks that can be utilized during wildfire suppression.

The paved George Parks Highway with its wide, its brush free shoulders are a human made barrier that runs north/south through the community and separates residential and commercial structures on both sides of the highway. While it cannot necessarily restrict large fires from entering the community, it can be utilized to inhibit the spread within the community, or to channel wildfires away from the most dangerous fuels. It also can be used to allow for evacuations and some safe, effective initial attack work while anticipating future extended attack when a wildfire cannot be contained immediately.

The area under the Intertie power lines to the east of McKinley Village area is periodically brushed out to remove spruce and brush and may be used as a partial barrier to major wildfires entering the plan area, but most of it is not accessible by vehicle. The last major brushing of the northern section within the plan area was done in 2010. The southern portion of the intertie was brushed in 2023. The local power lines of GVEA were last brushed out in 2020. There is no natural barrier



## McKinley Village Community Wildfire Protection Plan Update

to the south, but the rocky slopes of Panorama Mountain come within 2000 ft of the Parks Highway and Nenana River, just outside of the scope of this CWPP near Sline<sup>2</sup> Creek.

Most roads off the highway in McKinley Village cannot be considered adequate fuel breaks in the event of a wind driven wildland fire. The exception could be the Old Parks Highway running to the MVCC which is wider than other local roads and has gravel pits lining the east side. The airstrip is also a human created barrier that parallels the east side of the Parks Highway from Milepost 229 to 230. It could be utilized to inhibit the spread within the community, or to channel wildfires away from the most dangerous fuels. In terms of identifying emergency alternate access to the main Parks Highway from the two subdivisions, access to the airstrip and the Old Parks Highway are priorities.

### IFTDSS Landscape Burn Probability Modeling

The IFTDSS fire behavior modeling done for this CWPP through the Denali Borough CWPP project, includes the Landscape Burn Probability Model (LBP). LBP evaluates the likelihood a fire will occur by combining two models into one landscape map. The Burn Probability output (BP) quantifies the likelihood of a fire occurring under a fixed set of weather and fuel moisture conditions. In addition to BP, LBP also models Conditional Flame Length (CFL). CFL is an estimate of the average flame length for all fires that burn at a given point on the landscape under a fixed set of weather and fuel moisture conditions. This number is lower than the Landscape Fire Behavior Flame Length output because it averages head, flank and backing for each pixel instead of just the head fire.

The most relevant product of the LBP analysis for hazard mitigation planning is Integrated Hazard. Integrated Hazard combines BP with CFL into a single characteristic that can be mapped. The areas shown in black in are labeled as “Burnable but not Burned.” These pixels have burnable fuels but did not burn in the simulation because either none of the simulated starts reached those pixels, or a fire did start within those pixels but was unable to burn out because the spread rate was too slow. In the case of the Anderson AOI the most likely explanation is most of those pixels fell within the perimeters of recent fires and those areas have not yet regenerated a significant enough fuel load to burn through. This may also be true for fire perimeters on the east side of the Healy AOI. As vegetation continues to regenerate, this situation will most likely change and greater spread rates, along with potential spotting, will be supported in some, or most, of these recently burned areas.

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<sup>2</sup> The creek, located at Milepost 219, is generally identified on maps as Slime Creek. It is however known by local residents as Sline Creek, after an early resident named Joe Sline. The Ahtna name for the creek is Nanikaeni Na', the place where the rocks fell across creek.



## McKinley Village Community Wildfire Protection Plan Update

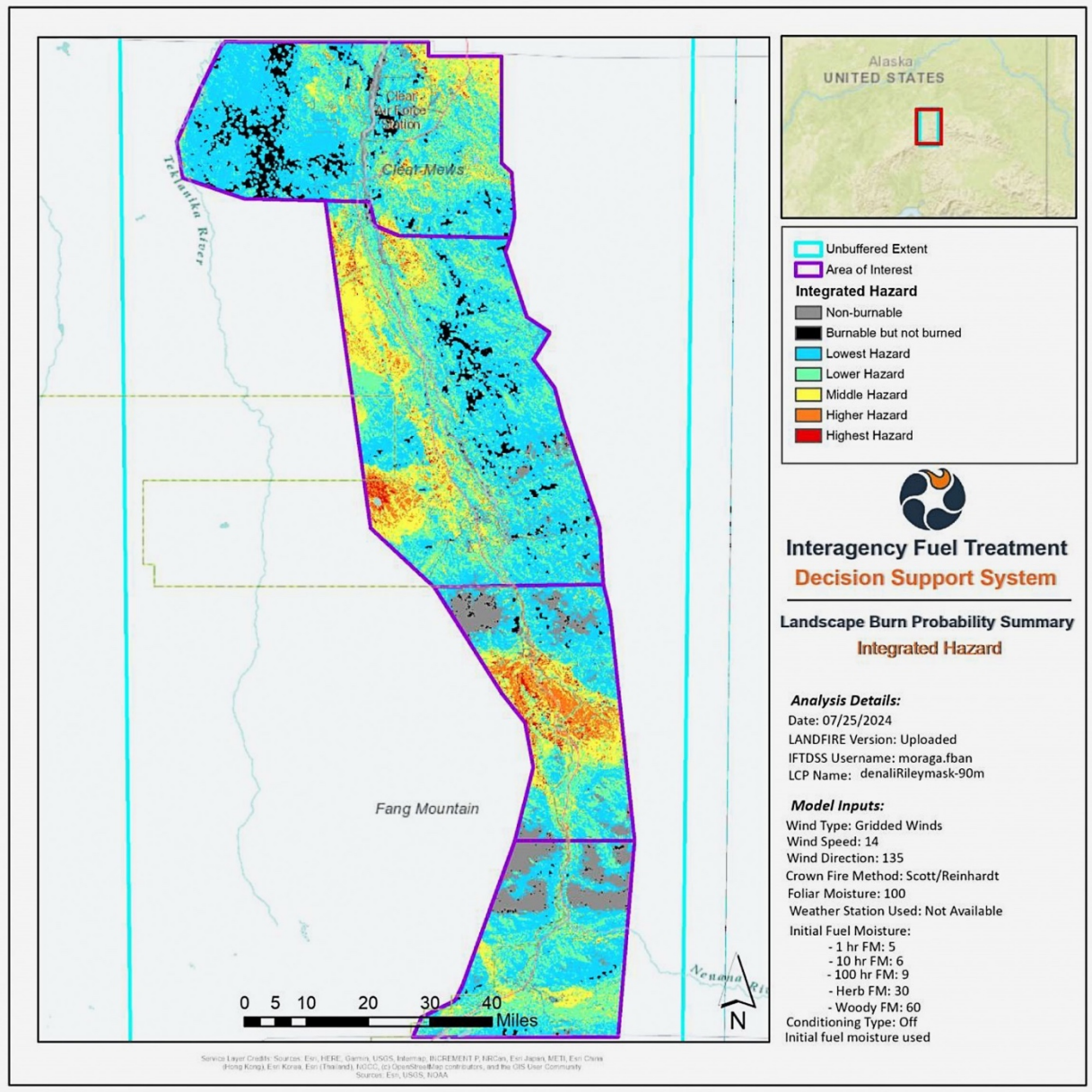


Figure 8 - Integrated Hazard Map from IFDSS LBP Analysis

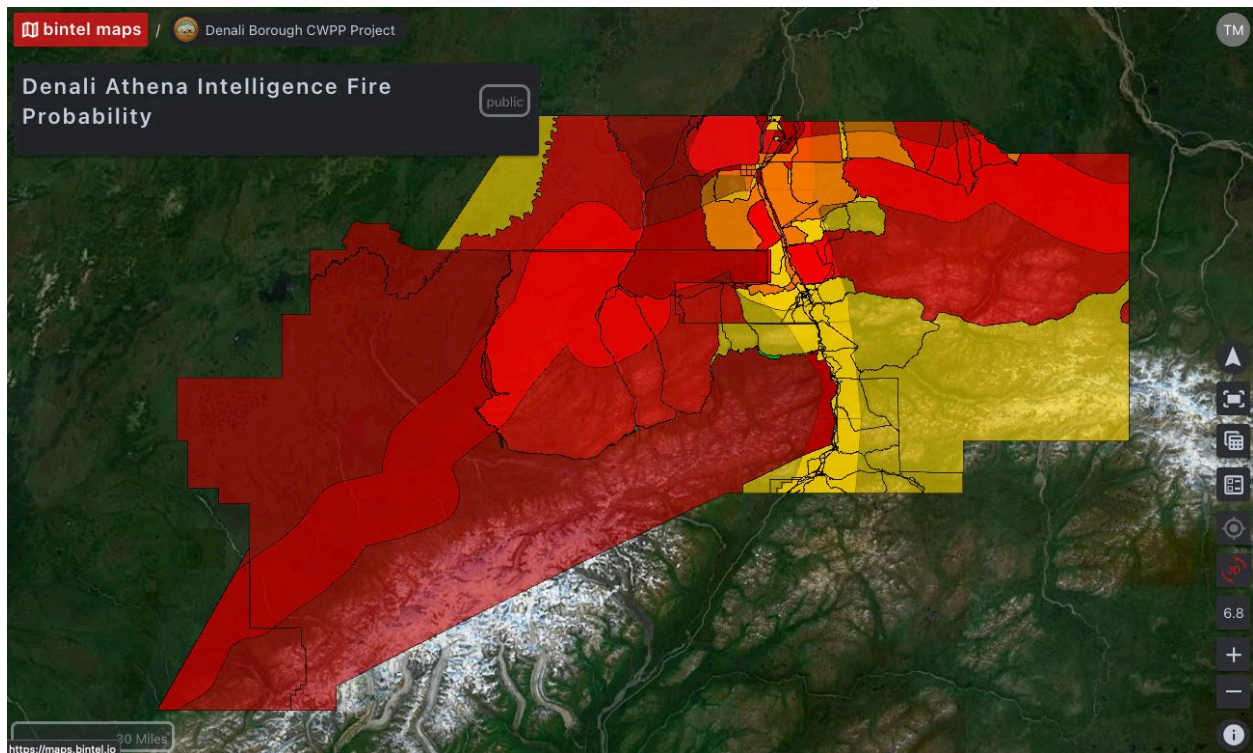
The LBP outputs show Moderate to Highest probability of fire starts in, or near, several Communities in the study area. This is especially true in the central portion of the McKinley AOI along and west of the Parks Highway.

### Athena Voice of the Acre Fire Probability Modeling

Athena's *Voice of the Acre*® (VOA) Wildfire Risk Assessment is a GIS Report based upon profiles of wildfire risk. Athena transforms publicly available data from multiple wildfire and environmental agencies into easy to use and actionable insights for Community Wildfire Protection Plans.

## McKinley Village Community Wildfire Protection Plan Update

While the term risk has multiple and often confusing meanings, Athena's technical definition of risk refers to their Voice of the Acre analysis. Athena characterizes risk through a 6-class index from Very Low to Very High, with each color representing very specific probabilities.



Greens are locations where the land is almost unable to sustain a wildfire.

Yellow and Orange areas have landscapes relatively inhospitable to fire. These areas will burn if the ignition even occurs within them, or if in close proximity to a fire in a red colored High Risk area.

While Low Risk and Very Low Risk locations can participate in a wildfire, across a landscape the following is consistently true: **Twelve months from the date of analysis, regardless of how many fires occur, or where they occur, you will be able to look back and see:**

## McKinley Village Community Wildfire Protection Plan Update

- Less than 1% of the locations involved in wildfires were ranked Very Low Risk. For Alaska, this has historically been 0%.
- Less than 3% of the locations involved in wildfires were ranked Low. Historically, for all of Alaska, this has been 2.6%.
- Historically, the combination of Moderate Risk, and the Low and Lowest Risk areas have represented 14.4% of all land involved with wildfires, with Moderate Risk accounting for 11.8% of the terrain.
- The High Risk and Highest Risk areas will represent over 50% of all areas which participated in wildfires. Historically for Alaska, these red colored areas have been where 70% of wildfires occur.
- Fires are less likely to occur in areas labeled Elevated than the High-Risk areas, but Elevated areas still represent 15.6% of all areas with a wildfire occurrence in Alaska's history.

Landscape Wildfire Risk		Percent of AOI
<b>Anderson CWPP Boundary</b>	Very High	11.8%
	High	43.9%
	Elevated	40.9%
	Moderate	3.4%
	Low	
	Very Low	
<b>Cantwell CWPP Boundary</b>	Very High	15.8%
	High	
	Elevated	
	Moderate	84.0%
	Low	0.1%
	Very Low	0.1%
<b>Healy CWPP Boundary</b>	Very High	5.0%
	High	28.2%
	Elevated	32.3%
	Moderate	34.5%
	Low	
	Very Low	
<b>McKinley Village CWPP Boundary</b>	Very High	18.8%
	High	
	Elevated	
	Moderate	81.2%
	Low	
	Very Low	

Figure 10 - Athena Probability per AOI

The VOA probabilistic methodology was designed for insurance actuaries and is statistically rigorous. The risk assessment is based on wildfire risk relative to the entire state of Alaska in 2024. Using artificial intelligence and local history, the changes can be measured, before new wildfires occur. This analysis is used to complement our IFTDSS analytics and expert on the ground assessment to build and prioritize mitigation recommendations.

McKinley has the third highest potential for wildfire in the Borough, however fire history and climate change suggest a higher potential under extreme weather and drought in the future. It's location at the entrance to DNP and critical services drive a high priority for wildfire planning and mitigation.

Athena's modeling considers all these areas to have a high potential for wildfire. Please note these ratings include the total land of the AOIs and not just those areas within the Community boundaries, providing a more complete threat context for the Communities within the AOIs.

# McKinley Village Community Wildfire Protection Plan Update

## **Modeling Summary**

Fire History, the original 2005 AICWPPG information, as updated by the current IFTDSS LBP analysis, the new Athena Intelligence VOA analysis, and continued in-person expert assessment conclude that a high potential wildfire will continue to threaten Communities in the McKinley Village AOI. Although fire history and current modeling shows a lower potential than Healy, very high mortality in white spruce stands is spreading north. This factor as well as changes in the local climate may cause current modeling to underpredict the potential for significant wildfire starts in this AOI. The 2024 Riley Fire is an indication of the possibility of an increasing hazard of significant wildfire starts in the study area that have not experienced large wildfires within recent history. A fire ignition event in, or south of McKinley Village CWPP area, with extreme southern wind funneling through the pass coupled with dry conditions could be devastating.



## McKinley Village Community Wildfire Protection Plan Update

### Firefighting Capabilities and Water Supplies

All four AOIs in the Borough are serviced by volunteer fire departments. Wildland fire response to State Responsibility Areas, including State, Municipal, and Private (SRA) lands is handled by the Alaska Division of Forestry and Fire Protection (AK-DOF) office in Fairbanks.

#### Alaska Interagency Fire Management Plan and Classification

The Alaska Interagency Wildland Fire Management Plan (AIWFMP) was developed in the 1980s by the Fire Subcommittee of the Alaska Land Use Council, later renamed the Alaska Interagency Fire Management Council, to provide a coordinated and cost-effective approach to fire management to all lands in Alaska. All fire management decisions by land managers and owners are based on values warranting protection, protection capabilities, firefighter safety and or land resource management needs. Before the plans were developed, an existing strategy called for suppression of all wildfires. The AIWFMP requires all land managers review the fire protection needs on lands under their management authority. The fire protection levels are Critical, Full, Modified or Limited Management Option. The levels are based on land managers' values to be protected as well as land and resource management objectives. The categorization and prioritization ensure that human life, private property and identified resources receive an appropriate level of protection with the available firefighting resources.

The Alaska Department of Natural Resources, through AK-DOF, has the responsibility for classifying State and Private lands, as they are the Jurisdictional Agency under the interagency Master agreement. The AK-DOF is responsible for all planning documents (i.e. land use, resource and fire management plans) for a unit's wildland fire and fuels management program.

The homes and commercial structures in the McKinley Village CWPP are classified as Critical Protection. This means the suppression objective is to provide complete protection to identified sites and control the fire at the smallest acreage reasonably possible. The allocation of suppression resources to fires threatening critical sites is given the highest priority. The rest of the area of the CWPP falls under Full Protection where wildland fire threatens uninhabited private property, high-valued natural resource areas, and other high-valued areas such as identified cultural and historical sites. The suppression objective is to control the fire at the smallest acreage reasonably possible. The allocation of suppression resources to fires receiving the full protection option is second in priority only to fires threatening a critical protection area.

#### McKinley Volunteer Fire Department

The McKinley Volunteer Fire Department has the following available for initial attack:

- 2007 International Pumper- 1,500 gallons (Type 3 Wildland Tanker)
- 2011 Ford F350 Light Rescue
- 2007 Ford F450 Type 6 Wildland Engine-200 gallons

## McKinley Village Community Wildfire Protection Plan Update

In addition, MVFD has mutual aid agreements to provide aid to and receive aid from: Tri-Valley Volunteer Fire Department (Milepost 248), Cantwell Volunteer Fire Department (Milepost 210), Anderson Volunteer Fire Department (Milepost 283+6) Nenana Volunteer Fire Department (Milepost 304), Denali National Park and Preserve (Milepost 238), and Clear Space Force Station (Milepost 278). MVFD is also a cooperator with the Alaska Division of Forestry and Fire Protection, Northern Region, Fairbanks (Milepost 323) through the 2024 Fire Protection Agreement and 2024 Annual Operating Plan. Thus, additional volunteer initial attack resources are at least 30- 75 minutes away and Alaska Fire Service smokejumpers (if available) are approximately 2 hours away, although extended attack through the DOF can be in place in 8- 12 hours.

### Local Fire Prevention Efforts

The MVFD offers fire prevention and Firewise literature at community events and informational posts on social media. A Community Wildfire Education Workshop for the initial development of the 2023 CWPP, with speakers from the AK-DOF and MVFD, attracted approximately 35% of the number of permanent residents in the plan area. Landowners in the area, as well as more focused subdivision groups, were apprised as to the drafts of this original plan.



Figure 11 - Community Meeting (from 2023 CWPP)



## McKinley Village Community Wildfire Protection Plan Update

Educational efforts included events for the younger residents of the area. These included a celebration of Smokey Bear's 80<sup>th</sup> Birthday with the organized MVCC Children's Playgroup and participation in collaboration with DNP on the new NPS Junior Fire Ranger program. Continued presentations in collaboration with the AK-DOF also included the Spruce Moose/Take Time to Learn Before You Burn campaign.

Despite state and local informational efforts, based on a cursory examination at that time, it appeared that a current community Firewise rating for defensible space overall in the area would be rated as poor, with less than 35% of homesites and community buildings meeting Alaska Firewise Standards, as set forth in the Alaska Interagency Community Wildfire Protection Plan Guide. Only a single standard achieved a "fair" assessment as to building construction, as although there are no building codes in the plan area, nearly all residences have metal roofs.

Continued and targeted Firewise campaign efforts, leading to a McKinley Village Firewise Community designation, must be part of the implementation of this updated plan. Sending further local representatives to Firewise workshops and using our improved recognition of hazards and more focused planning options in improving community education. The training would facilitate focused local meetings and workshops for both seasonal and permanent residents. Community interest was shown as to a Firewise demonstration at the 2024 volunteer workday at the MVCC, and a future dedicated FIREWISE workday would demonstrate such methods to residents. Based on community feedback in the original CWPP process, the MVFD has arranged with DOT to utilize its gravel pit for brush collection and burning in both 2023 and 2024. Continued educational efforts since the original plan and outreach resulted in a 300% increase in participation in the MVFD local brush dump/clearing program in 2024 over 2023 and likely increased the amount of defensible space within the community.

### Water Supply for Fire Suppression

Except for the cistern located at the MVCC, there are no hydrants in the study area indicating limited and inconsistent access to water supplies for fire suppression. While there are abundant natural water sources throughout the study area, the response time and uneven distribution of those sources hampers local response, especially given the fact that the most likely ignition will be human caused and along roads.

### Recommendations

A complete map of the water supply for fire suppression should be created and maintained. Any fire department connections, whether installed on a man-made water source, such as a tank or cistern, or a natural draft source, such as a dry hydrant, should be tested on an annual basis and serviced whenever necessary. Establishing and maintaining water sources and infrastructure is a high priority recommendation. This should include dip and draft locations in each area and AK-DOF directories and descriptions of sources.

### Landscape Scale Fuels Mitigation

While wildfire resilience requires a number of different parts to provide the proper level of resources and support to prevent, suppress and recover from wildfire events, it starts with resident mitigation. Fire Adapted Communities (FAC) provides a framework to educate, engage and embed communities into a fire prone landscape. FAC is a learning network that guides and provides an approach to living with wildfire combining landscape-scale fuel treatments, resident mitigation, safety & evacuation, and prevention. Programs like FireWise USA are an important part of FAC.



Figure 12 - Fire Adapted Communities Chart

An important aspect of FireWise USA is public education and community outreach, which provides the first level of support for a Community Wildfire Defense Grant (CWDG). CWDG grants provide resources for fire departments and community organizations. Another program is the Western Bark Beetle Initiative (WBBI) available to Alaska residents. FireWise and WBBI information are further detailed in the Grant Resources Section at the end of this report.

### Types of Treatments

While there are many types of fuelbreaks and methods, ***the goal of a firebreak is not to “stop” fire or even be used as a control line; but to reduce fireline intensity (FLI), the rate of spread (ROS) and bring a canopy fire back to the ground where firefighters can better manage it.***

### Firebreaks

A firebreak is an area where all vegetation and organic matter is removed down to mineral soil and affects the subsurface soil organic layer (SOL) in an attempt to limit the spread of wildfire. Depending on the width, location, and orientation to prevailing winds, fire breaks can create an increase in wind speeds at the 20-foot level ([Boyd et al, 2023](#)), in turn increasing the potential of wind throw and longer-range spotting distances ahead of advancing fire. Studies conducted in Interior Alaska show how successional trajectories of tree dominance, understory composition, and permafrost change over ~ 20 years after treatment relative to surface rate of fire spread (ROS), flame length, and fireline intensity in white & black spruce stands. Many benefits exist in

## McKinley Village Community Wildfire Protection Plan Update

the removal of built-up fire fuel; however, treatment comes with numerous tradeoffs that must be identified, investigated and planned.

Fuels reduction in open space will be most effective when combined with defensible space treatments. We recommend local fire departments collaborate with state and federal property managers and private property owners and managers wherever possible to create effective cross-boundary treatment plans.

In this report, when distances are provided, they are intended as minimums. Depending on fuels and topography, more extensive treatment areas may be necessary. The recommendations in this report are general. The specific design of any fuel treatment should be referred to qualified experts familiar with both the vegetation and fire behavior of the area.

Standards and guidance provided by the Alaska Department of Forestry and local fire departments should be primary sources for this information.

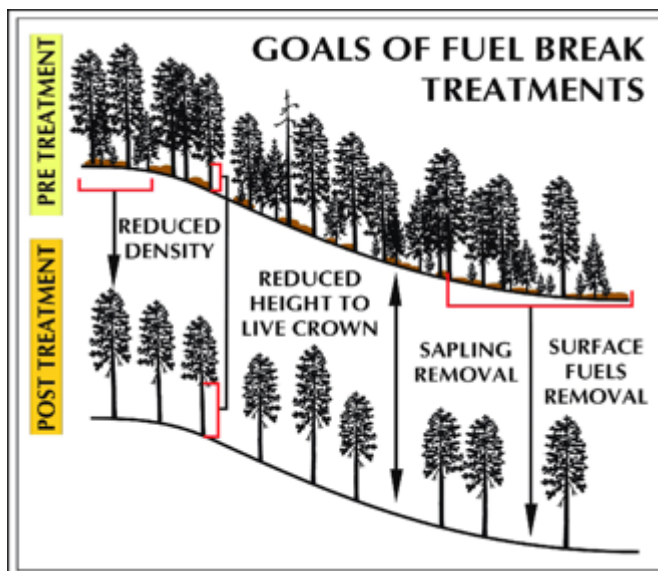


Figure 13 - Goals of Fuel Breaks ([Ken Day et al](#))

### Shaded Fuel Break



Figure 14 - Shaded Fuel break

A shaded fuel break is a strip of land where above-surface fire fuel has been modified or reduced to limit wildfire's ability to spread rapidly. In thinned stands, impacts on stand regeneration through seedling recruitment, understory plant community composition, and SOL depth are minimal (Little et al., 2018, Melvin et al., 2018). Studies show that homeowner willingness-to-pay (WTP) for contributions to residential and community-level fire mitigation projects increase within a certain distance from the treatment itself. This complements the findings that the type of fuel

treatment on nearby public lands influences willingness to incur the costs associated with pursuing risk mitigation activities on their own properties.

# McKinley Village Community Wildfire Protection Plan Update

## Power Line Corridor Fuels Treatments

Wildfires ignited by power system infrastructure tend to cause more damage than other ignition sources because they occur during high wind events when fire can spread very rapidly. Between 2016 and 2020, electrical power networks caused 19% of the wildfires that occurred in those five years. Golden Valley Electric Association (GVEA) currently maintains over 55 miles of Distribution conductor attached to the Cantwell Sub, 128 miles on the Healy Sub, and electric utilities for the entire borough. Right-of-way (ROW) clearing is done seasonally on a 5-year cycle, from April through October. Most ROW easements are 30-feet wide and generally clear all brush, vegetation and trees from ground-to-sky within that area.

The Borough and GVEA are working together to identify funding and specific plans for removal of hazardous trees outside the 30-foot area that present the likelihood of falling onto distribution lines.

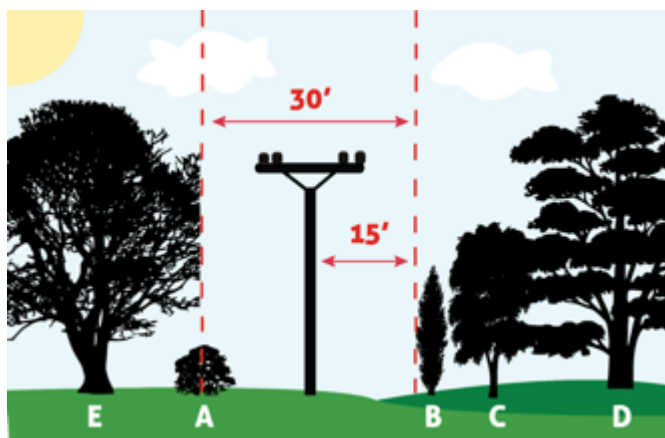


Figure 15 - Powerline Treatments

Electric lines that lead to a residence or building are called “house-drops” and are the responsibility of the individual homeowner. A 4-foot-wide clearing from ground to sky is required.

Ground assessment and confirmation of mortality rate of the forest surrounding and threatening electric lines shows more areas in need of vegetation work than the resources available to clear it. Utility compounds are severely encroached by vegetation both surrounding and within the easement and need to be cleared. In most areas, 5-year return intervals do not seem adequate as vegetation is overgrown in most ROW’s that have been recently cleared. Resources and additional contractors to clear ROW’s would be beneficial.

## Treatment Methods

### Mechanized Removal

Mechanical fuel treatments are designed to change the size, arrangement and orientation of forest biomass by either mulching and creating smaller fragments (mastication), or by removing material from the site (bundling, baling, biomass harvesting) for disposal or utilization. Costs of mechanical fuel reduction treatments vary drastically depending on specifics of the jobsite (location, slope, fuel type, surface load, etc.) and distance to wood biomass processing facilities.



# McKinley Village Community Wildfire Protection Plan Update

## Shear Blade/Bulldozing/Crushing

In manually thinned areas, soil organic layer (SOL) disturbance promotes tree seedling recruitment, but forest type does not change over time. By contrast, on mechanized sites that utilize shear blading and wind-rowing, both conifer and broad-leaved deciduous seedling



**Figure 16 - Shearbladed Fuel Break**

density increase over time and deciduous seedlings are 20 times more abundant than spruce. Thaw depth increases over time in both types of treatments and is greatest in shear bladed sites with a thin SOL. Understory composition of surrounding forest is not altered by thinning, but in shearbladed treatments shifts from forbs and horsetail to tall deciduous shrubs and grasses over time. Modeled surface fire behavior is constant in shearbladed sites, however, wind rowed material provides huge challenges during wildfire events. It is important to note that fuels treatments that fail to reduce canopy fuels, result in increased surface fuel loads, or do not receive maintenance treatments can lead to a false sense of security among residents and fire suppression personnel (Dennis 2005).

# McKinley Village Community Wildfire Protection Plan Update

## Mastication

Mastication is commonly used to create and maintain fire breaks in areas around the Borough,



Figure 17 - Mastication Example

however, like shearblading, it does not remove surface fuels, only rearranges them. In certain instances, fuel loads increase while introducing drying trends to permafrost layers and allows increased mid-canopy wind speeds. **The ultimate goal of a firebreak is not to “stop” fire or even be used as a control line; but to reduce fireline intensity (FLI), the rate of spread (ROS) and bring a canopy fire back to the ground where firefighters can better manage it.** Better understanding and consideration of forest health requires additional study on the lasting effects of wood chips and debris at different depths across the forest floor. A benefit of mastication is the uniformity of chip depth, compared to “jackpots” of material that are left in wind rows by shear blading.

## Rx (Prescribed) Fire

DOF recognizes prescribed fire on the landscape as an option for proactive fire management and hazardous fuel reduction. Alaska faces a real challenge when proposing prescribed fire as the ideal burn window historically falls within the most active fire burning period. DOF continues to invest in prescribed fire training opportunities for staff that prepares firefighters and managers to plan and execute prescribed fires safely and effectively. Prescribed Fire is generally cheaper to implement than mechanical treatments across large landscapes (Hartsough and others 2008; Hunter and others 2007), and fire has unique impacts on vegetation and soils that cannot be replicated by mechanical treatments alone (McIver and others 2013). Burning in Alaska tends to be “all or nothing” and can produce “stand replacing” fire behavior that changes orientation and layout of fuel characteristics.

## Material Disposal

The Denali Borough offers four locations for community hazard fuel disposal. Cantwell transfer station, Healy transfer station, and the Denali Borough Landfill areas are available to drop off woody debris cleared from structures and mitigation projects (see State of Alaska Hazard Fuels



## McKinley Village Community Wildfire Protection Plan Update

program information and video

<https://storymaps.arcgis.com/stories/679099b892f7412a913897fd1df62099>). Since the original CWPP, MVFD, in conjunction with the DB, has added the McKinley Village DNR/DOT pit to this list.

See below for discussion of opportunities for the Borough in biomass utilization.

### Summary – Westmark Hotels Example

Landscape scale treatments are generally the responsibility of the AK-DOF working closely with the Borough and other large landowners. They are the experts on this topic and should be consulted for any treatment projects outside of the homeowner's property.

A good example from McKinley Village is a recent request for a Land Use Permit (LUP) application from Westmark Hotels Inc, doing business as McKinley Chalet Resort, to conduct clearing near their hotel infrastructure located near the Nenana River in Glitter Gulch. The permit would authorize clearing where it may occur below the Ordinary High Watermark (OHW) of the Nenana. All other clearing would be located on their private property. This is an example of the correct approach before proceeding with the project.

A summary of Treatment Recommendations is covered in a section below and all recommendations are summarized in Appendix D.

# McKinley Village Community Wildfire Protection Plan Update

## Access/Egress & Evacuation Routes

Primary access in and out of all Communities in the study area is dependent on the Parks Highway, except for some Communities in the Cantwell AOI that are accessed by the Denali Highway. It is a 135-mile-long dirt road that intersects with the Parks Highway on the west end and limited access to the east. The Borough will be publishing a map of evacuation polygons in early 2025 and has adopted the Ready-Set-Go program. Recommend that residents reference <https://ready.alaska.gov/Documents/Preparedness/Outreach/My%20Emergency%20Plan.pdf> Evacuation routes will be identified by Emergency Services for Healy.

There are driveways and some Community access roads with no signage throughout the study area. Missing or inadequate address markers are also an issue. Many homes do not have an address marker visible from the street and those that do are of all types with no system for size or position. Recognizing this issue, the Borough began implementing a program in 2023 which offers residents uniform signage for their homes.




Although mapping applications such as Google Map and Waze have made it easier for responders to locate specific addresses, reflective address markers visible from the street are still desirable. There is limited cellular data in some parts of the study area for mapping applications and radio communications are difficult throughout. All applications relying on GPS technology have some

### READY, SET, GO!

Create Your Own Wildfire Action Plan

Fire resilience starts by supporting homeowners in making decisions that affect the safety and livelihood of their families. Successfully preparing for a wildfire requires residents to take responsibility for protecting their own families and property. It's not a question of IF, but WHEN, a wildfire will impact the Denali Borough, and the most important aspect in protecting life and property is the understanding that it is fully the responsibility of the property owner. Through advanced planning and preparation, everyone can be ready for wildfire.

After wildfire mitigation has been completed, it's time to prepare a Wildfire Action Plan. Each Wildfire Action Plan must be prepared with all members of the household well in advance of a fire. These checklists can be used to help prepare a Wildfire Action Plan. Each family's plan will be different, depending on their situation. Once the plan is complete, rehearse it regularly with family members and keep it in a safe and accessible place for quick implementation.



#### GET READY

##### Prepare Your Family

- ☐ Create a Family Disaster Plan that includes meeting locations and communication plans and rehearse it regularly. Include in your plan the evacuation of large animals such as horses.
- ☐ Have fire extinguishers on hand and train your family how to use them.
- ☐ Ensure that your family knows where your gas, electric and water main shut-off controls are and how to use them.
- ☐ Plan several different evacuation routes.
- ☐ Designate an emergency meeting location outside the fire hazard area.
- ☐ Assemble an emergency supply kit as recommended by the American Red Cross.
- ☐ Appoint an out-of-area friend or relative as a point of contact so you can communicate with family members who have relocated.
- ☐ Maintain a list of emergency contact numbers posted near your phone and in your emergency supply kit.
- ☐ Keep an extra emergency supply kit in your car in case you can't get to your home because of fire.
- ☐ Have a portable radio or scanner so you can stay updated on the fire.

**Figure 18 - Ready-Set-Go Program**

## McKinley Village Community Wildfire Protection Plan Update

difficulty pinpointing addresses from time to time and it is important to remember that technology does fail.

While some residents may consider reflective address signage to be unattractive, it is essential for quick and effective response. The value to responders, especially at night under difficult conditions, cannot be understated. This is especially true during large wildland fires where poor marking creates challenges for outside responders who do not have training and experience regarding local access.

### Roadway Fuel Treatments

Roadside treatments are designed to dramatically reduce fuels and create potentially survivable conditions along roadways during wildfires that allow for safer evacuation and firefighter response. Prescriptions for shaded fuel breaks and complete removal of trees are sometimes appropriate at evacuation or operational pinch points and should follow ecological and stand-level restoration principles. AK-DOT manages an active Hazard Fuel Reduction Program that aims to remove enough fire fuel to reduce the severity of wildfires and increase controllability. Many roads within the Denali Borough have variable terrain and almost all are heavily encroached by light, flashy fuels. The width of an effective roadway fuel treatment is dependent on slope, vegetation density and the arrangement of fuels. Treatments should extend 150 to 250 feet on the downhill side and 100 to 150 feet on the uphill side.

Alaska State Department of Transportation (AKDOT) maintains an Integrated Pest Management plan (IPM). This process can be found at AKDOT IPM (<https://dot.alaska.gov/>). Along with preventing damage to roadside markings, safety guardrails and sight lines, AKDOT is tasked with clearing airports and landing strips operated by the Federal Aviation Administration (FAA).



Figure 19 - Roadside Evacuation

### Recommendations

- All common driveways and private access roads should be marked with reflective signage showing the addresses accessed at every junction.
- The Denali Borough government is working on a consistent system of reflective address markers and supplies address markers to the public. This is an important effort we recommend be continued in every Community of the study area.
- For driveways and dead-end access roads longer than 150 feet, a cleared turnaround for fire apparatus should be provided. Turnarounds may consist of a "cul-de-sac" with a minimum 45-foot radius, a 60-foot "Y", or a 120-foot "Hammerhead" with a road width of at least 20 feet for dead end roads and driveways 151 feet to 500 feet and a minimum

## McKinley Village Community Wildfire Protection Plan Update

road width of 26 feet for dead-end roads and driveways longer than 500 feet.

- Where recommended by fire department and Denali Borough Office of Emergency Management officials, roadway turnouts should be at least 12 feet wide and 30 feet long with a minimum 25-foot taper on each end. Roadways should be at least 20 feet wide, wherever possible. Type 1 fire engines may be up to 102 inches, or 8.5 feet, in width exclusive of mirrors, fixed steps or suppressant devices.<sup>ii</sup>

### Areas of Special Interest

#### Denali Park Village

The area is known to locals as "Denali Park Village." It consists of seasonal commercial structures. The main service offered is overnight accommodations with other subsidiary business offerings. There are summer employee residential accommodations. The employee and guest accommodations range from small cabins to larger hotel structures. While this area is not inhabited year-round, it does have a large population that would need to be evacuated in the case of a wildfire. Many of the employees of these businesses, as well as the guests in these hotels do not have personal vehicles. They would be reliant upon the business owners to provide transportation out of the area in the case of an evacuation.

The only way out for vehicles is on the Parks Highway. The area on the East side of the Parks Highway has an abandoned and unmaintained section of the "Old Parks Highway" that connects them to the nearest community of Karma Ridge. This portion of road is currently sloughing off and becoming increasingly more impassible. There are barriers at the top of the road to prevent vehicles from travelling the road, but it is a potential route to use on foot to gain access to the highway if the highway is inaccessible, but this route has not been overtaken by fire yet. The area East of the highway is bordered on the south by a steep slope, on the East and North by the Nenana River, and on the West by a steep slope leading to the Parks Highway.

The area West of the highway is bordered on the south by a steep slope, on the West and North by the Nenana River, and on the East by the Parks Highway.

#### Denali Frontcountry

The Denali Frontcountry is roughly defined as the housing and infrastructure located between the George Parks Highway and mile 3 on the Denali Park Road. This includes, from east to west, the Riley Creek Campground and Bus Depot, Concession land agreement, Visitor Center Campus, C-Camp housing and administrative area, and the Headquarters Historic District housing and administrative area. Hazard fuel mitigation projects are planned for and have been completed in most of the area including mechanical thinning and pile burning.



Figure 20 - Denali Park Village 1976 to 2005



## McKinley Village Community Wildfire Protection Plan Update

The Riley Creek Campground area includes 150 drive-in and walk-in campsites, a camp store (the Riley Creek Mercantile), a post office, a day use area and trailhead, and the Denali Bus Depot. The campground is incredibly popular, and usually at or near full capacity for the summer season (approximately May 15 – September 15.)

The Concession land agreement area includes housing and administrative buildings used by the concessioner that provides bus transportation and other services in DNP&P. The area also includes the Murie Science and Learning Center, which serves as an education center in the summer and the park visitor center in the winter. Up to 185 concessioner and park employees live seasonally in a variety of housing units from single occupancy A-frames to double occupancy dorm rooms, with centralized bathrooms and dining facilities. Construction is underway on one unit that would house 12 employees year-round. A fleet of approximately 100-115 buses that provide transportation into the park is based in this area as well.

The Visitor Center Campus is open seasonally May – September and provides infrastructure for visitor services and transportation. This includes the Visitor Center, bookstore, restaurant, and the Alaska Railroad train depot. Approximately 300,000 visitors come through the Visitor Center during the summer season.

The C-Camp housing and administrative area provides seasonal housing for up to 72 park employees, and year-round administrative support for emergency services, wildland fire, and maintenance. The C-Camp housing area consists of 36 double occupancy cabins with a central bathhouse. Cabins are newer construction with kitchen facilities, wood siding or log walls, and metal roofs (see photos 4947-4959.) Construction is underway on an additional dorm facility that would house up to 8 employees year-round. This area has a hydrant system fed by a 5,000-gallon gravity tank.

The Headquarters Historic District includes year-round housing for park employees, offices, and the sled dog kennel which houses up to 35 working sled dogs year-round. Most administrative buildings and some housing units are historic, constructed of log walls with metal roofs, or wood siding with metal or asphalt roofs. Some outbuildings still have wood shake roofs. Many buildings have wood stairs, decks, and projections. Spaces under some decks are covered with wood lattice. There is native vegetation including black and white spruce trees right on, or very close to, many office buildings and residences.

## Review of McKinley 2023 Objectives

Interagency wildland fire policy identifies public safety as its top priority. The primary goal of the CWPP is to reduce the risk of wildfire to the residents and guests of the community of McKinley Village and its essential infrastructure.

The goal of this CWPP is to update and extend the original recommendations to eventually prioritize a list of risk reduction projects in the highest risk areas identified by vegetation maps and local community knowledge/assessment

## McKinley Village Community Wildfire Protection Plan Update

Continued collaboration may be accomplished through these processes. Encourage continued dialogue among decision makers, local, borough, state, and federal agencies, and continuing to engage landowners and interested parties. While a series of recommendations is made in this report, this section will review and update progress for the objectives listed in the original 2023 CWPP.

### **Objective #1: Support and Encourage the Use of Firewise Programs and Education**

**Update: In process and continuing, this plan reiterates this as top priority. McKinley has the highest engagement in the Borough.**

The first line of defense against a wildland fire is to encourage the creation of a Firewise landscape around homes and businesses and the construction of new homes to Firewise standards. Fire and fuel breaks around the outskirts of the community and even within the community will not protect against all wildfires and resources are quickly stretched thin during a fire. Only in conjunction with landowners will this plan succeed. The Alaska Department of Forestry and Fire Protection offers information and literature on defensible space and other Firewise tactics, that can be utilized by the fire department in local efforts. The MVCC can immediately be utilized as a Firewise demonstration project to educate residents. The Denali Borough has undertaken a brush collection program at its solid waste facilities, the MVFD has arranged with DNR/DOT to use its pit within the Community, and they both will continue to receive brush from residents and businesses completing Firewise clearing projects around their property.

### **Objective #2: Develop an Evacuation and Notification Plan for wildfires**

**Update: Denali Borough plans to publish an update to it's Evacuation Plan in January 2025.**

An evacuation plan for the community and its residents and seasonal visitors is needed along with primary evacuation routes identified to provide the public with information and a safe means to escape a wildfire. This is consistent with the Final Denali Borough Emergency Operations Plan (2020). A communication system to allow for better and more timely notification in the event of an emergency is needed to be updated for both residents and visitors. Due to the lack of broadcast and cable services in the plan area, foreclosing normal emergency alerts, an emphasis on a targeted use of the more recent Wireless Alert System should be prioritized. Continued use of email community chat rooms and social media must continue and should be coordinated. Emergency access/egress routes, shelters and safe areas need to be identified and approved, and the plan exercised with the Denali Borough and other cooperating agencies and landowners on a regular basis to ensure its effectiveness.

Evacuation planning must include consideration of the large influx of visitors during the summer season. This influx is largely comprised of older or seasonal people without their own cars, and dependent upon tour and shuttle buses for transportation. These factors make it much harder

## McKinley Village Community Wildfire Protection Plan Update

for them to respond to a wildfire evacuation situation, and greatly increases an otherwise very high-risk factor during the wildfire season.

The “Ready, Set, GO!” program is a national standard used by firefighters and public safety organizations to inform the public, and has been used effectively by the Borough during large recent fire events in 2022 and 2023. MVFD and DB personnel have had discussions regarding the situations presented in the CWPP area. Continued collaboration and coordination with the Borough are key components of the plan.

### **Objective #3: Develop a Hazard Matrix and Map that Prioritizes Areas for Potential Hazard Fuel Reduction**

**Update:** This is an aspect of this Update, see Appendix A for specific “Community” hazard ratings.

The current CWPP process has mapped the hazardous fuels from the ground and by using GIS and satellite imagery. Concurrently with this project, a plan can be developed along with community and landowner collaboration that will allow Forestry personnel to prioritize areas for potential hazard fuel reduction. Since public safety is of the highest concern, the matrix will prioritize removal of hazardous fuels from areas that most affect life safety, such as critical ingress/egress roads, areas that might be used for safety zones and emergency shelters, agencies that might be involved in the firefighting or evacuation effort, and communication facilities. The next highest priorities will be areas that have large continuous stands of hazard fuels that would be difficult to access by firefighters. Firefighter access is critical to Initial Attack efforts that are designed to contain wildfires before they reach a size that makes them much more dangerous and expensive. The areas where these large stands of hazard fuels border the community or populated enclaves will also be identified as areas that need to be treated to give firefighters a chance to stop a fire from entering the outskirts of, or key components within the community.

### **Objective #4: Reduce Hazardous Fuels within the Community**

**Update:** With this Update and the Denali Borough CWPP, McKinley Village is in a good position to coordinate with affected landowners, entities, and agencies and apply for mitigation grants.

In addition to the creation of a Firewise landscape around individual homes and businesses hazardous fuel reduction will provide the greatest benefit to fire suppression efforts in the event of a wildland fire threatening the community. Initial projects will consist of removing spruce trees and creating a predominately willow and aspen forest in critical areas within the plan area. See Hazard Fuel Reduction plan, below. Major projects within a fuel reduction plan would only be identified following further mapping and implemented with additional community input from directly affected landowners and residents.

## McKinley Village Community Wildfire Protection Plan Update

### **Objective #5: Improve Firefighter and Emergency Response Staff Effectiveness and Response through Technology and Training**

**Update:** this Update reiterates the importance of this objective and emphasized it in the Borough plans for grant funding a center of excellence for firefighting and mitigation. The foundation for a fire specific map platform has been established with this project.

Increasing the emphasis on training for local firefighters and borough emergency response staff will also enhance the ability of the MVFD and Forestry to suppress fires quickly and safely before they become large fires that can threaten many lives and property. Working with cooperating agencies and exercising these skills on a regular basis will help to minimize the confusion inevitably created during Wildland Urban Interface fires. Increasing the use of satellite imagery and GIS data to provide the firefighter with better maps and data will enable them to improve their response time to a complete size-up of any fires and then success rate on Initial Attack of fires, while greatly increasing the effectiveness of the firefighters during Extended Attack on large fires.

### **Objective #6: Build the CWPP to be Sustainable and Efficient**

**Update:** This is one objective of the project and while the foundation will be in place, a source of funding will need to maintain it. This has been recognized by the state with the goal to review at 3 years, update at 5 years and complete a new version in 10 years.

It is in the best interest of the community to make the CWPP a sustainable and adaptable plan. It is hoped that this can be done through increased use of contractors and members of the public to remove fuels, and possibly even the use of those hazard fuels as energy or wood products. Continued and scheduled collaboration among all parties should encourage future modifications to the plan that serve to advance its objectives.

## Mitigation and Hazard Fuel Reduction Plans

From the 2023 CWPP, these projects are being reviewed for status and will be moved into the Recommendations Table where appropriate.

Specific hazardous fuels reduction projects to be immediately considered

- Remove hazardous fuels around the MVCC and Fire Hall, if initially done to Firewise standards, this could serve as an active demonstration of Firewise practices for residents.
- Identify, and upon future collaboration with residents, remove hazardous fuels around single access/egress routes to the two residential subdivisions.
- Continue to provide a free and convenient option for brush disposal within the McKinley CWPP area.

## McKinley Village Community Wildfire Protection Plan Update

- Enlist help from Federal, State, major landowners, and local experts to prioritize further hazardous fuels reduction possibilities and fire hazard reduction within the community and consult with residents and landowners on these findings

Equipment, tools, materials, and personnel required to implement McKinley CWPP

- Utilization of GIS mapping of area and readily available maps for further planning efforts and first responders (MVFD, Forestry and/or NPS).
- Seasonal MVFD staff to coordinate Firewise implementation, including a voluntary physical assessment program and various social media surveys, mitigation trainings, and reports.
- Denali Borough staff member time to pursue implementing the CWPP, including coordinating the use of the Wireless Emergency Alert System and evacuation planning.
- Training, equipment, and personnel for wildland fire prevention and education within the community as determined

## Updated McKinley Village Treatment Recommendations

Treatment recommendations are intended to benefit all CWPP areas by increasing communication, coordination and funding for wildfire mitigation, fuel reduction, or community engagement projects. These recommendations focus on helping to create the infrastructure and support that will increase the success of local-level projects. Additional and/or more specific recommendations for each CWPP area will be discussed in their individual sections.

### Support a Community Wildfire Outreach Committee

The Local Emergency Planning Committee (LEPC) supports the Denali Borough through Wildfire Outreach and consists of members throughout the Borough. It is intended to create a line of communication throughout the Borough that addresses wildfire education and community outreach throughout the area. The committee supports community engagement events that aim to increase homeowner participation and coordinate projects alongside state operated fuel treatments to capitalize on work that is planned or near completion.

### Investigate early detection along power lines

Line clearance maintenance intervals conducted by GVEA are within standards for the industry, however, are inadequate for some areas where mortality is >90%. The return cycle to remove brush underneath and within the power line corridor (30') is 5 years, however, overgrown brush and understory and fallen trees on power lines present a substantial risk to the CWPP area. Early detection and monitoring of electric utilities is crucial to properly inform first responders and provides tools to properly and efficiently assess and coordinate aggressive response.

### Identify priority fuels-treatment areas



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Alaska DOF plans and completes landscape scale fuel reduction projects around the state and plans to treat approximately 80 acres around the Healy CWPP area. Create a map of proposed treatment areas that incorporates and extends from state projects to introduce additional fuel breaks or acquire equipment that helps to retreat the area or defend it during a wildfire event.

### Implement forestry and ecology educational and school programs

Invest in professional development workshops like Project Learning Tree (PLT). PLT is an award-winning environmental education program designed for and by educators working with students in pre-kindergarten through grade 12. The program uses the forest as a "window" on the natural world, helping to focus awareness and knowledge of all aspects of the environment, and our place within it. PLT helps prepare students to make informed decisions about conservation practices and natural resource use by practicing problem solving and critical thinking skills.

Alaska's Project Learning Tree (PLT) program is currently funded by DOF Forest Stewardship Program through 2027, with funding through the Inflation Reduction Act (IRA). Additional non-federal funding sources should be identified to support this program after IRA funding is exhausted; program is operated statewide with Alaska-specific wildfire education modules in addition to forestry and natural resources modules.

### Create woody-biomass utilization strategy

Community and residential fuel reduction creates large amounts of wood waste and creates a barrier too large for many homeowners to overcome. At the Borough level, it's important to consider strategies that can evaluate the amount of biomass that will be created and how it can be utilized in local markets. New developments in air-sheet incineration technology and wood chip processing can convert wood waste into a marketable energy source. It will drive mitigation efforts and have an outlet for its own products.

### Institute community chip days

Work with DOF teams and equipment or consider acquiring a brush-chipper to be operated by volunteer personnel on designated chip days that are coordinated through the Community Wildfire Outreach Committee. Training for personnel is available through the Volunteer Fire Capacity (VFC) Grant and will increase the capacity of The Borough to competitively apply for additional grant funding through the Community Wildfire Defense Grant (CWDG) and Non-Federal Hazardous Fuels funding through the United States Forest Service (USFS) that is utilized primarily for assistance with hazard fuel disposal sites across Alaska. More information can be found through the DOF website at <https://forestry.alaska.gov/fire/fuelmitigation>.

### Wildfire Fire Assessment Program

Implement a training program for MVFD members to conduct free assessment visits to residents to give property-specific FIREWISE options and recommendations. This could be modeled on the National Volunteer Fire Council's Wildfire Fire Assessment Program for such

## McKinley Village Community Wildfire Protection Plan Update

training and assessment tools, as further informed by Alaska-specific FIREWISE training and materials.

### HIZ-Level Recommendations

Given the large area of the Borough, access roads, lack of water and limited local fire suppression resources, the quality of the Home Ignition Zone (HIZ) will be the primary factor in determining a home and resident's ability to survive wildfire. The HIZ includes the ignitibility of the structure itself and the quality of the defensible space surrounding it.

**The two most important HIZ-level recommendations in this report are:**

- 1. Incorporate defensible space techniques and ignition resistant construction in future development plans, and**
- 2. Fire hardening of existing structures to the greatest extent practical.**

Detailed information on achieving these goals is presented in ***Appendix B, Home Ignition Zone Recommendations***. See also the discussion above of establishing a Wildfire Assessment Program to aid residents in these efforts.

The following general measures should be practiced throughout the study area.

1. Always be aware of the current and expected fire danger. In times of high fire danger pack go-bags and create a household plan to speed your exit should evacuation become necessary.
2. Connect and have available a minimum of 50 feet of garden hose near all buildings to extinguish small fires before they spread. For large buildings, two or more hoses may be required to provide adequate coverage.
3. Clean roofs and gutters to remove pine needles and other flammable litter from the roof year-round.
4. Don't store firewood or other combustibles under decks, stairs, or wooden projections, or within 30 feet of a home/habitable structure.
5. Maintain and clean spark arresters on any chimneys.
6. See the Access/Egress Routes & Evacuation Recommendations section below for recommendations regarding maintaining driveways and turn-arounds at homes to provide a safe evacuation route for residents and access for firefighters.
7. Develop and maintain defensible space as described in *Appendix B, Home Ignition Zone Recommendations*. Debris and cuttings should be removed entirely from the area and never dumped into adjacent wildlands or vacant lots.

It is essential to remember that fire mitigation is not a one-time task. Defensible space should be maintained year-round, and reducing structural ignitibility is an ongoing process. For more information, please see *Appendix B: Home Ignition Zone Recommendations*.

## HOME HARDENING

### Ember Zone Awareness



### Ember Awareness Checklist

- |   |  |  |
|---|--|--|
| <p><b>1</b> <b>Roofs</b><br/>Replace wood shake roofs with fire-resistant types such as composition, metal and tile.</p> <p><b>2</b> <b>Roof Openings</b><br/>Plug openings in roof coverings, such as the open ends of barrel tiles, with non-combustible materials.</p> <p><b>3</b> <b>Roof Debris</b><br/>Roof plant debris such as pine needles, leaves, branches and bark from the roof.</p> <p><b>4</b> <b>Skylights</b><br/>Replace plastic skylights with types constructed of double-pane glass. One of the panes should be tempered glass. Close skylights if wildfire is threatening.</p> <p><b>5</b> <b>Spark Arrester</b><br/>Install an approved spark arrester on chimneys.</p> <p><b>6</b> <b>Windows</b><br/>Replace single-pane, non-tempered glass windows with multi-pane, tempered-glass types. Close all windows if wildfire is threatening.</p> <p><b>7</b> <b>Vents</b><br/>Cover attic, eave and foundation vents with 1/8-inch wire mesh or install new vent types designed to prevent ember entry. If wildfire is threatening, consider covering vent openings with pre-cut plywood or aluminum foil folded several layers thick and stapled.</p> <p><b>8</b> <b>Rain Gutters</b><br/>Keep rain gutters free of plant debris during the season. Consider using rain gutter covers to reduce maintenance.</p> | <p><b>9</b> <b>Siding and Trim</b><br/>Fill gaps in siding and trim materials with a good quality caulk and replace building materials in poor condition.</p> <p><b>10</b> <b>Woodpiles</b><br/>Move firewood stacks and scrap lumber piles at least 30 feet from the house or other buildings.</p> <p><b>11</b> <b>Patio Furniture</b><br/>Place combustible patio furniture, such as lounge chairs, tables and hammocks, inside the house or garage if wildfire is threatening.</p> <p><b>12</b> <b>Decks</b><br/>Replace any weathered or decayed materials, as well as deck boards that are less than one inch thick, with thicker boards in good condition. Use metal flashing between the deck and the house. Routinely remove plant debris from the gaps between deck boards, the gap between the deck and the house, and lying on top of the deck. Remove plant debris, woodpiles, and other easily ignited materials from under decks. Consider enclosing the open sides of the deck with ignition-resistant siding materials that are properly vented or 1/8-inch wire mesh to reduce maintenance, the amount of windblown debris and deter ember entry. Do not use wooden lattice to enclose decks.</p> <p><b>13</b> <b>Porch and Deck Accessories</b><br/>Remove combustible materials from the porch and deck if wildfire is threatening. This includes newspapers, wicker baskets, door mats, pine cones and dried flower arrangements. Move barbecues with small propane tanks into the garage. Place larger tanks that are 5 gallons or more away from the house where they can safely vent.</p> | <p><b>14</b> <b>Flowerboxes</b><br/>Remove wooden flowerboxes from beneath windows if wildfire is threatening.</p> <p><b>15</b> <b>Eaves</b><br/>Cover open eaves with sheathing, such as plywood or fiber-cement board. Use tongue and groove joints or other intricate joint types and do not use butt joints.</p> <p><b>16</b> <b>Flowerbeds</b><br/>Replace wood mulches with noncombustible types and remove plant debris, including dried grass and flowers, dead leaves and dead branches from flowerbeds next to the house, other buildings and next to wooden fences. Replace ornamental junipers with low-growing deciduous shrubs or flowers under irrigation.</p> <p><b>17</b> <b>Vehicles</b><br/>Close vehicle windows. Back into the garage and close the garage door or park away from the house.</p> <p><b>18</b> <b>Garage Door</b><br/>Adjust garage doors to achieve as tight a fit as possible with the door frame. Consider using trim around the garage door opening to reduce the size of the gaps. Close the garage door if wildfire is threatening.</p> <p><b>19</b> <b>Garbage Cans and Recycling Bins</b><br/>Use metal garbage cans covered with tight fitting lids near the house or other buildings. Move newspaper recycling bins indoors.</p> <p><b>20</b> <b>Fences</b><br/>Maintain wooden fences in good condition and create a noncombustible fence section or gate next to the house for at least five feet.</p> |
|---|--|--|

Figure 21- Home Hardening

### Conclusion – Top Priorities

The analysis performed during the preparation of this update shows there are Communities within the McKinley Village CWPP area that have a Very High to High hazard severity rating and a significant probability for a large wildfire event to occur in the future. The following summary is a distillation of the highest priority actions to preserve life and property:

1. Individual property owners must be made aware that the survival of their homes will rely heavily on their ability and willingness to create defensible space and harden their structures to the greatest extent practical against ignitability from embers and firebrands. Support from local fire departments, the Denali Borough Office of Emergency Management and interested local property owners and managers is key to community awareness and support of these efforts.
2. Top priority should be to remove hazardous vegetation from access/evacuation roads and driveways and in and adjacent to overhead powerline distribution corridors. Maintenance and tracking of the progress must continue for these treatments should be executed off a cycle based on action thresholds. Resources and additional contractors to clear ROW's are recommended.
3. Given the critical value of power for communications and the lack of alternatives supporting suppression response and evacuation, all powerlines should be considered critical infrastructure in determining mitigation funding priorities. It is recommended that shaded fuel breaks be completed around every overhead conductor.
4. A complete map of the water supply for fire suppression should be created and maintained. Any fire department connections, whether installed on a man-made water source, such as a tank or cistern, or a natural draft source, such as a dry hydrant, should be tested on an annual basis and serviced whenever necessary (dip and draft, check AK-DOF for existing directory and requirements).
5. A Borough-wide program to recruit and train firefighters to be deployed between fire departments is critical to first response and mitigation projects. Given the high propensity for human caused ignitions, this is critical to minimizing damage. A firefighter training program should be established in a facility supported by a grant request to minimize dependence on remote resources and enable a consolidated effort rather than expecting all four VFDs to execute this recommendation independently.
6. Address biomass removal of beetle kill vegetation, especially white spruce.

For a specific list of recommendations, see ***Appendix D – Consolidated Borough Recommendations Table***.

# McKinley Village Community Wildfire Protection Plan Update

## Summary

The community of McKinley Village remains in a difficult situation regarding wildfire. It has a large hazardous fuel load that encompasses nearly the entire community and areas immediately surrounding it. It also has limited wildland firefighting resources available due to its low population and distance from larger communities (120 miles to Fairbanks). This situation is conducive to the possibility of a wildfire that could quickly threaten lives and property, and cause millions of dollars in damage.

As it is recognized that given the right conditions, a destructive wildfire could occur which would quickly overwhelm local firefighting capabilities and advance within the community, the surest way to prepare for a wildfire of this magnitude is through fire prevention and mitigation as discussed throughout this updated CWPP. In the event of wildfire, however, adequate and timely warnings are key to the immediate safety of residents and visitors, as are preset evacuation plans. Local firefighting training in planning, wildfire size up, and initial attack, and the coordination of mutual aid and cooperating firefighting resources for speedy extended attack are also essential. These aspects are included in the plan.

Therefore, it is imperative that all the members of the community stay involved with this process as it goes forward. It is hoped that through interagency cooperation and public involvement the McKinley Village community can become a safer and more Firewise community for the benefit and safety of all its residents, landowners, and visitors

## Grant Resources

One of the biggest obstacles to overcome when trying to implement CWPP recommendations and wildfire mitigation projects is funding. A certified CWPP opens a multitude of funding sources to complete work outlined in the plan. For many agency and organizational projects, federal, state and borough funds are available to begin treatments. The list below is not inclusive but rather serves as a starting point for the most commonly available sources of funding and outreach.

### State of Alaska Grant Resources

#### **Volunteer Fire Capacity Funding**

The Volunteer Fire Capacity (VFC) program formerly known as the Volunteer Fire Assistance (VFA) provides funding assistance for training, supplies, equipment purchases, and prevention activities on a cost share basis. The program is available from the USDA Forest Service through the State of Alaska, Division of Forestry & Fire Protection and may be used for both wildland and structure protection need. The assistance is provided to increase firefighter safety, improve the firefighting capabilities of rural volunteer fire departments, and enhance protection in the



## McKinley Village Community Wildfire Protection Plan Update

wildland urban interface. The amount available to apply for is capped at \$10,000. The 2025 VFC Application period will be open from October 14th 2024 to December 13th, 2024.

<https://forestry.alaska.gov/fire/vfc>

### **Western Bark Beetle Initiative (WBBi)**

This is available to Alaska residents. WBBi is a cost-share program designed to assist non-federal landowners statewide with bark beetle prevention, suppression, or restoration efforts. At the time of this writing, the application period for large acreage non-federal landowners is open, however additional small individual private landowner applications are no longer being accepted. Any questions about this funding can be directed to [wbbi@alaska.gov](mailto:wbbi@alaska.gov) or contacted via phone (907) 269-8460 for more information. WBBi rules, application form, and related information are available at their website.

<https://forestry.alaska.gov/insects/grants>.

## Federal Emergency Management Agency (FEMA) Grants

### **Assistance to Firefighters Grant Program**

Purpose: to improve firefighting operations, purchase firefighting vehicles, equipment and personal protective equipment; fund fire prevention programs; and establish wellness and fitness programs. Necessary information includes a UEI number, Tax ID number and Central Contractor Registration

<https://www.fema.gov/welcome-assistance-firefighters-grant-program>

### **SAFER: Staffing for Adequate Fire and Emergency Response**

Purpose: to provide funding directly to fire departments and volunteer firefighter interest organizations in order to help them increase the number of trained, “front line” firefighters available in their communities. The goal of SAFER is to enhance the ability of local fire departments to comply with staffing, response and operational standards established by NFPA and OSHA.

<https://www.fema.gov/staffing-adequate-fire-emergency-response-grants>

### **Fire Prevention and Safety Grants (FP&S)**

Purpose: To support projects that enhance the safety of the public and firefighters from fire and related hazards. FP&S Grants are part of the Assistance to Firefighters Grants and are under the purview of the Grant Programs Directorate in FEMA.

<https://www.fema.gov/fire-prevention-safety-grants>

### **Hazard Mitigation Assistance Grant Program (HMGP)**

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Purpose: to provide grants to state and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The goal of HMA is to reduce the loss of life and property due to natural disasters and enable mitigation measures to be implemented during the immediate recovery from a disaster.

<https://www.fema.gov/grants/mitigation/hazard-mitigation>

### **Pre-Disaster Mitigation Grant Program (PDM)**

Purpose: to provide funds to states, territories, Tribal governments, communities, and universities for hazard-mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces the overall risks to the population and structures.

<https://www.fema.gov/pre-disaster-mitigation-grant-program>

## Natural Resources Conservation Service (NRCS)

### **Environmental Quality Improvement Program (EQIP)**

Purpose: provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland. EQIP may also help producers meet Federal, State, Tribal, and local environmental regulations.

<https://www.nrcs.usda.gov/programs-initiatives/eqip-environmental-quality-incentives>

### **NRCS Conservation Stewardship Program (CSP)**

Purpose: To help identify natural resource problems and provide technical and financial assistance. Private forest landowners are not eligible for the NRCS EQIP program without a Forest Stewardship Plan, written by DOF Stewardship foresters. Denali Borough is served cooperatively by either the Palmer or Fairbanks Stewardship foresters, who visit private landowners, offer Firewise/Home Ignition Zone information, and develop Forest Stewardship Plans. This CWPP provides higher level planning, while individual forest landowners can receive personalized land management recommendations that mitigate wildfire impacts and improve forest health.

<https://www.nrcs.usda.gov/programs-initiatives/csp-conservation-stewardship-program>

## Other Resources

### **Firewise Communities**

## McKinley Village Community Wildfire Protection Plan Update

Purpose: a multi-agency organization designed to increase education of homeowners, community leaders, developers, and others regarding the Wildland-Urban Interface and the actions they can take to reduce fire risk to protect lives, property and ecosystems.

<http://www.firewise.org><sup>iii</sup>

### **National Volunteer Fire Council**

Purpose: to support volunteer fire protection districts. Includes both federal and non-federal funding options and grant writing help.

<http://www.nvfc.org/>

### **National Resources Conservation Service Emergency Watershed Protection Program**

Purpose: to undertake emergency measures including the purchase of flood plain easements for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed.

[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/landscape/ewpp/?&cid=nrcs143\\_008258](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/landscape/ewpp/?&cid=nrcs143_008258)

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### Appendix A: Community Hazard Zones

### Appendix B: Home Ignition Zone Recommendations

### Appendix C: Methodology

### Appendix D: Consolidated Recommendations Table

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