

Allakaket Alatna Community Wildfire Protection Plan 2020



K RIVER TYPE 2 EMERGENCY FIREFIGHTER CREW

INITIATED BY ALLAKAKET AND
ALATNA TRIBAL COUNCILS

TABLE OF CONTENTS

Collaboration.....	2
Participating Entities:	2
Executive Summary.....	2
Community Description/Demographics.....	2
Alatna.....	3
Critical Infrastructure	4
Cultural Sites.....	4
Allakaket.....	4
Critical Infrastructure	4
Cultural Sites.....	4
History.....	5
Vegetation and Climate.....	6
Wildland Urban Interface Boundary	7
Plan Objectives	8
Risk and Hazard Analysis.....	10
Fire Return Interval.....	10
Barrier Rating system	11
Overall Community FireWise Rating for Defensible Space	12
Fire Protection Response Chart.....	12
Action plan and Mitigations	13
Fire Wise.....	13
Shaded fuel Break.....	14
Thin and Limb around Community Cemeteries.....	14
Cultural sites.....	15
Landfills	15
Fire departments	15
Obtain and Maintain Fire Equipment.....	15
Signature page	16
Literature Cited	18
Sources used for Content.....	18

COLLABORATION

Collaboration may be accomplished through three processes: convene decision makers, involve local, state and federal agencies, and engage interested parties. Decision makers will be those responsible for the development of the Community Wildfire Protection Plan (CWPP). The participation in this group will depend upon the community. Involvement of local, state and government agencies, and other interested parties will depend upon the needs of the community. In the same way, approval or adoption of the plan will be governed by the appropriate process identified by the community.

PARTICIPATING ENTITIES:

This plan was developed through the coordination and efforts of the following entities:

The Community of Alatna

The Community of Allakaket

Alatna Tribal Council

Allakaket Tribal Council

Bureau of Land Management Alaska Fire Service -Tanana Zone

EXECUTIVE SUMMARY

The Healthy Forest Reforestation Act (HFRA 2003) provides the guidance for agencies to coordinate with local communities to develop CWPPs. This CWPP was initiated by the Communities of Allakaket and Alatna in accordance with the HFRA, which directs communities at risk of wildfire to develop a risk assessment and mitigation plan.

The BLM Alaska Fire Service identified the communities of Allakaket and Alatna in northern Interior Alaska at risk for catastrophic wildfire. This document will identify objectives for both communities to mitigate the risks wildfire presents to these Interior Alaska communities. The intent of this document is to provide both communities with a comprehensive plan and prioritizing objectives so accomplishments can be realized. The hope is to develop a working document that can be used for several years and be modified as objectives are met and fire risk changes.

A wildfire risk assessment of Allakaket was completed in 2005. This assessment has gone largely unchanged in both communities with exception of recent fire history, and some fuels reduction projects. (See [Fire History Map](#))

Hazardous fuel accumulation and fire risk adjacent to and within the town was rated high due to large areas of untreated black spruce and the potential for fire moving through these tree stands into the community.

COMMUNITY DESCRIPTION/DEMOGRAPHICS

ALATNA

Location: T21 N, R24W, Sec. 33 (N 66 34' X 152 39')

The traditional Inupiaq Village of Alatna is located on the north bank of the Koyukuk River, southwest of its junction with the Alatna River. It is approximately 190 air miles northwest of Fairbanks and 57 miles upriver of Hughes. Across the Koyukuk River and upriver lies the Athabascan village of Allakaket. In 1975, the community incorporated as a city, including both settlements of Allakaket and Alatna. In September 1994, flood waters destroyed and swept away most of the community's buildings, homes, and food caches. Residents have rebuilt near the old city site, but Alatna is no longer within the incorporated city boundaries.

The current population of Alatna is 12 Residents, with an enrollment base of 80 plus. Historically, Alatna experienced flooding in 1937, 1938, 1939, 1964, 1966, 1968, 1989.

Because the village is off the road system, air transportation is needed to travel between Alatna and the nearest city, Fairbanks. The primary means of accessing the village of Alatna are by boat in the summer months and by snow machine during the winter months. For a short period of time during the spring and fall seasons accessing the village is impossible due to the dangerous river conditions. During these times, there is little or no travel between the two villages until the river is safe for travel. The nearest post office, a Class III permitted landfill, airport, school, and grocery store are all located in Allakaket.

Six of the 18 homes in Alatna are occupied. One of the homes is used as a safe house and is maintained by the Alatna Traditional Council. The safe house may be rented by tribal members or people who visit Alatna for meetings. Four houses are damaged and unlivable. The Interior Regional Housing Authority (IRHA) is the designated housing entity for Alatna.

The newest homes in Alatna were constructed in 2008. The demand for housing in Alatna exceeds the current supply. The limited availability of housing is a current factor for some Tribal Members in making the decision whether to reside in Alatna.

Housing Occupancy

Total	18
Occupied	6
Vacant	12
For rent	1
Rented, not occupied	0
For sale only	0
Sold, not occupied	0
For seasonal, recreational, or occasional use	2
All other vacant	4

Vacancy Rates

Homeowner vacancy rate (percent)	0
Rental vacancy rate (percent)	50

Housing Tenure

Owner-occupied housing units	10
------------------------------	----

Renter-occupied housing units	1
Population in owner-occupied housing units	27
Population in owner-occupied housing units	5
Population in renter-occupied housing units	2.7
Average household size in owner-occupied housing units	5

CRITICAL INFRASTRUCTURE

Power source intertie, waterlines, bulk fuel capacity for 10,500 gallons of fuel, tribal office, washeteria, land fill

CULTURAL SITES

Old Alatna townsite (dedicated as a cultural activities site after the flood of 1994)

Jack's Eddy (Old Igloo sites, Old fishing area)

Alatna Cemetery

ALLAKAKET

Location: T20N, R24W, Sec. 15 (N 66 34' X W 152 39')

The current population estimate by the [State of Alaska Department of Labor and Workforce Development](#) in 2019 was 160. According to the 2010 census, Allakaket's population is 105 residents. Allakaket's population is primarily Alaskan Native with 95.41% being a mixture of Athabascan Indians and Eskimo. The remaining population of Allakaket is Caucasian. The population has decreased over the past couple of decades from its high of 170 in 1990 to its current population.

Based on the housing statistics gathered from the 2010 Census, Allakaket has a total of 58 housing units, 44 of which are occupied. There are 14 vacant houses and two houses in use seasonally. Out of the 44 occupied houses, 30 are owned by the occupants and 14 are rented. The average number of persons per household is 3. There are 25 homes with families. Most homes have outhouses or use honey buckets. Installing running water in both new and old homes is one of the top priorities among residents – a goal they would like to achieve in the next five years. Bureau of Indian Affairs (BIA) has a Housing Improvement Program open for all tribal members, along with the self-help program through IRHA.

CRITICAL INFRASTRUCTURE

Post office, washeteria, clinic, school, water and sewer lines; bulk fuel storing capacity of eight 5,000 gallon tanks, tribal office, city office, tribal hall, electric generator, powerlines, landfill, cemetery and an airstrip with an Alaska Department of Transportation and Public Facilities building.

CULTURAL SITES

The cemetery is the nearest cultural site. The cemetery is located approximately a half mile east of the old village, overlooking the Koyukuk River.

HISTORY

Both Alatna and Allakaket lie directly on the Arctic Circle and these two villages of different cultures have existed side-by-side for over 100 years.

The native people of Allakaket were originally nomadic and several groups created joint settlements after 1851. Until that time the groups existed in several camps relocating as the seasons changed following the wildlife. The main trading center for the Koyukon Athabascan and Inupiaq Eskimos was the former site of Alatna. It was at this site in 1906 that the first Episcopal



Mission Church, St. John in the Wilderness, was established. Years later in 1925 the post office was opened and in 1938 the name was formally changed to Allakaket. Across the river is the small Eskimo community of Alatna. The first public school was initiated in Allakaket in 1957. In 1975 the community was integrated as a City which included both communities of Allakaket and Alatna. In 1978 the former clinic and airport were constructed. The school that is still in use today and some of the community roads were built in 1979. In August 1994 there was a devastating flood which destroyed the majority of the Alatna buildings and homes. Residents reconstructed near the old city site but the majority of the village was relocated outside of city limits.¹

Online resource: Explore North. The [History of Allakaket](#) at the [Community Histories Index Alaska DCCED Community Database Online](#)

VEGETATION AND CLIMATE

The area surrounding Alatna is known as the Kanuti flats physiographic province (Selkregg, 1976). These flats form an irregular-shaped, lake-dotted plain 400 to 1,000 feet in altitude that merges



PHOTO OF AREA OF THE KOYUKUK AND ALATNA RIVERS
IN THE WINTER.

with low surrounding hills.

Scattered low, irregular hills rise in the central part of the plain, which is crossed and drained by the Koyukuk and Alatna Rivers. Alatna lies within the boreal forest that spans portions of North America, Asia, and Europe. Black spruce, paper birch and alder form a dense cover. Grasses such as blue joint grass and tussock cotton grass occasionally dominate the terrain.

This area experiences large diurnal and annual temperature variations with low precipitation, low humidity, low cloudiness and

surface winds that are generally strongest in the spring. Prevailing winds blow from the south during the summer and from the north in the winter. In late June the sun is above the horizon almost continuously, effectively providing 24 hours of daylight for approximately 10 weeks.

In the lower elevations, the Allakaket area is dominated by a tall, relatively dense forest made up primarily of white spruce mixed with balsam poplar, quaking aspen, and paper birch on well-drained stream and lake banks. Balsam poplar usually occurs with white spruce at an early stage in succession and is an early invader of floodplains. Black spruce dominates areas of poorly drained soils, often underlain by permafrost. Undergrowth is generally dense shrubs, including American green alder, thin-leaf alder, willow, rose, dogwood, Labrador tea, and berry bushes. The forest floor is usually carpeted with ferns, blue joint grass, fireweed, horsetails, lichens, herbs, and mosses. Wetlands are common throughout the area as evidenced by the myriad of waterways and lakes. The generally ubiquitous permafrost, which usually keeps the water table near the ground surface, is a major factor in wetlands formation

The soils in the area are generally loam (medium) and silty loess, and poorly drained with a peaty surface layer. Erosion potential is medium to high. Unconsolidated deposits are mostly sand and gravel, silt and clay. Permafrost, often rich ice, is present throughout the region except under major waterways. The permafrost table is shallow and may extend to depths of several hundred feet. Thawing in summer only occurs in the top three feet.

The area experiences a cold, continental climate with extreme temperature differences. The average high temperature during July is 70 degrees F. The average low temperature during January is well below zero and commonly experiences extended periods of -40 F. The highest temperature ever recorded was 94 F, and the lowest was -75 F. Average annual precipitation is 13 inches, and average annual snowfall is 72 inches. The Koyukuk River is ice-free from June through October².

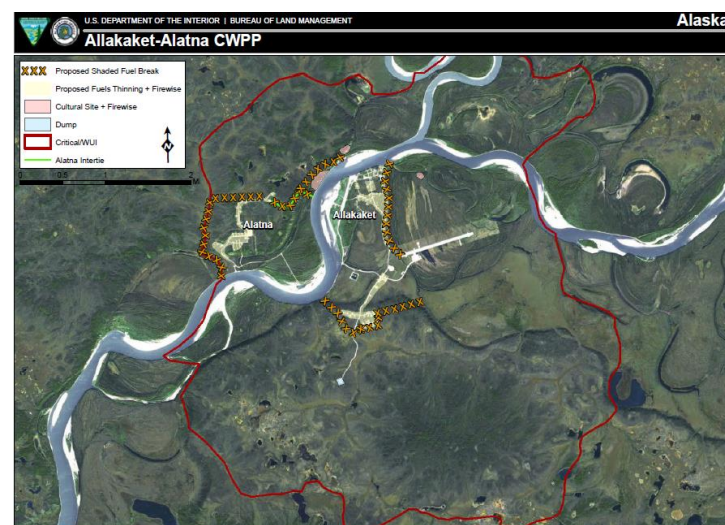
[ALLAKAKET, AK \(500230\)](#)". Western Regional Climate Center. Retrieved February 13, 2020.

Annual weather patterns of severe cold, freezing rain, and snow accumulations are predominate threats. The snowfall amount directly determines winter weather damages. More snow provides better ground insulation. Severe cold usually occurs during December-January. High winds typically occur February-March and August-September. August experiences the most rain. Too much rain causes wild game to move to more distant dry ground away from the city increasing resident travel to harvest subsistence foods. Heavy rain and spring thaw causes high river water, which reduces the city's residents' capability to harvest salmon for subsistence needs.

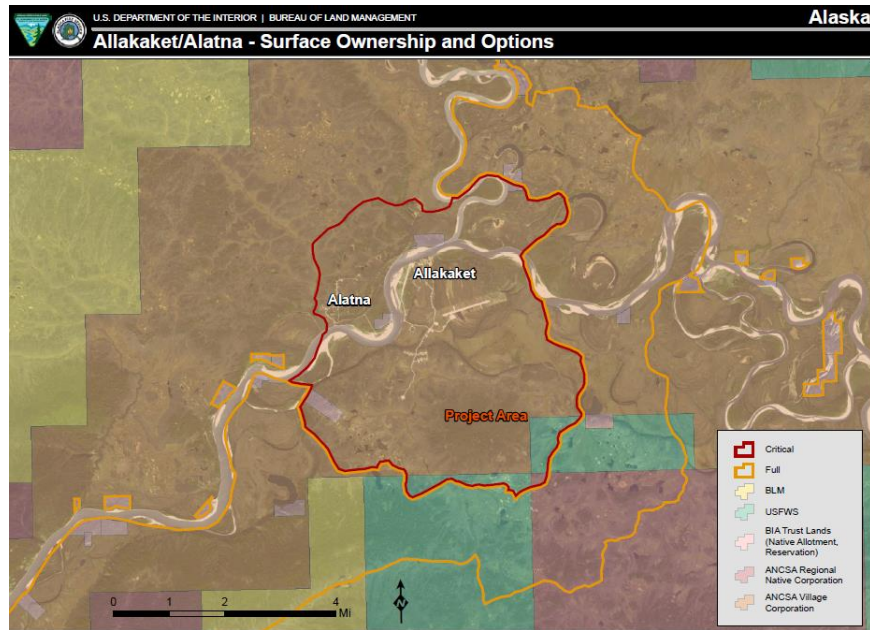
Fire has been a natural force in the Alaskan Interior for thousands of years. It is a key environmental factor in these cold ecosystems. Without fire, organic matter accumulates, the permafrost table rises, and ecosystem productivity declines. Vegetation communities become much less diverse and their value as wildlife habitat decreases. Even some of the plant and animal species normally associated with later successional stages will find the environment unsuitable. Fire revitalizes these ecosystems. It removes some of the insulating organic matter and results in a warming of the soil. Nutrients are added both by ash from the fire and increased decomposition rates. Vegetative re-growth quickly occurs and the cycle begins again. An occasional fire may be critical for maintaining the viability of northern ecosystems, yet fire can also be a threat to human life and property. The realization that fire plays an essential ecological role but also has a destructive potential in relation to human life and structures can make the fire management decision process very difficult. Interior Alaska is a fire generating ecosystem. These fires can help restore nutrients to the soil, diversify vegetation, and increase wildlife habitat. Wildfires can destroy homes, communities, cause injury and loss of life. This plan will identify mitigations and strategies that can be implemented to protect communities from wildland fire risk.

WILDLAND URBAN INTERFACE BOUNDARY

The Wildland Urban Interface (WUI Boundary) for this project will follow the Critical Fire Management Option for these communities. The land Within this Project area is primarily Alaska Native Claims Settlement Act (ANCSA) Village Corporation Land, with a small amount of US. Fish and Wildlife Service on the southern boundary. The USFWS land will not be affected by the proposed treatment



Map of Allakaket and Alatna and the proposed treatment area.



Map of surface ownership and options with the proposed treatment area .

PLAN OBJECTIVES

The priorities for these objectives will be determined by the local tribal governments in coordination with the agency or agencies funding the project. Some funding sources may determine which objectives need to be prioritized.

- 1) Implement fire wise strategies around all residence and infrastructure in both communities.
- 2) Implement shaded fuel breaks around both communities that are 50-feet wide with 8-by-8-foot spacing between trees. (See maps for specific project areas and specifications.)
- 3) Thin and limb around both community cemeteries. (See maps for specific project areas and specifications.)
- 4) Thin and limb around any cultural sites within the Wildland Urban Interface (WUI) project area.
- 5) 30-foot gravel perimeter and 50-foot shaded fuel break around community landfills.
- 6) Organize fire departments in both communities.
- 7) Obtain and maintain basic fire equipment.
- 8) Enforce local burn bans when fire conditions determine necessary.

Alatna Proposed Project Map



Allakaket Proposed Project Map



RISK AND HAZARD ANALYSIS

- 1) Risk(s)/Hazard(s)
- 2) Barriers
- 3) Fire Protection Response
- 4) Community Firewise Rating

FIRE RETURN INTERVAL

Fire Return Interval			
FUELS (predicted fire behavior based on historic summertime weather with hot, dry conditions)	0-99 years	100-300 years	>300years
Black Spruce Boreal Forest (CFFDRS=C2) <i>rate of spread: high</i> <i>intensity: high</i> <i>spotting potential: high</i>	High	Moderate	Moderate
Black Spruce Lichen Woodland (CFFDRS=C1) <i>rate or spread: moderate</i> <i>intensity: moderate</i> <i>spotting potential: high</i>	High	Moderate	Moderate
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) <i>rate of spread: high</i> <i>intensity: moderate:</i> <i>spotting potential: low</i>	High	Moderate	Low
	Moderate	Moderate	Low

Fire History In Area



BARRIER RATING SYSTEM

Barrier Rating System

Barrier Type	Excellent/Fair/Poor
Water (may include lakes, rivers, streams and sloughs)	Fair
Natural features (may include barren landscape, rock, topographic)	Poor
Human-made features (may include airstrips, roads or other clearings)	Poor
Overall rating	Poor

Key

Excellent: Community has a barrier(s) that provides thorough protection from fuels less than 1 mile away in at least 3 cardinal directions.

Fair: The community has a barrier(s) that provides thorough protection from fuels less than 1 mile away in at least two cardinal directions. Communities may have multiple barriers affecting a rating. Examples are airstrips separating a community from significant outside fuels, communities set amidst certain vegetation types or some communities situated on major rivers.

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

OVERALL COMMUNITY FIREWISE RATING FOR DEFENSIBLE SPACE

Overall Firewise Rating for Defensible Space	
Alaska Firewise Standards	Excellent/Fair/Poor
Landscaping There is a clearing of at least 40 feet around the home for firefighting equipment: flammable brush and dead/overhanging branches are removed; trees are pruned 6-10 feet above the ground; lawn is mowed regularly and ladder fuels are removed from the yard; remaining trees are spaced at least 30 feet apart at crowns; garden equipment is kept on the property.	Poor
Construction Home is made of fire-resistant or non-combustible construction materials (especially important for roofing); vents are covered with wire mesh no larger than 1/8 inch; at least two ground-level doors exist; at least two means of escape exist in each room.	Poor
Water Supply Guidelines: Home has a reliable water source, sprinklers and enough hose to circle the home.	Poor
Access Guidelines: Access roads are at least two lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment.	Poor
Clear of Flammables/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away from the house; all debris or refuse is picked up regularly.	Poor
Rating sum	1

KEY

Excellent: Over 65% of home sites and community buildings meet standard (Value =5)

Fair: Between 35-65% of home sites and community buildings meet standard (Value=2)

Poor: Less than 35% of home sites and community buildings meet standard (Value=1)

FIRE PROTECTION RESPONSE CHART

Fire Protection Response Chart	
Resource Type& Location (list specific type under Excellent, Fair or Poor)	Excellent/Fair/Poor
AFS (smokejumpers, hotshots or other personnel)	Excellent
DOF (helitack, engine, or other personnel)	Poor
Other (may include other Federal agencies or professional & volunteer Fire Departments)	Fair

KEY

Excellent: Adequate initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away.

Fair: Adequate initial attack resources are 30-75 minutes away and adequate extended attack can be in place in 8-12 hours.

Poor: Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than eight hours.

Note: Adequate initial and extended attack forces are defined as the minimum force necessary to stop the spread of a wildfire. Response times are based on resource location and historical response times.

ACTION PLAN AND MITIGATIONS

FIREWISE

Specific Firewise practices that should be promoted to individual homeowners include:

1. Clear out under-story vegetation and accumulations of moss, leaves, grass and debris.
2. Thin over-story spruce and birch, and limb up spruce six feet. Remove snags, dead, standing trees, if possible, within 100 feet of structures.
3. Allow at least 20 feet between adjacent structures to prevent fire spread to adjacent structures should one of them ignite.
4. Use non-combustible building materials for home and deck like metal siding.
5. Attempt to store propane tanks, fuel barrels, and woodpiles greater than 30 feet from the home to the extent practical while taking into consideration winter freezing/fuel flow issues.
6. Don't store woodpiles or other flammables below home.
7. Maintain an easily accessible source of water for pumps and suppression activities.
8. Provide access to fire suppression equipment by keeping an adjacent area of firm ground large enough for trucks to turn around in clear and available.

SHADED FUEL BREAK



Nenana Ridge untreated control block in 2015 (Control-W, TCC).



Nenana Ridge thinned & pruned block B3 in 2015 (B3-2E, TCC).

The shaded fuel break treatment for this plan should be 50-foot wide line with 8-foot-by 8-foot spacing between coniferous tree boles. Living hardwood species may not need to be removed. Trees should be carefully limbed as to not damage the trees, which could result in mortality to the remaining trees. The intent of thinning fuels for this treatment is based more on enhancing suppression efforts than preventing fire from moving through the line. Thinning the trees rather than clearing the line adds more aesthetic value, with the potential for preventing melting of permafrost. It also may prevent trails from being established, which could further cause melting of the permafrost. Placement of the lines on the map are generalized and may need to be redetermined as ground crews construct the break. All debris and merchantable timber from the treatment sites will need to be piled and burned on site, or removed by the local community. State and local fire restrictions must be adhered to during this process. Priorities should be

determined by the community and/or funding sources on where fuel breaks should begin as each phase unfolds. Lines will need to be improved as vegetation grows on a 5-10-year cycle.

THIN AND LIMB AROUND COMMUNITY CEMETERIES

The cemeteries in both communities have been identified as critical infrastructure to protect in the event of a wildfire. In both villages, the cemeteries are outlying from the communities and could be within areas of concern to fire managers. In the event suppression efforts were initiated, protection of the community may involve burning out from the proposed fire breaks. The cemeteries could be within these burn operations. If efforts are made to Firewise these areas some of the risk concerns can be eliminated. Shaded fuel breaks with similar specifications should be implemented. Any implementation in these locations will be coordinated with local tribal liaisons.

CULTURAL SITES

Cultural sites were identified in Alatna and likely exist in both communities. In these areas of concern, tribal and community members should be proactive in identifying these sites within the WUI boundary and implement fuels treatments as necessary. Old Alatna was identified as a concern to the community. In areas like this, fuels treatments should be effective in protecting against wildfire risk under normal circumstances. Old Alatna has the river to the south and the river bluff to the north. Mixed hardwood fuels dominate the area.

LANDFILLS

Landfills in rural Alaska communities have historically been a problem for fire managers. The landfills in both communities should be considered a potential fire risk and monitored closely. Gravel, or bare mineral soil should provide a 30-foot perimeter around each site. Shaded fuel breaks beyond this perimeter and all Firewise principals should be implemented. Landfills should use burning only in accordance with Alaska State Law(s).

FIRE DEPARTMENTS

The communities of Allakaket and Alatna do not currently have organized fire departments. One of the objectives in the plan is to develop fire departments and hold regular meetings on Firewise principals. Both communities historically shared a vibrant wildland fire crew. In recent years, participation in these programs have declined. The fire knowledge and experience in these communities still exists. Development of organized fire departments could utilize this experience and knowledge. In times of need, the coordination of these skills can be critical to reducing wildland fire risk.

OBTAIN AND MAINTAIN FIRE EQUIPMENT

Both Allakaket and Alatna need fire suppression equipment. Funding sources and infrastructure to store and maintain this equipment has been a limiting factor in the past. The lack of an organized fire department could also be a factor. Plans should be developed to obtain equipment and restore some of the existing equipment. Wildland fire equipment can be very basic and effective if maintained and stored properly. Hand tools and bladder bags can be extremely effective. Small portable water tanks with pump and hose can be the difference between a devastating event or an insignificant event. Small scale sprinkler kits with portable pumps can be extremely effective when fire conditions become extreme. In many situations, a sprinkler in the right location can be the difference between a damaged and undamaged structure. Heavy equipment in both villages can also be used in times of need, but need routine maintenance to be reliable. Operators should be paired with community members that know wildland fire. Plans should be developed through the community, tribal and an emerging fire department to inventory what is available and serviceable in the community as fire equipment. As funding sources become available, equipment inventories can be improved.

SIGNATURE PAGE

Allakaket Tribal Administrator (Acting): Charlene Ned

Sydell Nue DATE 2-24-2020

Alatna Tribal Administrator (Acting): Vanessa Edwards

Vanessa Edwards Date 3/2/2020

Allakaket City Administrator Steven Strassburg

Steven Strassburg Date 3-5-2020

Christopher Simon 3/12/2020
Koyitl'ots'ina, Ltd. CEO
Christopher Simon

Branden Petersen 3/25/2020
Tanana Zone FMO

LITERATURE CITED

[Healthy Forest Restoration Act](#)

[Alaska Fire Management Plan](#)

[Firewise](#)

[Alaska Fire Service](#)

[Alaska Division of Forestry](#)

[CWPP](#)

SOURCES USED FOR CONTENT

Allakaket Community Plan 2018

[Wildfire Risk Assessment Guide for Alaska Villages and Communities](#) (March 24, 2005)

Alatna Fire protection Survey

Alatna Community Plan 2019

[Fuels Treatment Demonstration Sites in the Boreal Forests of Interior Alaska](#)

[Evaluating the Effectiveness of Fuel Treatments in Alaska](#)

[An Analysis of Shaded fuels Breaks on Fire Behavior](#)

[Alaska Interagency Wildfire Management Plan 2016 \(March 2019 review\)](#)