Greater Eagle Area
Community Wildfire Protection Plan (CWPP)

Boundary Creek Fire. Eagle, AK (2005)

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I. EXECUTIVE SUMMARY

Interior Alaska is a fire-dependent ecosystem. While fires can help restore nutrients to the soil, diversify vegetation, and increase wildlife habitat, these same fires have potential to destroy communities and homes, cause injury and potentially loss of life. The City of Eagle and Eagle Village (Greater Eagle Area), were identified as priority communities at risk from wildfire by the Alaska Wildland Fire Coordinating Group – Communities at Risk Assessment (2014). A hazardous fuels assessment and multiple community meetings occurred during the summers of 2018 and 2019 to verify wildfire threat, identify areas of concern, and collaborate among interested parties.

The hazardous fuels assessment confirmed that the fuel accumulation and threat of danger from wildfire is moderate to high. This rating is due to fuel loading, in particular the large areas of untreated, mature black spruce tree stands within and adjacent to both communities. In addition, many structures/homes have limited landscaping clearance and the presence of flammable debris near or next to homes. Both communities shared many of the same concerns including, but not limited to, a lack of "Firewise" landscaping and community education, limited wildfire response, and the need for protection of infrastructure (e.g. power plant).

This collaborative CWPP exists to identify risk and address community concerns related to potential impacts from wildland fire. The attached mitigation plan includes recommendations for the communities to reduce those risks identified in the CWPP. Site-specific fuel reduction and Firewise landscaping, along with wildfire prevention/education will be the primary tools in addressing the risk.

Figure 1: Eagle Village, AK Aerial View (2019)

Figure 2: City of Eagle, AK Aerial View (2019)

II. BACKGROUND

The Community Wildfire Protection Plan (CWPP) process assists communities in developing an appropriate and desired wildfire protection plan. Completion of a CWPP requires five major activities: 1) Identify stakeholders 2) Complete community risk assessment 3) Address priorities 4) Develop mitigation plan and 5) Establish monitoring plan. The Alaska Wildland Fire Coordinating Group (AWFCG) encourages the development of an Eagle City and Eagle Village CWPP, as defined by the Healthy Forest Restoration ACT (HFRA).

III. COLLABORATION

The Greater Eagle Area CWPP is a collaborative effort by state and federal agencies, the city council, the village council, and native nonprofit and for-profit corporations. This document was prepared, consulted and/or approved by:

A. City of Eagle
B. Village of Eagle
C. Han Gwich'in Corporation
D. Doyon LLC
E. Bureau of Land Management (BLM)
F. BLM Alaska Fire Service (AFS)
G. Bureau of Indian Affairs (BIA)
H. Alaska Department of Natural Resources (DNR)
I. Tanana Chief's Conference (TCC)
J. National Park Service (NPS)

IV. ASSESSMENT TO PRIORITIZE AREAS FOR FUEL REDUCTION

A. **Introduction:** Eagle City and Eagle Village (*Tthee T'äwdlenn* in Hän Athabascan) are located on the southern bank of the Yukon River, approximately 6.5 miles west of the Canadian border/Yukon Territory. Eagle is incorporated as a 2nd class city and Eagle Village is an incorporated village within an unorganized borough. The greater Eagle Area has been the historical home to Hän people since before the arrival of Europeans. The first permanent American-built structure in present-day Eagle was a log trading post called "Belle Isle," built around 1874. In the late 1800s, Eagle became a supply and trading center for miners working the upper Yukon River and its tributaries. By 1898, its population had exceeded 1,700 as people were coming into the area because of the Klondike Gold Rush. When gold was discovered in Fairbanks and Nome, the populations of Eagle and Eagle Village both declined. In 1901, Eagle became the first incorporated city in the Alaska Interior. It was named for the many eagles that nested on the nearby Eagle Bluff. A United States Army camp, Fort Egbert, was built in Eagle in 1900. During this timeframe, thousands of acres of timber were cut along the Yukon River for building materials, mine development, heating, and to supply the numerous steamships bringing people and supplies to the Interior of Alaska. Most of the usable timber was harvested around the greater Eagle area thus beginning the current forest structure.

The Taylor highway was built in 1953 providing access to Eagle, Chicken and the historic Forty Mile Mining District. Although there were multiple overland routes to Tok, the highway opened new opportunities for tourism, resource development and commerce in the remote area.

There have been several 100,000 plus acre fires within 30 miles of the area, including two that occurred as recently as 2004 and 2005. Both fires negatively affected highway traffic/commerce and the communities themselves with heavy smoke. Although fire personnel and managers were able to direct the fires away; contingency firelines, structure protection measures and evacuation plans were created for both communities.

In spring 2009, the area was severely impacted due to flooding from ice dams that formed on the Yukon River. In the City of Eagle, the area nearest the river was damaged by large chunks of ice which were carried over the town's riverbank retaining wall and smashed into homes, stores and buildings. In and around Old Eagle Village, floodwater and ice chunks lifted buildings off their foundations and left complete destruction. As a result, there is not a single building still standing in the Old Village. Repair and cleanup took several years, and the Village, which had already been in the process of being moved, has been rebuilt approximately 4 miles upriver.

Post gold rush to present, the greater Eagle area has been home at any given time to approximately 110 to 180 people who are independent and self-reliant as they live in one of the most remote, but road accessible communities in the United States.

Figure 3: Wood stacks in Eagle (circa 1900)

Figure 4: Birch Hill Cemetery in Eagle (circa 1900)

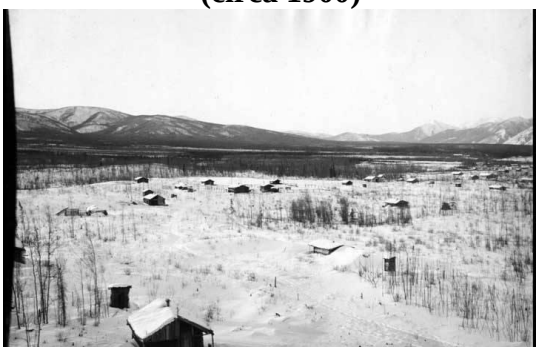

Figure 5: Yukon Valley across the river from Eagle (circa 1900)

Figure 6: Eagle flooding (2009)

B. Identification and Description of the Community and Area

1. Description of the Wildland Urban Interface (WUI) Boundary: The WUI boundary was delineated based on input from citizens and leaders of both communities and from input from BLM Alaska Fire Service personnel. The boundary begins at the mouth of Mission Creek and the Yukon River, then continues to follow the river upstream approximately 8 miles to where the southern boundary begins. Progressing in a northwestern direction, the boundary follows an elliptical line three-fourths of a mile from the center of New Eagle Village. North and west of the Village, the boundary then parallels half a mile to the west of New Village Road and Eagle Road until the junction with the powerline corridor approximately 3 miles. It then continues west down the powerline corridor for 1.7 miles to a junction with old fireline (dozer line). The boundary then follows the fireline and continues west for 1.6 miles to the Taylor Highway. The boundary then turns south on the highway for .3 miles and turns due west to American Creek. Paralleling American Creek on the west side for half a mile, the boundary progresses north until the confluence of Mission Creek. Progressing downstream and to the east, the boundary ends at the mouth of Boundary Creek.

Figure 7: Eagle and Eagle Village WUI Boundary

2. Community Name: City of Eagle and Eagle Village (Greater Eagle Area).
3. Location: The communities are located 191 air miles due east of Fairbanks, AK. 121 air miles northeast of Tok, AK and at the end of the Taylor Highway at MP 160.
   City of Eagle is located at 64°47′10″N 141°12′0″W (64.786022, -141.199917)
   Eagle Village is located at 64°46′53″N 141°6′53″W (64.781324, -141.114728)

4. Population: Per 2010 United States Census.
   City of Eagle: 86 People
   Eagle Village: 67 People

5. Structures: The City of Eagle consists of primary and seasonal homes, businesses, out buildings, and includes The National Historic Site of Fort Egbert. Eagle Village consists of homes, village maintenance facilities, out buildings and includes the only clinic in the area and the Village Community Center. An additional 15 residential and out buildings are included within the greater Eagle area.

   a. Homes: 45
   b. Seasonally Inhabited: 10
   c. Outbuildings: 30
   d. Community Buildings: 16
      i. Schools: 1
      ii. Clinic: 1
      iii. Offices: 2
      iv. Public: 8
      v. Other: 4
   e. Commercial: 10
      vi. Lodges: 2
      vii. Business:8

6. Infrastructure: Both communities have piped water and sewage systems, primarily around each community center, but most households haul water from two potable water stations. Some individual homes have wells, but the water is treated before it is drinkable.

Alaska Power and Telephone provides power and telecommunications to both communities with a diesel generated plant located in the City. There currently is no cellular provider/coverage in the area.

The only clinic, which also serves as the pharmacy, is in the village and is staffed by a Physician's Assistant. The Village Public Safety Officer (VPSO) position is currently vacant. The City and Village provide their own emergency services with an organized all-volunteer fire/emergency response department.

The City and Village of Eagle is accessible by vehicle by way of the Taylor Highway approximately 8 months out of the year (March to October). Daily, year-round commercial airline flights are also available. The city has a public boat launch but no docking facilities. The village's public boat launch is currently under construction. In the winter, snow machines are common forms of transportation in and around the community.

Eagle Community School instructs students pre-k to 12th grade with approximately 25 students and four teachers.

7. Industry: Local businesses and services account for two-thirds of the full-time jobs in Eagle. Employment opportunities include trapping, construction, Alaska Department of Transportation and Public Facilities, and Alaska Power and Telephone. Eagle is a checkpoint for The Yukon Quest International Sled Dog Race, which brings a limited amount of tourism in the winter. During the summer months there is a moderate but consistent flow of tourists who drive the Taylor Highway.

8. Natural Resources: The Yukon River provides transportation and subsistence resources to the community. Timber resources are utilized for building materials, heat and cultural value. Wildlife, berries, and fungi are resources utilized for subsistence and cultural use.

9. Cultural Sites: The Han people were living in the area long before any European peoples even explored the northwestern corner of the continent, therefore there are many cultural sites in and around the broader area. The first modern buildings were built in the late 1800s. The Wickersham Courthouse/Museum, City Hall, Water Well house, Church, US Post Office and other historical buildings are located on the west side of Eagle City. The cemetery is located on the west side of town by the BLM campground. Eagle Village's cemetery is located near the Old Village on the banks of the Yukon River. The Health Clinic and Tribal Services are located in Eagle Village.

10. Landfill: The landfill is located between the city and village. Garbage is burned on occasion to keep the waste down and meets EPA standards.

11. Hazards: Most homes have at least one heating fuel/propane tank on the property. The entire community receives its power from a generator power plant located next to the school. Much of Village Rd. and Eagle Rd. was built through continuous black spruce stands which could be blocked in the event of a wildfire. There is one way in and one way out of the Village.

12. Fire Equipment: Both the City and the Village have a limited a supply of firefighting and response equipment for initial attack, in particular tools such as pumps and hose.

13. Local Fire Prevention Efforts: There is no VPSO and the small, but capable, volunteer fire department has limited resources for fire prevention activities. Historically,

AFS plans to increase outreach about fire prevention and participated in the Eagle 2019 Fourth of July parade and fair with an appearance of Smokey Bear.

C. Areas to be Protected

The communities have identified their areas of highest priority for protection based on economic, cultural and historical values. Human life is of primary concern, followed by private property, the power plant, school, clinic, Village Council building and Eagle Historical Society managed buildings, including Ft. Egbert.

Figure 8: Eagle and Eagle Village Overview

D. **Assessment of Risk/Hazard, Barriers, Fire Protection Resources, and Firewise**

1. Fire Regime and Condition Class in the Greater Eagle Area:

Table 1: Fire Regime within the Boreal Forest

Fire Regime Group	Frequency (Fire Return Interval)	Severity
IV A	35 – 100 years	High severity (stand replacement)

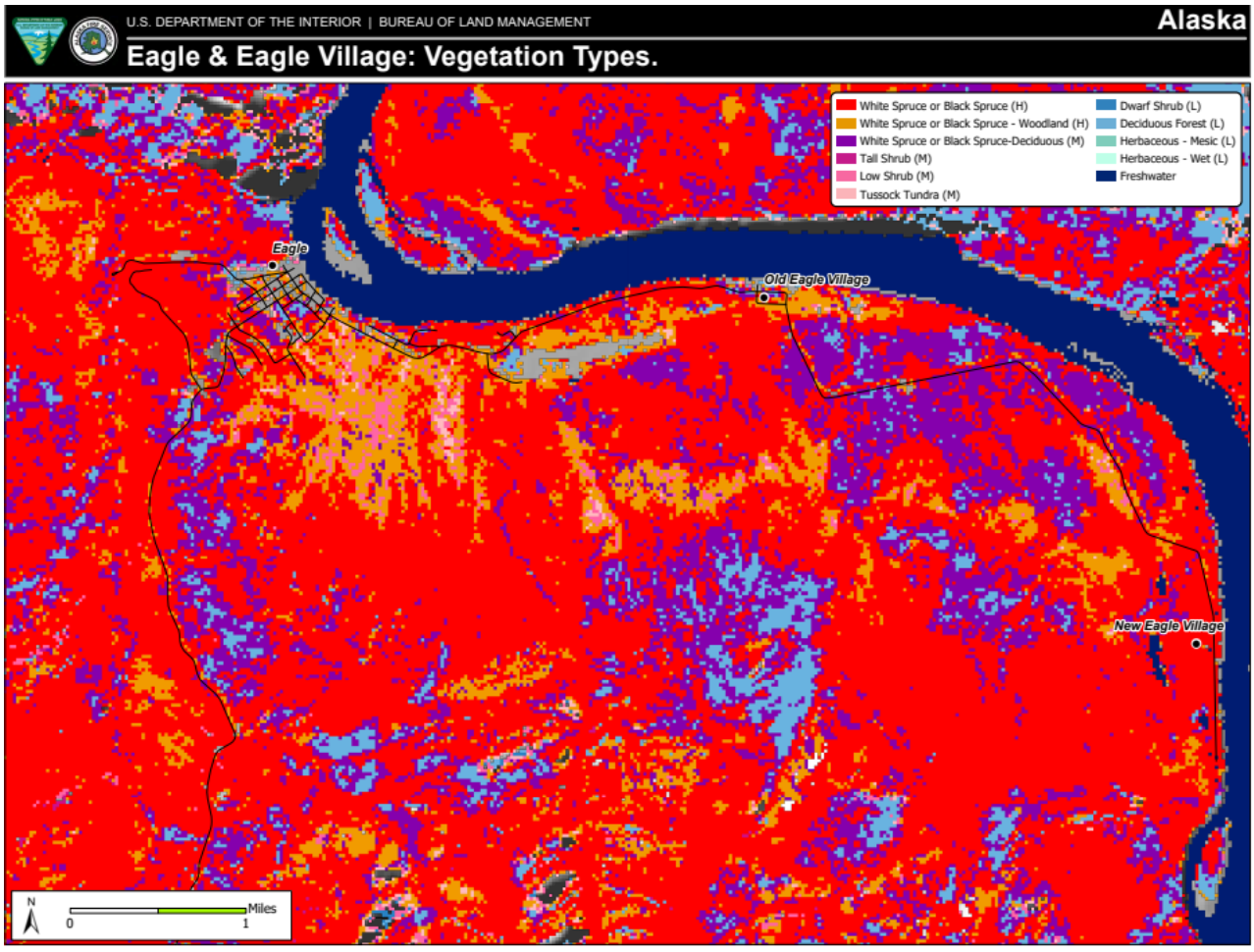

Figure 9: Eagle and Eagle Village: Vegetation Types

2. Risk / Hazard Analysis:

a. Inside the Community: Based on potential ignition sources and surrounding fuel types, the risk of fire spreading from within the community is moderate to high. Fires that start within the community are primarily human-caused and could be extinguished by locals if they had the necessary equipment for such suppression activities. The areas of highest concern are inside Eagle Village proper and west of the City of Eagle. Burning at the landfill, which occurs less frequently, is always a threat. Some residents living in single-family dwellings in the Eagle WUI use burn barrels to dispose of materials. Wildland fuels within one mile to the west of the city and all around the Village are primarily black spruce and grass with limited road access, further increasing the risk to the community. The primary hazards in the city are the bulk fuel tank farm at the power plant, the bulk fuel tank inside Eagle Village, heating fuel tanks around residences, and numerous uninhabited residential properties lying within continuous fuel beds.

Table 2: Risk/Hazard Analysis (Inside Greater Eagle Area WUI Boundary with-in 1 mile)

FUEL Types (predicted fire behavior based on historic summertime weather with hot, dry conditions)	**Wildland Fire Hazard**
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high* *intensity: high* *spotting potential: high*	**High**
Black Spruce Lichen Woodland (CFFDRS=C1) *rate or spread: moderate* *intensity: moderate* *spotting potential: high*	**High**
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high* *intensity: moderate* *spotting potential: low*	**Moderate**
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread: moderate* *intensity: moderate* *spotting potential: moderate*	**Moderate**
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1,M2) *rate of spread: low* *intensity: low* *spotting potential: low*	**Low**
Deciduous Brush (includes willow & alder) *rate of spread: low* *intensity: low* *spotting potential: low*	**Low**
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; *rate of spread: moderate* *intensity: High*	**N/A**

b. Outside Community: Within 10 miles of the greater Eagle area, the potential for large fires to impact the communities is high. The Yukon River keeps any chance of fire encroachment from the north to a minimum. There are several large, untreated areas of black spruce (known as Alaska's "problem fuel type") to the west and south of the communities. Local wildfire response resources have minimal capabilities for any fire start located one mile or more off the road system. If a wildland fire exceeds the capabilities of the local wildfire response resources, AFS initial attack resources are available from Ft. Wainwright with a minimum deployment time of one hour.

Table 3: Risk / Hazard Analysis (Outside Greater Eagle Area WUI Boundryy Area 1 -10 miles)

FUEL Types (predicted fire behavior based on historic summertime weather with hot, dry conditions)	Wildland Fire Hazard
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high* *intensity: high* *spotting potential: high*	**High**
Black Spruce Lichen Woodland (CFFDRS=C1) *rate or spread: moderate* *intensity: moderate* *spotting potential: high*	**High**
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high* *intensity: moderate:* *spotting potential: low*	**High**
Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; CFFDRS=M1) *rate of spread: moderate* *intensity: moderate* *spotting potential: moderate*	**Moderate**
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low* *intensity: low* *spotting potential: low*	**Low**
Deciduous Brush (includes willow & alder) *rate of spread: low* *intensity: low* *spotting potential: low*	**Low**
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch; *rate of spread: moderate* *intensity: High* *spotting potential: High*	**N/A**

3. Barriers:

a. Natural: The Yukon River that borders the north and east side of the communities keeps the threat very low from fire coming from the east. North of Mission Creek there is a pronounced steep, rocky ridge running east to west with non-continuous fuels, which would provide some protection from a fire approaching from the north. There are three lakes and wetlands that would help slow fire progression from the west into Eagle Village.

b. Constructed: Many roads surrounding and within the communities and will help if there is fire coming from the south and east. However, there are many residents outside the main road system that have little or no protection from fire. Old fuel breaks that were constructed south and west of the city with heavy equipment in response to 2004 wildfires are now overgrown and need considerable improvement to provide current fire protection. A gravel pit on Telegraph Hill provides limited protection to the city from the west but could be included in proposed treatments.

(1) Barrier Rating Chart Key:

(a) **Low Fire Danger:** The community has a barrier(s) that provides thorough protection from fuels less than one mile away in at least three cardinal directions. An example of this would be a small community sandwiched between a major river and a runway (e.g. Sleetmute), or a community on an island (Stony River).

(b) **Moderate Fire Danger:** The community has a barrier(s) that provides thorough protection from fuels less than one 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.

(c) **High Fire Danger:** 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.

Table 4: Barrier Rating Chart

Barrier Type (list specific type under excellent, fair or poor)	*Rating
Water (may include lakes, rivers, streams and sloughs)	Moderate
Natural features (may include barren landscape, rock, topographic features)	Moderate
Human-made features (may include airstrips or other clearings)	High
Overall Rating	Moderate

4. Fire Protection Resources: The community rates high to moderate based on limited wildland fire capabilities including trained personnel and equipment available. Wildland fire response is the responsibility of the BLM Alaska Fire Service's Upper Yukon Zone, based out of Fairbanks- located 191 miles west of Eagle with a 1-hour response time. The initial attack resources include smokejumpers, helicopters, air attack and retardant-dropping airtankers.

Table 5: Fire Protection Resources Response Chart, Eagle AK

Response Time	Kind of Resource (kinds of resources available for initial attack)	Risk	Overall Risk- Greater Eagle Area
Initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away.	Hand Crews, Engines, Incident Command Teams, and Air resources.	High	**High to Moderate**
Adequate initial attack resources are 30-75 minutes away and adequate extended attack can be in place in 8-12 hours.	Smoke Jumpers, Air Tankers, Air Attack.	Moderate	
Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than 8 hours.	Local Volunteer Fire Department Engine, personnel, Water Tender and Dozers.	Low	

5. Alaska Firewise Rating

a. Standards for Firewise Rating:

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

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

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

(5) **Access Guidelines**: Access roads are at least two lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment.

(6) **Clear of Flammables/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away (at least 30 feet) from the house; all debris or refuse is picked up regularly.**

Table 6: Community Firewise Rating for Defensible Space
(Overall Community Assessment Not Individual Structures)

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

6. Overall Rating: The overall Firewise Risk/Hazard rating for Eagle is Moderate to High based on the assessments completed on the Risk/Hazard Analysis, Barrier Rating and Fire Protection Resources Response chart.

Table 7: Overall Rating Chart

Category	Rating
Risk/Hazard inside community	Moderate to High
Risk/Hazard outside community	High
Barriers	Moderate
Fire Protection	Moderate to High
Community Firewise Rating	Moderate to High

7. Other Contributing Factors to Risk and Mitigation of Wildland Fire: Open burning and burning the landfill, although infrequent, has considerable potential for large fire growth and major impacts on the community.

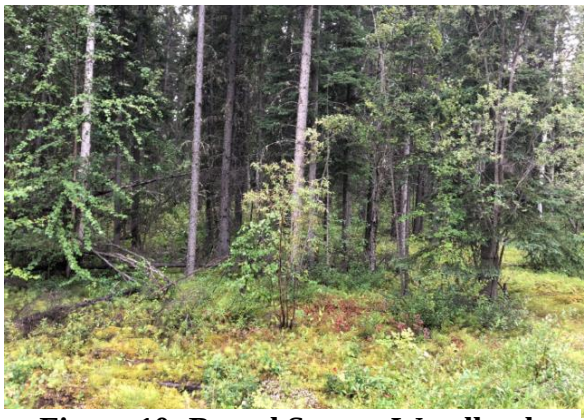

Figure 10: Boreal Spruce Woodland. Eagle, AK (2019)

Figure 11: Boreal Spruce Woodland. Eagle, AK (2019)

V. Wildland Fire History

Interior Alaska fuel types are prone to frequent starts and large fire growth. The greater Eagle area is no exception and in 2004 and 2005 there were two large fires to the south that directly threatened the communities. More recently, in 2019 a lightning-caused fire directly across the Yukon River from Eagle Village and was vigorously suppressed using initial attack personnel, air tankers, a helicopter and fire crews.

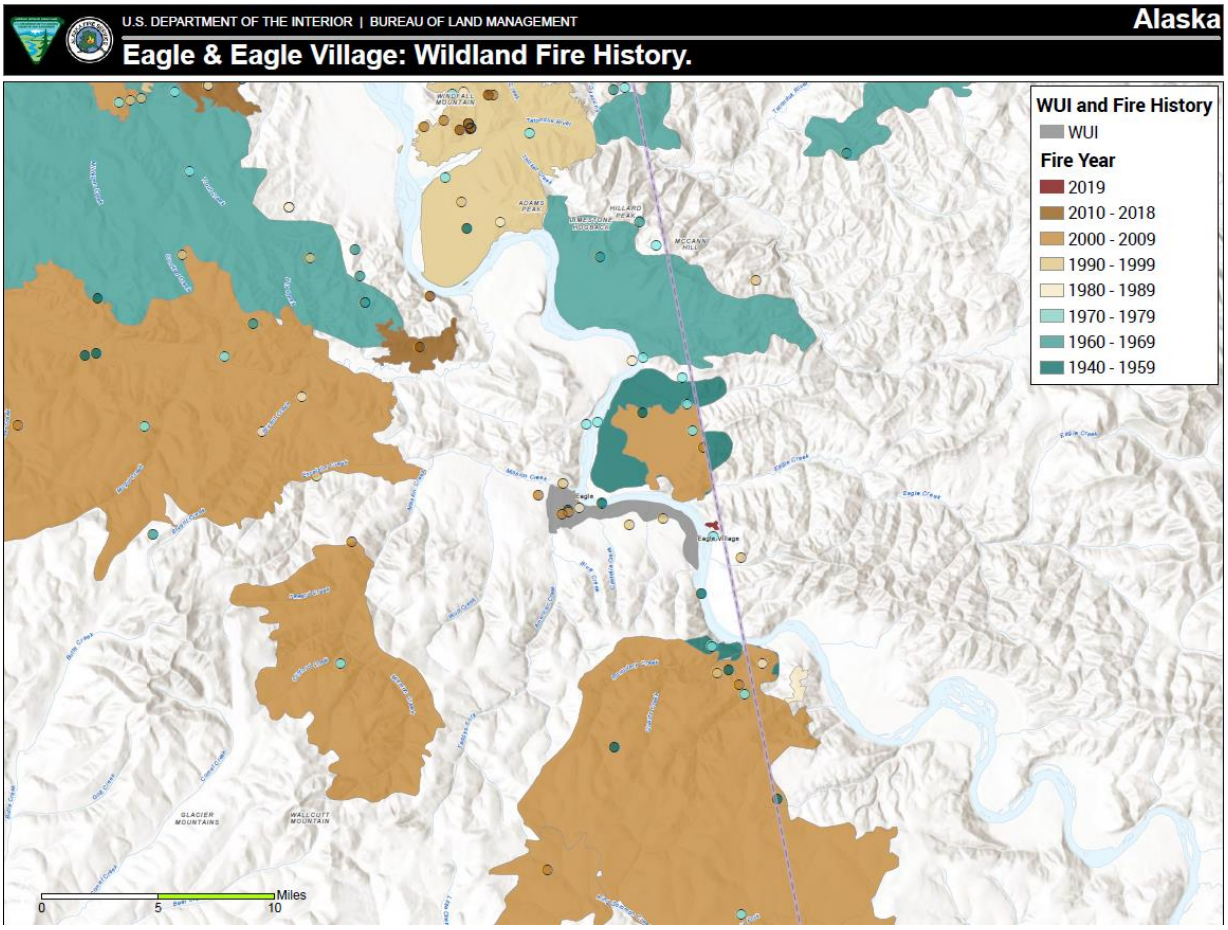

Figure 12: Eagle and Eagle Village Fire History

VI. SUMMARY

The greater Eagle area current risk from impacts by wildland fire is moderate to high. By collaborating on this CWPP, both communities are taking the first of many steps to mitigate the potential negative impacts from a wildfire. To reduce this risk, the communities are encouraged to continue education and implementation of fuels mitigation efforts, consistent with the Alaska Firewise program. There are two prioritized areas for fuel reduction that are recommended to reduce the risk around structures and cultural sites identified in the mitigation plan.

SIGNATURE PAGE:

THIS PLAN HAS BEEN REVIEWED AND APPROVED BY THE FOLLOWING:

X _____ Date 6-14-20
Daniel Helmer, City Mayor
City of Eagle

X _____ Date 7-21-20
Karma Ulvi, First Chief
Eagle Village Council

X _____ Date 7.21.20
April Frank, President
Hungwitchin Corporation

X Thomas St. Clair Date 7-22-2020
Tom St. Clair, Fire Management Officer
Bureau of Indian Affairs

X _____ Date 07/21/20
John Lyons, Fire Management Officer (Acting)
Upper Yukon Zone, BLM Alaska Fire Service

X BEN SEIFERT Digitally signed by BEN SEIFERT Date: 2020.07.27 17:27:15 -08'00' Date _____
Ben Seifert, Fire Management Officer
Fairbanks/Arctic District BLM Alaska

X Jeremy Douse Date 7-22-2020
Jeremy Douse, Northern Regional Forester
Alaska Division of Forestry

X _____ Date 9/1/20
Jamie Marunde, Vice President of Lands
Doyon LLC.

X Brian Mork (Acting FMO) Date 7.21.2020
Brian Mork, Assistant Fire Management Officer
National Park Service Alaska - Eastern Area Fire Management

Prepared by:
Chris Demers (Fuels Management Specialist) Upper Yukon Zone, BLM Alaska Fire Service