Bureau of Land Management
Alaska Fire Service
Alaska Division of Forestry and Fire Protection
Bureau of Indian Affairs

Community Wildfire Protection Plan

Central and Circle Hot Springs 2025

Deception Pup Fire (120 Acres), June 2024
Lightning Caused Fire, 3 mi from Central, AK
Cost to Suppress: $938,700

Contents

List of Figures and Tables

Cover Photo: Courtesy of AFS Smokejumper Graham Worley-Hood, June 2024

I. EXECUTIVE SUMMARY

Interior Alaska is a wildfire-dependent ecosystem. Fires can help restore nutrients to the soil, diversify vegetation, and increase wildlife habitat. However, these same fires have potential to destroy communities and homes. Two especially vulnerable communities within the Upper Yukon Zone (UYD) are Central (CEM) and Circle Hot Springs (CHP).

A hazard fuels risk assessment conducted by UYD employees in 2024 concluded that CEM and CHP are in a high wildfire risk category due to the accumulation of natural fuels, mature spruce stands, lichen abundance, lightning frequency, poverty of natural fire barriers and the flammability of structures. The following summer, after completion of the risk assessment, a lightning caused fire ignited 3 miles west of Central. The fire grew to 121 acres before smokejumpers and multiple loads of retardant successfully stopped the fire's growth. By then, the fire was 2.5 miles from the center of town and .35 miles from the nearest structure. Community residents are veterans of forest fires, and this fire was only the latest ignition in a long series of historical fires.

This Community Wildfire Protection Plan highlights and quantifies wildfire risk factors in the Greater Central Area (i.e., within the Wildland Urban Interface boundary). It also aims to engage and address wildfire-related community concerns. The attached mitigation plan includes recommendations to residents regarding how they might Firewise their own land. Site-specific fuels reduction and Firewise landscaping, along with wildfire prevention/education will be the primary tools to address risk.

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 a monitoring plan. The Alaska Wildland Fire Coordinating Group (AWFCG) encourages the development of a Greater Central Area CWPP, as defined by the Healthy Forests Restoration ACT (HFRA).

III. COLLABORATION

The Greater Central Area CWPP is a collaborative effort between state and federal agencies, and the residents of Central and Circle Hot Springs. The Alaska Fire Service has been represented in this project by UYD Fire Management Officer, Kip Shields and by UYD Fuels Specialist Ben Ferguson, Melissa Fischer and Chris Demers. This document was prepared, consulted and/or approved by:

1. Residents of Central and Circle Hot Springs. Community meetings were held on:
    a. August 2021 at Skookum Roadhouse
    b. May 2024 at Skookum Roadhouse
    c. May 2025 at Skookum Roadhouse
2. State of Alaska – Division of Forestry & Fire Protection
3. Bureau of Indian Affairs – Alaska Region
4. Bureau of Land Management – Alaska Fire Service

IV. ASSESSMENT TO PRIORITIZE AREAS FOR FUEL REDUCTION

A. Introduction:

Central is a census designated place (CDP). It's located on the Steese Highway 125 miles northeast of Fairbanks and 28 miles southwest of Circle. It lies at approximately 65° 34.582 N Latitude, 144° 47.600' W

Longitude (Sec. 27, T009N, R014E). The community is in the Fairbanks Recording District.

After discovery of gold in the Circle Mining District in the 1890s, a centrally located roadhouse was needed between Circle and the mining operations at Mammoth, Mastodon, Preacher and Birch Creeks. Central House, originally built around 1894, was located at the supply trail's crossing of Crooked Creek. It became the center of a small community of miners who settled there and provided food and shelter to travelers and support services to nearby miners. In 1906, the Alaska Road Commission began construction of a wagon road to replace the primitive pack trail from Circle to Birch Creek mining operations. By 1908, construction had reached Central. The original roadhouse burned to the ground and was rebuilt in the mid-1920s. A post office was established in 1925. In 1927, the road link to Fairbanks was completed. The road was named the Steese Highway in honor of General James Steese, former president of the Road Commission. Mining continued until the beginning of World War II. After the war, a few miners returned to Central, but mining declined through the 1950s and 60s. Mining rebounded in the mid-1970s with rising gold prices. In 1978, the Circle Mining District was the most active in Alaska, with 65 gold mining operations employing over 200 people. Today Central still has many active mining claims in the area and hosts a checkpoint every February for the world-famous Yukon Quest sled dog race. The Mosquito Fest music festival is also featured annually in the third weekend of every August.

The separate community of Circle Hot Springs (8.5 to the Southeast) uses Central as a supply hub. For planning purposes, we have added this community to the CWPP for Central. Circle Hot Springs has also been threatened by fire multiple times in the last two decades. An estimated 26 residents reside there in summer. Circle Hot Springs was established by Franklin Leach in 1905 when he started construction on the resort. The spring was important to and has been used by the Athabascan people for thousands of years. Like Central, this town’s population peaked before the discovery of gold in the Klondike and Nome. Later, the development of the hot springs attracted miners and tourists. The post office and airstrip were established in 1924. The Artic Circle Hot Springs Resort is currently closed for business, but mining claims in the area remain active. Remote mining in Alaska is arduous. Equipment problems, inclement weather, forecasting profit margins relative to extraction methods and operating costs are lifestyle factors which reward problem solving skills and personal grit. These factors contribute to the special character and self-reliant ethos of Central and Circle Hot Springs.

Figure 1: Circle Hot Springs, 1920

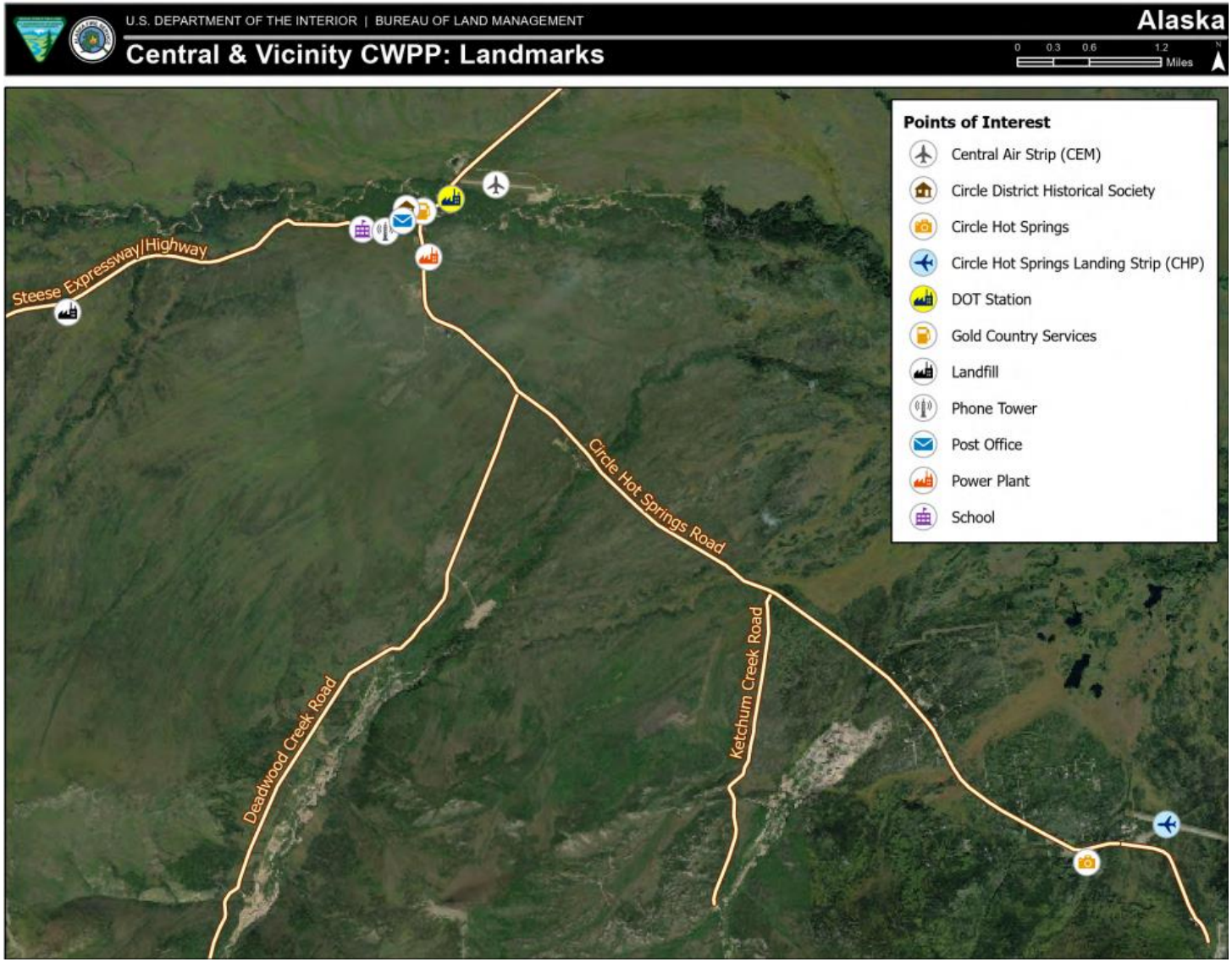

Figure 2 Central and Circle Hot Springs Landmarks

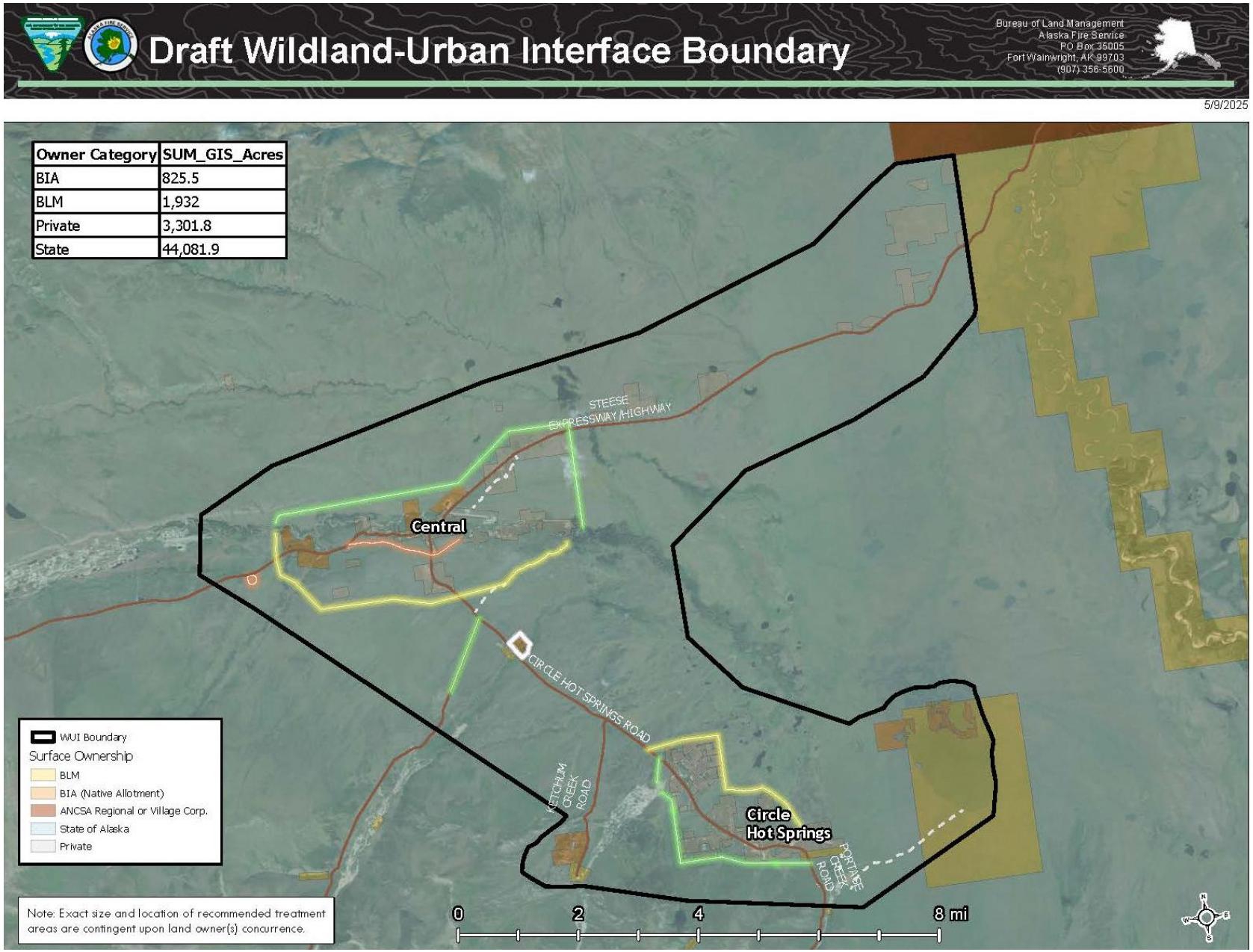

Figure 3 Proposed WUI Boundary

B. Identification and Description of the Community and Area

The WUI boundary was delineated based on input from the residents of Central and Circle Hot Springs as well as employees from the Alaska Fire Service, Bureau of Indian Affairs and the Division of Forestry & Fire Protection. All proposed treatments are within the boundary. At a roughly 2 mi offset, the WUI boundary parallels CHP Road and a segment of the Steese Highway nearest CEM and CHP. The boundary stretches to the northeast (toward the Birch Creek bridge) to include additional homes and private property. Throughout the document, the WUI boundary is also referred as the Greater Central Area.

Community Name: Central

Incorporation Type: Unincorporated Census-Designated Place

Location: Approximate coordinates for Central are 65° 34.582 N Latitude by 144° 47.600' W Longitude. The community is on the Steese Highway 125 miles northeast of Fairbanks and 28 miles southwest of Circle.

Climate: Central falls within the continental climate zone, characterized by extreme temperature differences. The continental climate zone encompasses most of the central part of the state and experiences extremely cold winters and warm summers.

Population: 60 (Population Year: 2023). However, according to locals, the year-around population is between 40 and 50. During the active mining season, the population in the Greater Central Area swells to hundreds.

Estimated Number of Primary Structures: 46. Primary structures include houses (inhabited or not), large buildings, commercial and community buildings. This figure was derived from local knowledge and satellite imagery.

Estimated Number of Outbuildings: 120

CEM and CHP Community Buildings/Infrastructure: (included in primary structure count)

- Church and Museum
- Electrical Power Plant (20 miles of power lines)
- School (no longer used). Building appears to be reasonably good condition.
- Landfill (State Property)
- BLM Field Station
- DOT Facility
- Post Office

Runway: A gravel runway 2782’ long is owned by the State of Alaska (DOT) and is located .5 miles northeast of Central along the Steese Highway. Warbelows Air Ventures provides commercial flights.

Community Name: Circle Hot Springs

Location: Approximate coordinates are 65° 29.400 N Latitude by 144° 39.300' W Longitude

Incorporation Type: Unincorporated Census-Designated Place

Current Population: 26 estimated during fire season.

Estimated Number of Primary Structures: 80. Estimate was derived from local knowledge and satellite imagery.

Estimated Number of Outbuildings: 200

Central and Circle Hot Springs

Local Industry, Utilities and Commercial Enterprises:
Placer gold mining is the primary industry in the Greater Central Area. Lumber is also harvested by some residents and a few people harvest and sell firewood. Commercial business include:

- Gold Country Energy
- Gold Country Services
- Skookum Roadhouse: restaurant, bar, convenience store and gas station.
- Circle District Historical Society Museum
- Utilities include telephone through United Utilities and electrical service (Gold Country Energy).

Local Government
There is no city council, mayor, or organized government and no fire department. There are several volunteer EMTs but no official emergency service provider. Most homes have wells, and there is a privately owned water fill site for community members who haul their own water.

Figure 4 Skookum Gold Camp and Roadhouse

.
Cultural Sites: Community cemetery (see map below) and historic buildings and mining equipment.

Landfill: Central maintains a Class III landfill located 1.5 mi west of Central on the south side of the Steese Highway. The site is leased from the State of Alaska and inspected every few years. There is no known community landfill for Circle Hot Springs.

Hazards: Known hazards include natural fuel loading, underground power lines, disturbed soils, overgrown/obscured mining equipment. Another possible hazard is the now decommissioned Crabb's landfill site, 2.7 mi south of Central on the west side of CHP road.

Fire Equipment: Neither community owns dedicated fire equipment nor operates a fire department. However, excavators are generally plentiful. Some residents also own bull dozers and large water pumps. The nearest wildland fire suppression resources are the AFS smokejumpers with a 30–40-minute response time. Drive time for ground-based resources traveling from Fairbanks to Central is 3 to 4 hours.

Fire Prevention Efforts: Very little to date. However, multiple fire control lines were constructed by bulldozer during the last two decades. Most were constructed during the 2004 fire season. See *Figures 8* and *11*.

Other Community Values: Native allotments within WUI boundary (420 acres).

C. Areas or Values to be Protected

The highest risk of wildland fire in the Greater Central Area is a lightning or a human-caused fire starting within the WUI.

Areas of concern include the community powerplant and power lines, community buildings, private homes and property, Alaska Native allotments, and the shuttered Arctic Circle Resort in Circle Hot Springs.

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

Table 1: Fire Regime within the Boreal Forest (CFFDRS = C2)

Fire Regime Group	Frequency (Fire Return Interval)	Severity
IV A	35-100 Years	High Stand Replacing

Table 2: Overall Risk Assessment Rating Chart

Category	Rating
Fuels Risk/Hazard inside WUI	High
Fuels Risk/Hazard outside WUI	High
Barriers	High
Fire Protection	Moderate
Community Firewise Rating	Moderate
NFRC Database-Wildfire Likelihood	High
Final Rating:	**High**

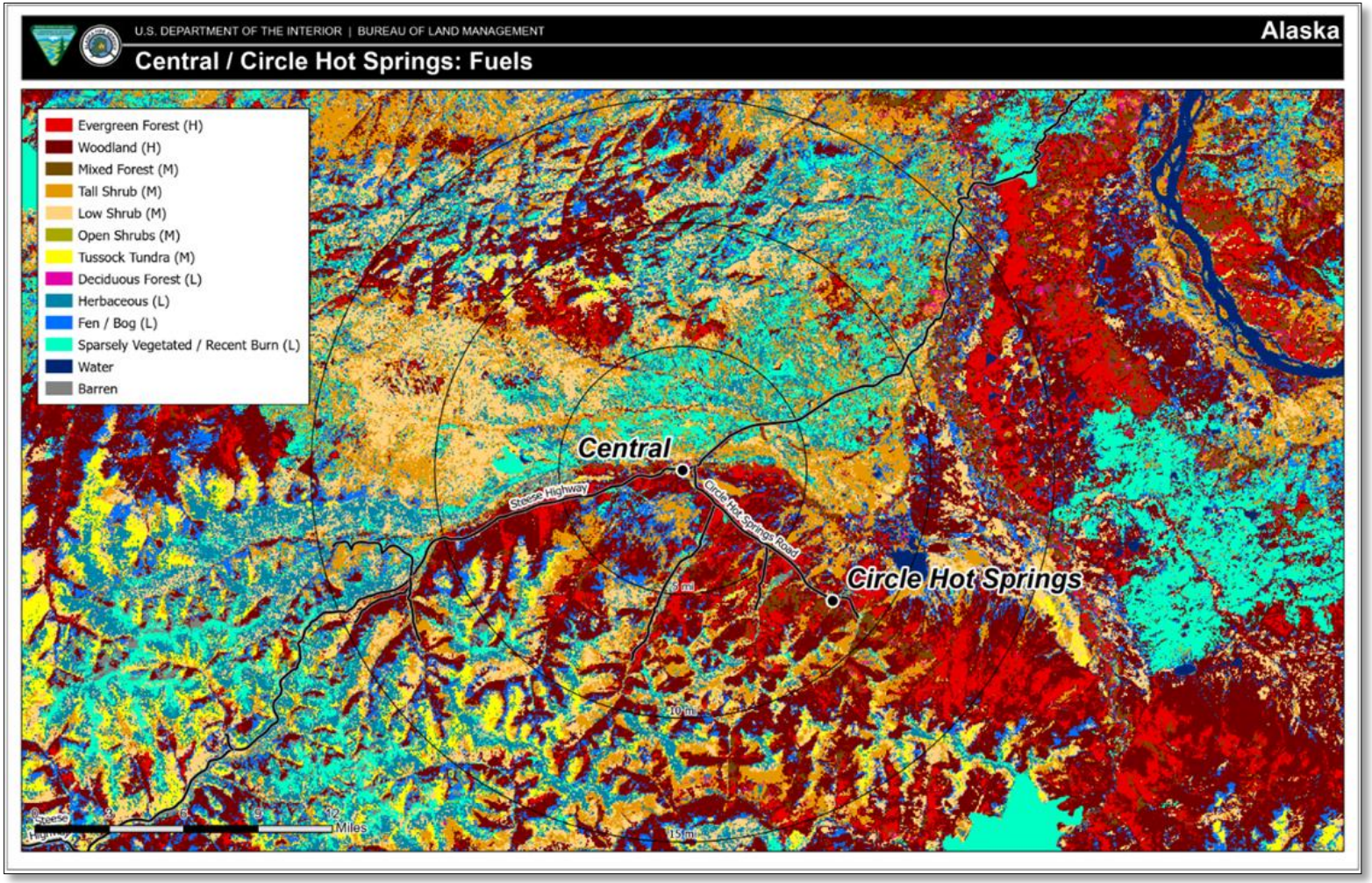

Figure 5: Hazard Fuels Map

Discussion: As shown, the fuels south of Central and around Circle Hot Springs are mostly spruce forest. Not shown in the map is the unique abundance of fire-carrying caribou lichen south of Central, noticeable in satellite imagery as patches of white through the forest canopy. Fuels north of Central, within the large footprint of the Bolgen Creek Fire, are mostly shrub and tussock with sapling spruce and hardwoods – fuels that will carry fire but at reduced intensity. The terrain south of Circle Hot Springs is a mixture of heavily wooded spruce forest in the lower elevations and mixed spruce and hardwoods along mid-slopes. Above 2500' elevation, hazard fuels diminish.

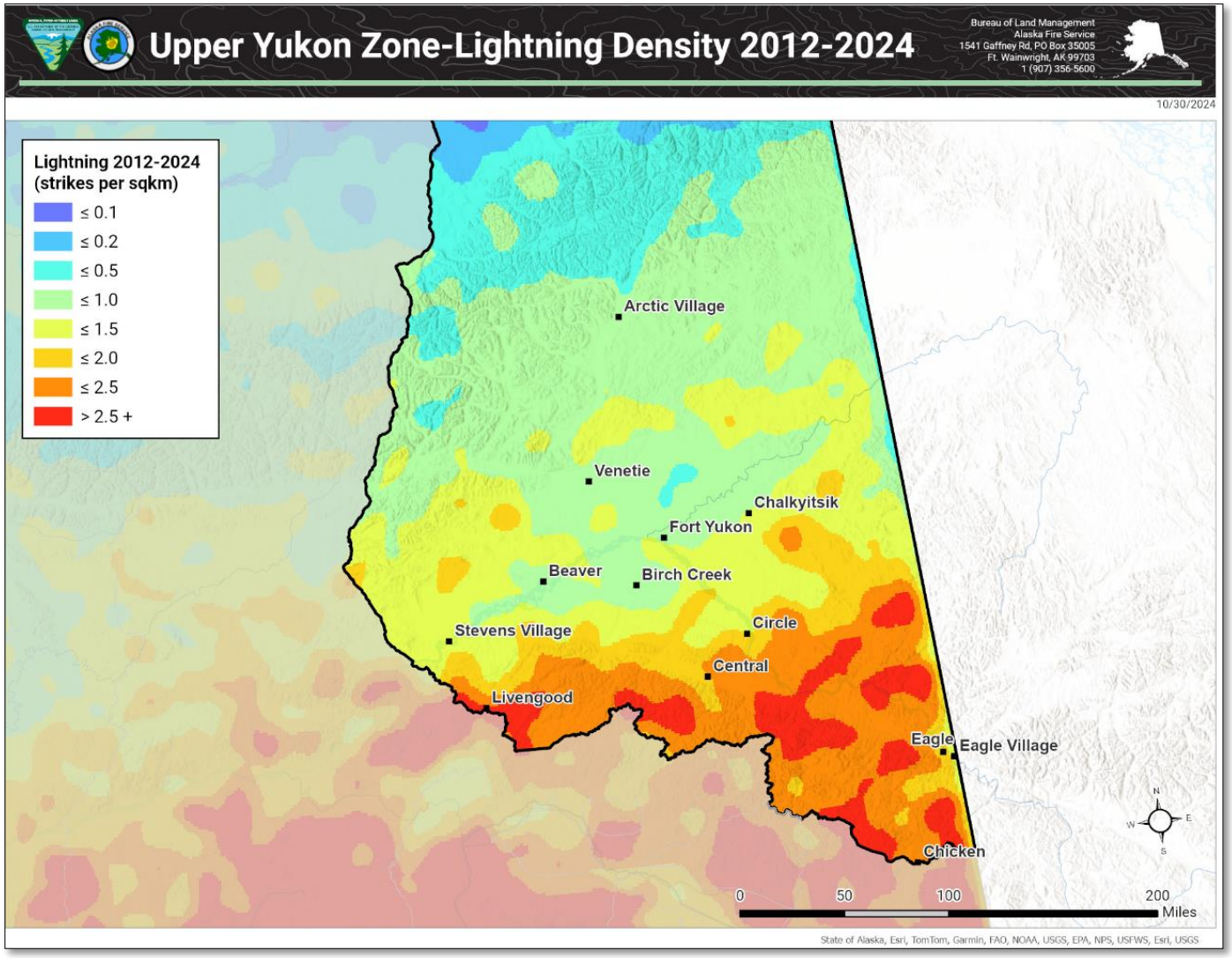

Figure 6: Average Lightning Density by Year

Discussion: The local geography of the upper Yukon basin along the Yukon River strongly influences ignition potential in the vicinity of Central. The density map showing 2+ strikes per square kilometer, per year (between 2012 and 2024) is higher than the Upper Yukon Zone average. Red areas show comparatively greater lightning density, although these areas are largely in the Tanana Hills – the mountain range that separates the Tanana and Yukon River watersheds. The range does not generally support large fire growth.

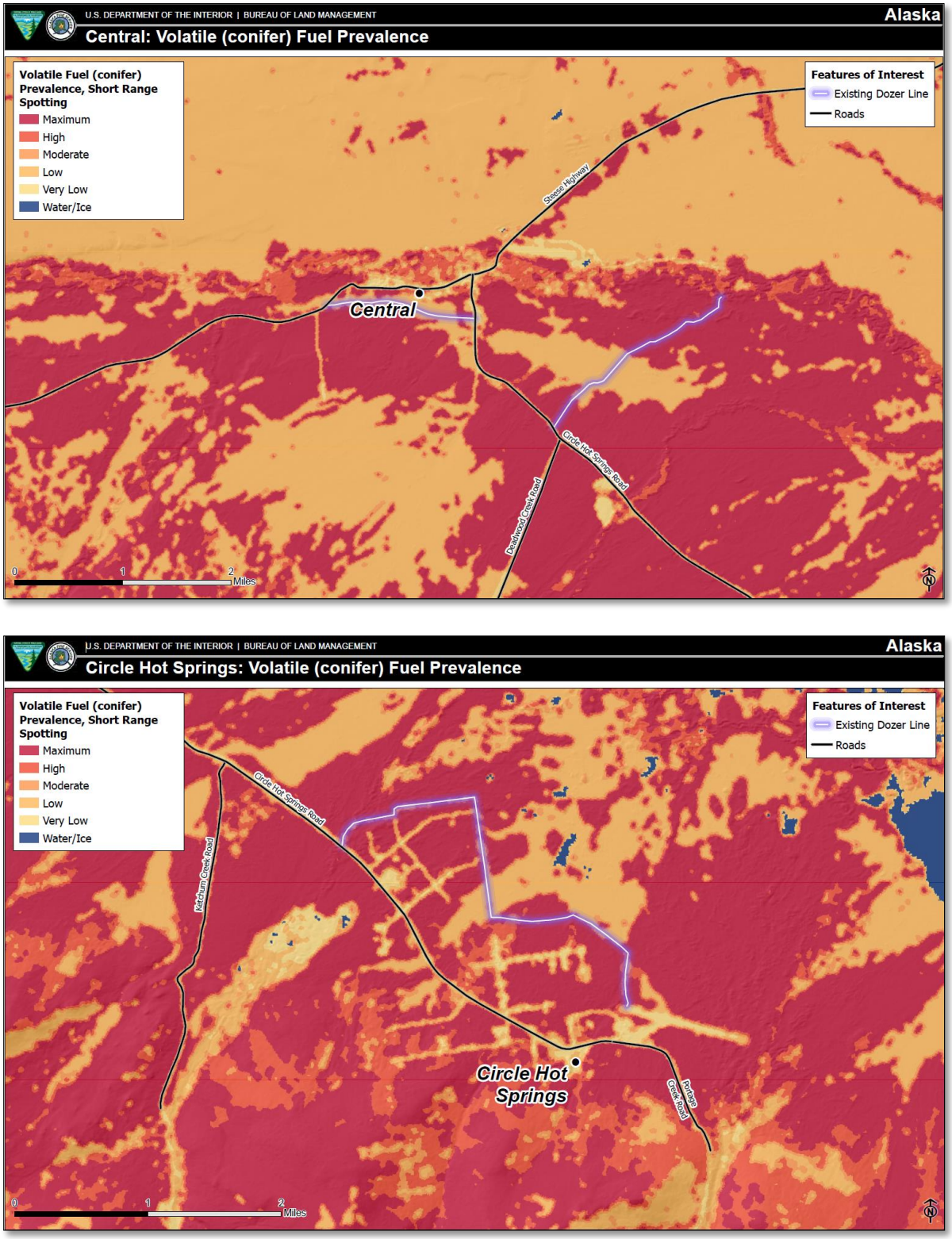

Figure 7: Volatile Fuel Prevalence

Discussion: Broken and unbroken stands of mature black spruce, identified by dark red, pervade Central and Circle Hot Springs. These stands have the potential to sustain large fire growth from within the WUI, or to create pathways to it from without. North of Central, the Bolgen Creek Fire scar, indicated by the brighter color scheme, is for now an effective barrier to rapid fire growth.

Individual Risk/Hazard Analysis Charts

- Inside community: The rating area includes lands within a mile of the community in all directions. The rating is based on history/likelihood of fire in the community and the presence of hazard fuels.
- Outside community: The rating area is from 1-10 miles outside the community and is based on the history/likelihood of fire in the area and presence of hazard fuels.

Table 3: Risk/Hazard Analysis (Inside and within 1 mile of WUI Boundary)

FUEL Types (predicated fire behavior based on historic summertime weather with, hot dry conditions)	Wildland Fire Hazard	Percent of Area
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high / intensity: high / spotting potential: high*	High	**25%**
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate /intensity: moderate / spotting potential: high*	High	**10%**
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high / intensity: moderate / spotting potential: low*	Moderate	**2%**
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	**13%**
Insect and Disease in Mixed Boreal Forest (may include white or black spruce, aspen and/or birch. CFFDRS=M4 30%) *rate of spread: moderate / intensity: high / spotting potential: moderate*	Moderate	**10%**
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low / intensity: low / spotting potential: low*	Low	**20%**
Deciduous Brush (includes willow & alder) *rate of spread: low / intensity: low / spotting potential: low*	Low	**20%**
Summary and Discussion: *35% high, 25% moderate, and 40% low wildland fire hazard fuels. Although black spruce is 35% only of the fuel type, CEM and CHP are at high risk due to the density and proximity of large stands of decadent black spruce. See above volatile fuel maps.*	**High**	

Table 4: Risk / Hazard Analysis (1 -10 miles outside the community)

FUEL Types (predicated fire behavior based on historic summertime weather with, hot dry conditions)	Wildland Fire Hazard	Percent of Area
Black Spruce Boreal Forest (CFFDRS=C2) *rate of spread: high / intensity: high / spotting potential: high*	High	**28%**
Black Spruce Lichen Woodland (CFFDRS=C1) *rate of spread: moderate /intensity: moderate / spotting potential: high*	High	**18%**
Grass (cured tall standing or matted; CFFDRS = O1a/O1b) *rate of spread: high / intensity: moderate / spotting potential: low*	Moderate	**2%**
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	**22%**
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: moderate CFFDRS=M4 30%)*	Moderate	**10%**
Hardwood Forest (includes aspen & birch; CFFDRS use D1 or M1, M2) *rate of spread: low / intensity: low / spotting potential: low*	Low	**2%**
Deciduous Brush (includes willow & alder) *rate of spread: low / intensity: low / spotting potential: low*	Low	**10%**
Summary and Discussion: *46% high, 40% moderate, and 12% low wildland fire hazard fuels. Although black spruce is below the 50% threshold again, the arrangement and density of never-burned spruce stands create multiple pathways for a fire burning outside the WUI to encroach within and threaten homes and infrastructure. See above Fuels Map.*	**High**	

Barrier(s) Assessment

Natural*:* In 2004 the Bolgen Creek Fire burned a large area North of the Steese Highway. In May 2019, the Oregon Lakes fire near Delta Junction burned actively within a 2013 burn scar. The fire was carried by downed trees, cured grass and strong winds. Whether the same spring fire potential exists here is unknown. However, the 2004 fire scar is unlikely to support rapid fire growth, or extreme fire behavior after green up. Other natural barriers include Medicine Lake (east of Circle Hot Springs), Deadwood Creek and Crooked Creek. These riparian areas may afford tactical engagement opportunities but as standalone barriers they will not stop fire absent favorable weather conditions.

Constructed: Both Central and Circle Hot Springs possess gravel runways. There is also a mix of paved and gravel roads and old dozer control line constructed in 2004 and 2013. The dozer lines are in mixed states of useability, but all visible lines can be reopened with minimal new disturbance.

Table 5: Barrier Rating Chart

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

Barrier Rating Chart Key:
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 or a community on an island.
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.
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 between highly flammable fuel types.

Fire Protection Resources

The majority landowner within the Greater Central Area is the State of Alaska. By agreement, wildfire response is the responsibility of the BLM-Alaska Fire Service, Upper Yukon Zone, based out of Fairbanks. In the event of a wildfire, when action is required, smokejumpers, air attack, and water dropping aircraft would be dispatched out of Fort Wainwright with an ETA between 30 to 45 minutes. Ground-based resources (crews or engines), if available from Fairbanks for dispatch, theoretically could mobilize in about 4 hours. Realistically, it would take longer. Note: During the 2024 fire season, Medicine Lake was deemed an unsuitable site to refill water scooping aircraft due to aquatic vegetation and pilot/aircraft risk.

Table 6: Fire Protection Resources Response Chart

Response Time Risk	Overall Response Time Risk to Central, AK
High Initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away.	**Moderate**
Moderate Adequate initial attack resources are 30-75 minutes away and adequate extended attack can be in place in 8-12 hours.	
Low Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than 8 hours.	

Local Firefighting Equipment and Contacts
Multiple residents own and operate heavy equipment; however, none are registered in SAM.gov. Emergency hiring through Alaska Fire Service may be an option.

Firewise Assessment

Table 7: Community Firewise Assessment Rating

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		Moderate	
Water Supply			High
Access	Low		
Clear of Flammables/ Refuse/Debris (flammables stored properly & area cleared)		Moderate	
Overall Rating		**Moderate**	

Alaska Firewise Rating Chart Key:
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.
Construction Guidelines: Home is made of fire-resistant or non-combustible construction materials (especially important for roofing); vents are covered with wire mesh no larger than 1/8 inch; at least two ground-level doors exist; at least two means of escape exist in each room.
Water Supply Guidelines: Home has a reliable water source, 3 to 4 sprinklers and enough hose to circle the home.
Access Guidelines: Access roads are at least two lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment. Clear of Flammables/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away (at least 30 feet) from the house; all debris or refuse is picked up regularly.

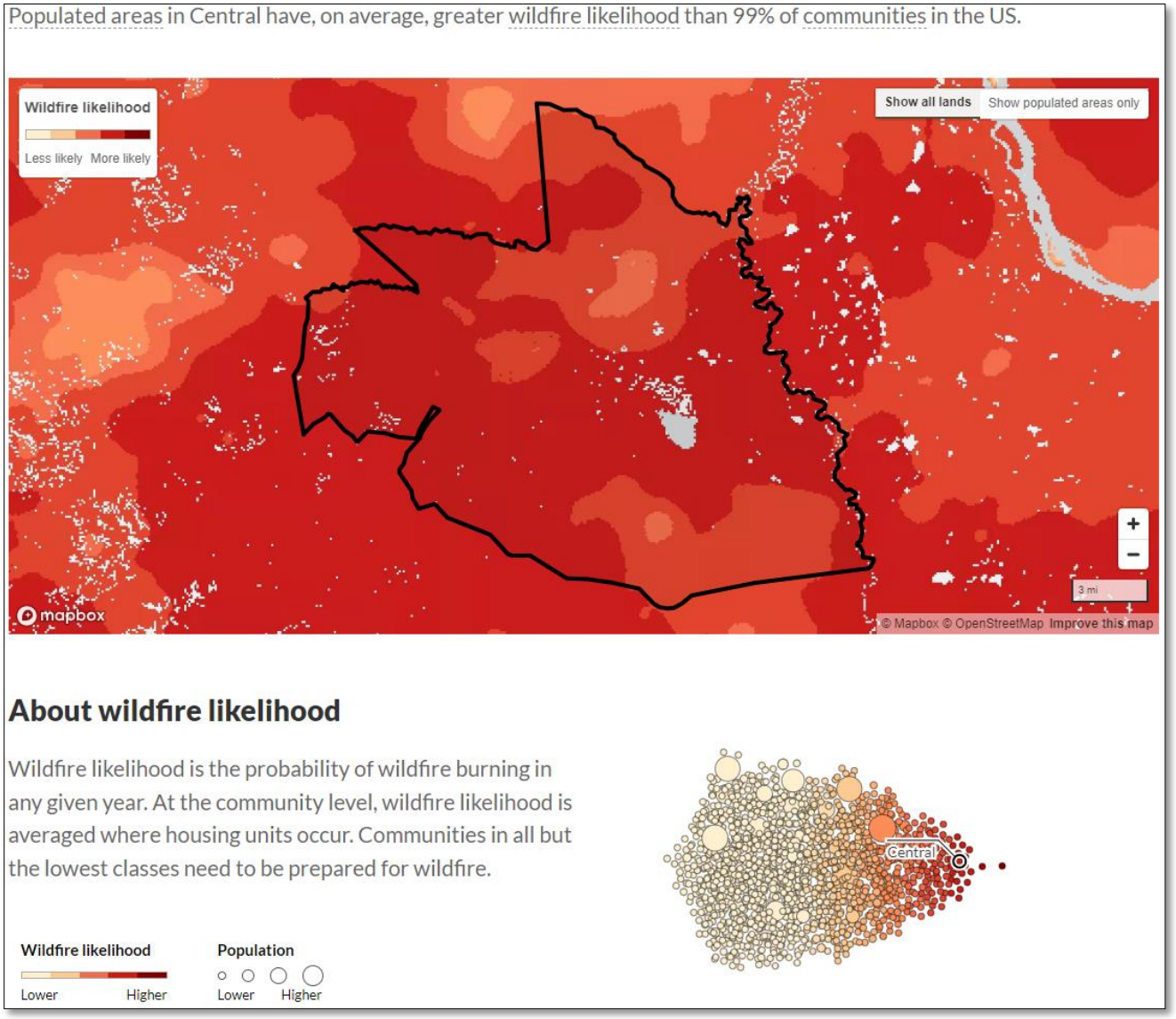

Figure 8: National Wildfire Risk Database- Wildfire Likelihood

V. FIRE HISTORY ASSESSMENT

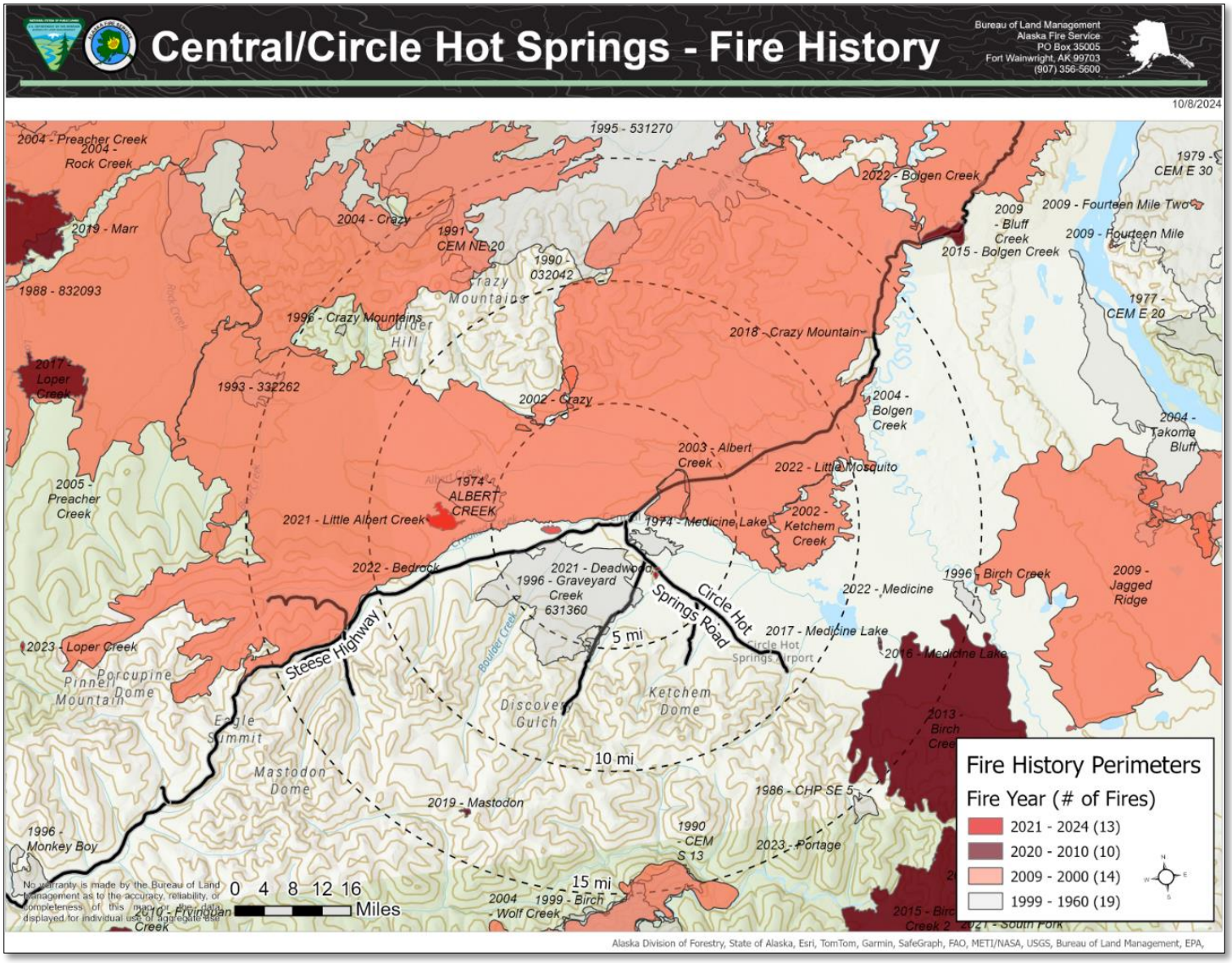

Figure 9: Fire History

Discussion: Between the years 1974 and 2024, the Alaska Fire Service suppressed at least eight fires within four miles of Central and Circle Hot Springs. Five of these were Type 2 and one was a Type 1 fire. Deadwood Creek, the smallest of the eight fires, cost $239,492 to suppress. Bolgen Creek, the largest and most complex fire, consumed over 200,000 acres, was staffed by 595 people at its peak, burned actively for a month and a half, and destroyed multiple homes and outbuildings. Suppression costs exceeded $9 M in 2004. An excerpt from the Bolgen Creek Fire Report on August 9th captures the intensity of the incident.

> *Morcom's Type 2 Team took command of the Central Complex at the end of shift. The fire came down off the bluff and crossed the Steese Highway. A large front of 100 ft, flame moved toward Central on both side of the highway. Smoke prohibited air operations and all aircraft were repositioned to Fort Wainwright. Residents along the Steese Highway 1-5 mi north of Central were evacuated into Central.*

That same night two burnout operations along the Steese Highway were attempted, one at 11 PM and the other after midnight. Both efforts were abandoned due to a "plume dominated column and fire behavior associated with this." The 1996 Graveyard Fire Report describes an ariel ignition operation, five miles south of Central, along Twenty-two Pup Creek, which was abandoned due to "elevated fire activity" Although conditions were extreme during both incidents, this same recipe of hazardous fuels remains present today. The price paid by decades of fire suppression is accumulated fuel loading and an altered fire regime landscape south and east of Central.

Table 8: Fire History & Suppression Costs

	Fire Name	Fire Year	Size - Acres	Incident Complexity	Distance from Community - Miles	Duration	Cost to Suppress
1	Deception Pup	2024	121	3	2.4 from CEM	6/25 to 7/8	$938,700
2	Deadwood	2021	36	4	.62 from CHP	7/2 to 7/8	$239,492
3	Birch Creek	2013	24,923	2	4 mi from CHP	7/3 to 8/20	$2,400,000
4	Bolgen Ck	2004	201,849	1	.1 from CEM	7/23 to 9/11	$9,900,000
5	Albert Ck	2003	1,547	2	.3 mi from CEM	6/17 to 6/27	$881,985
6	Ketchum Ck	2002	5,363	2	3 mi from CHP	8/3 to 8/15	unknown
7	Graveyard Ck	1996	11,362	2	1 mi from CEM	6/3 to 6/17	unknown
8	Medicine Lake	1974	727	unknown	.3 mi from CEM	8/2 to 8/16	unknown
					Total Known Suppression Costs:		**$14.4 M**
					Inflation Adjusted Cost (2025)		**$21.5 M**

Note:
***** Duration is the time between initial attack and placement of the fire into monitor status
**Identifying accurate suppression costs is challenging due to cross-billing challenges, poor recording keeping and lack of standardized methods.

Central Landfill Escaped Fires

The landfill in Central is located on south side of the Steese Highway, three miles west of Central. Between the years 1979 and 2022, eight dump fires escaped the landfill (according to Arch GIS data). Most of these fires were caught small at less than one-tenth of an acre. However, the 1996 Graveyard Fire eventually grew to 11k acres and required at Type 2 team to suppress.

VI. MITIGATION PLAN

Executive Summary

A 2024 risk assessment completed by AFS concluded that Central and Circle Hot Springs are at high risk for wildfire. Building on its findings, this mitigation plan describes the role that suppression agencies (like AFS) should play with respect to Firewise community outreach. It also recommends specific large-scale hazardous fuels treatments in and around both communities. Local support was expressed for hazard fuels reduction during public meetings in the fall of 2021 and the spring of 2024 and 2025. During the 2025 meeting, two residents requested a privacy buffer between private property and the treatment located on State of Alaska land. As this project moves towards implementation, community input will continue to guide fuels treatment methods and placement.

Background

Multiple homes and outbuildings in Central were destroyed by the Bolgen Creek Fire in 2004. A review of the fire report suggests that a key factor was aggressive fire growth, aircraft-grounding smoke obstruction and, ultimately, a fire suppression response that lagged a rapidly changing fire environment. This CWPP aims to help shift that dynamic by laying the groundwork to protect CEM & CHP before the next ignition.

Among Upper Yukon Zone communities, Central and Circle Hot Springs are among its most vulnerable to wildfire. A combination of overgrown spruce forest, lichen abundance, and lightning supportive topography contribute to this reality. Historical fire reports cite many examples of extreme fire behavior in the Greater Central Area. Total known suppression cost from 2003 to 2024 exceeded $14 M, or $21 M adjusted for inflation (see Table 8). Additionally, values within Central and Circle Hot Springs span a large area – the WUI, for example, is over 51k acres. This spread of values increases operational complexity (especially with respect to point protection) during large fire events. Given these considerations, treating hazard fuels within the Greater Central Area is an Upper Yukon Zone priority. Though not cheap, the cost of implementation will be fraction of historical suppression dollars.

Goals and Objectives

The goal of this plan is to promote Firewise outreach and to recommended strategically placed fuel breaks in and around both communities.

Objective No. 1: To promote Firewise principles, AFS personnel will discuss defensible space and funding mechanisms with interested homeowners and disseminate materials/brochures that demonstrate sound Firewise practice.

Implementation of Alaska Firewise Standards can be achieved through community involvement and assistance from state and federal agencies. Alaska Division of Forestry & Fire Protection, Forest Stewardship Grants were introduced during at a community meeting (spring 2024 and 2025) to residents of Central and Circle Hot Springs by Northern Region Forester Kevin Meany. Forest Stewardship Grants are a type funding which reimburses homeowners for completing Firewise treatments on their land.

In addition, the Alaska Fire Service has identified another opportunity for Firewise outreach during Central's annual July 4th parade. An appearance by AFS in the July 4th parade would involve donning a Smokey the Bear costume, talking with residence and distributing copies of the "Firewise Alaska" brochure.

Finally, upon request, AFS personnel will advise individual landowners on specific mitigation measures for their individual properties. Due to summer zone fire activity, spring and fall is the best time to schedule site visits.

Successful implementation of the Firewise program begins with individual landowners becoming familiar with Alaska Firewise standards.

- Visit Firewise Alaska Brochure for more information.
- Visit Forest Stewardship Grants to learn more about how the State of Alaska will provide financial assistance to individual homeowners to assist in making their property more resilient to the threat of wildfire.

Objective No. 2: With community input and landowner approval, AFS will recommend locations for large-scale linear fuel breaks to prevent the spread of wildland fire into and from within CEM and CHP. By disrupting fuel continuity, these constructed fuel breaks will slow fire spread and create operational areas of defense from wildland fire.

Description of Possible Treatment Types

There are different mitigation recommendations for each area, depending on fuel types, terrain, existing lines, etc. Various treatments may be subject to National Environmental Policy Act (NEPA) analysis/review or other specific landowner policies and directives.

A Shaded Fuel Break includes the removal of all dead trees, standing or on the ground, plus the creation of 8-10 foot spacing between live-standing black spruce. All remaining trees are limbed by removing lower branches (ladder fuels) 4-5 feet from the ground. Any suitable firewood (>4 inches in diameter) may be stacked in lengths and available per landowners' policies. All other material/woody debris is stacked to burn, away from standing timber to reduce mortality and scorch. These debris burns will occur as a prescribed burn under a certain prescription for safe burning conditions typically in late fall or early winter. The shaded fuel break technique not only reduces the fuel loading, it discourages growth of grasses which are also very prone to fire spread and potentially keeps permafrost from thawing. Shaded fuel breaks create a park-like appearance and is preferred method near residential areas, creeks, or wherever aesthetics matter.

Shaded Fuel Break examples. Left: Eagle, AK 2024. Right: Venetie, AK

Mechanical treatments may include, but are not limited to, mastication, shear blading and/or roller drum applications. This most closely mimics the large, severe, stand replacement fire regime without the safety risk of a severe fire near a community.

Mastication: Tracked or wheeled equipment with a mulching head attachment that pulverizes brush and trees up to 8" in diameter. Leftover debris are spread out over the treated area. This method may be utilized during the summer or winter on frozen ground to limit disruption to soils and the tundra mat however, operations in the winter will be the primary choice and summer operations a last alternative

Eagle Village Masticated Fuel Break

Implementation Nov/Dec 2022 post freeze-up. Equipment Used: Bobcat with Fecon masticating head. Image taken nine months post construction.

Shearblading: Implemented during the winter when the ground is frozen to limit disruption to soils and the tundra mat. A dozer shears/breaks trees near to flush with the tundra mat. Trees are moved into a round pile to be burned. Recommended conditions include 0° degrees or colder (for cleaner cuts/breaks) with less than 18" of snow and at least four inches of frozen ground. Most effective in moderate to low density black spruce tree stands that average less than 20' feet in height. It is recommended that personnel with chainsaws "clean up" the following summer to cut residual stumps and tidy-up cut material. Like a moderate to severe fire, this treatment type is spruce-stand-replacing and stimulates fire resistant hardwood regrowth.

Pile Burning: Piled materials will be burned, under an authorized burn plan, only after the ground is frozen or saturated to limit fire creep and disturbance to the tundra mat. Environmental conditions must be considered to allow for adequate smoke dispersion with limited to no impact to smoke receptors.

Priority Recommended Treatments

The treatments identified below are intended to be implemented in a phased approached. In a limited funding environment, Priority 1 treatments are comparatively low cost and help protect core infrastructure and homes in Central. Priority 2 projects represent a more expansive phase of the project supported by reliable funding. Although still at risk, values within the Priority 2 treatment zone benefit from 2004 dozer lines and a generally mixed fuel type. Priority 3 treatments, like Priority 2, represents a continued expansion of the project toward a provisional end-state.

Why recommended large-scale linear fuel breaks? The need arises from the expansive footprint of the two communities. By constructing contiguous fuel breaks that help protect whole subdivisions, operational complexity is reduced, and fire resource energy is conserved through the consolidation of effort. Additionally, each treatment is transected by roads. In the event of a fire, these roads will provide fireline access and opportunities to compartmentalize any groundfire initiated by firefighters, thereby limiting intentional fire to the smallest footprint needed to protect a given value.

Several treatments intersect creeks. Intersected creeks include Crooked, Boulder, Graveyard, and Ketchum Creek. Where such intersects occur, the mechanical treatments described below will stop 100’ short of the creek. The unfinished segment may be left as is, or with time and funding, tied to creek by means of a shaded fuel break.

Finally, all proposed treatments were flown by an AFS operated drone in May 2024. Footage is available upon request.

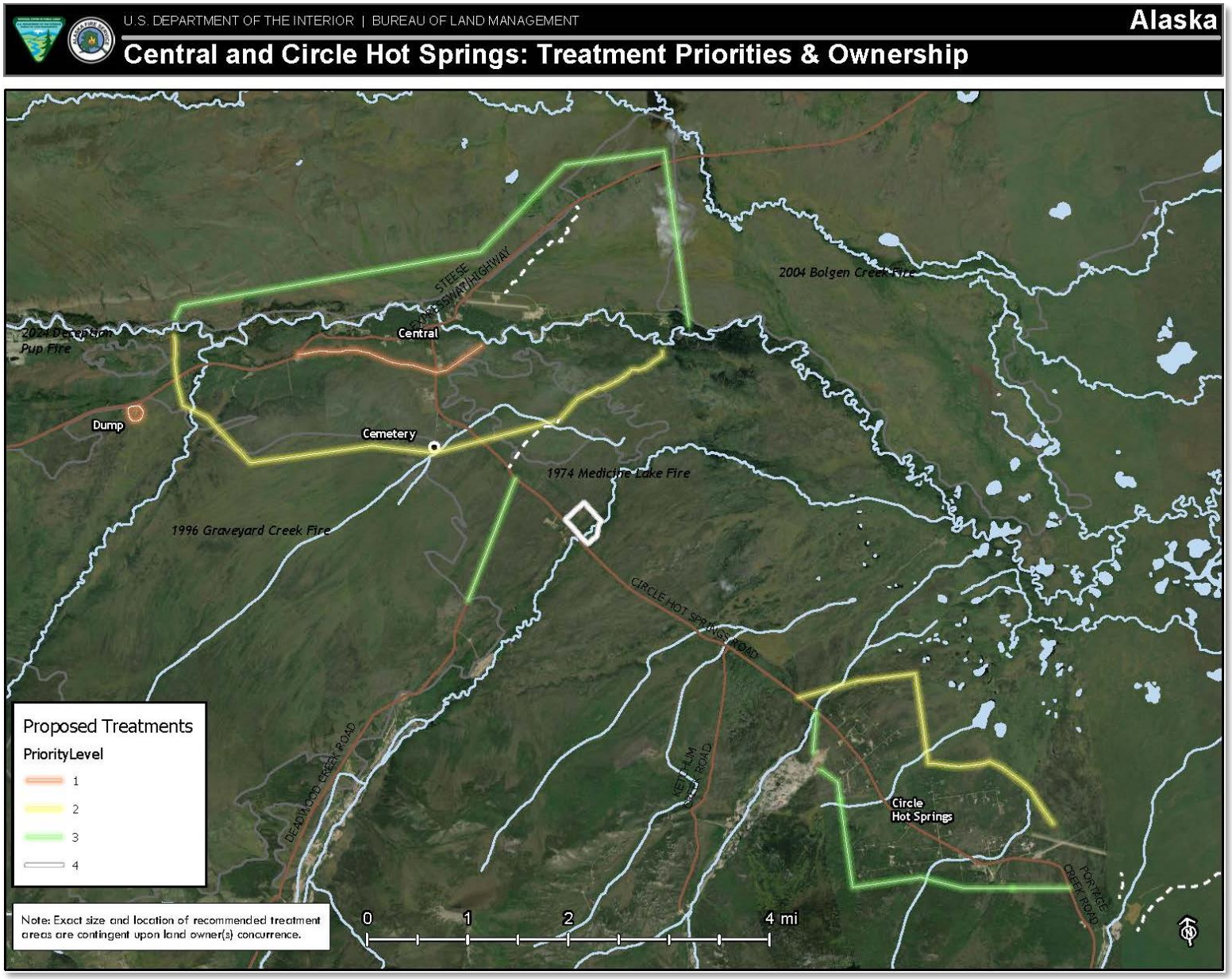

Figure 10: Central and Circle Hot Springs Treatment Priorities

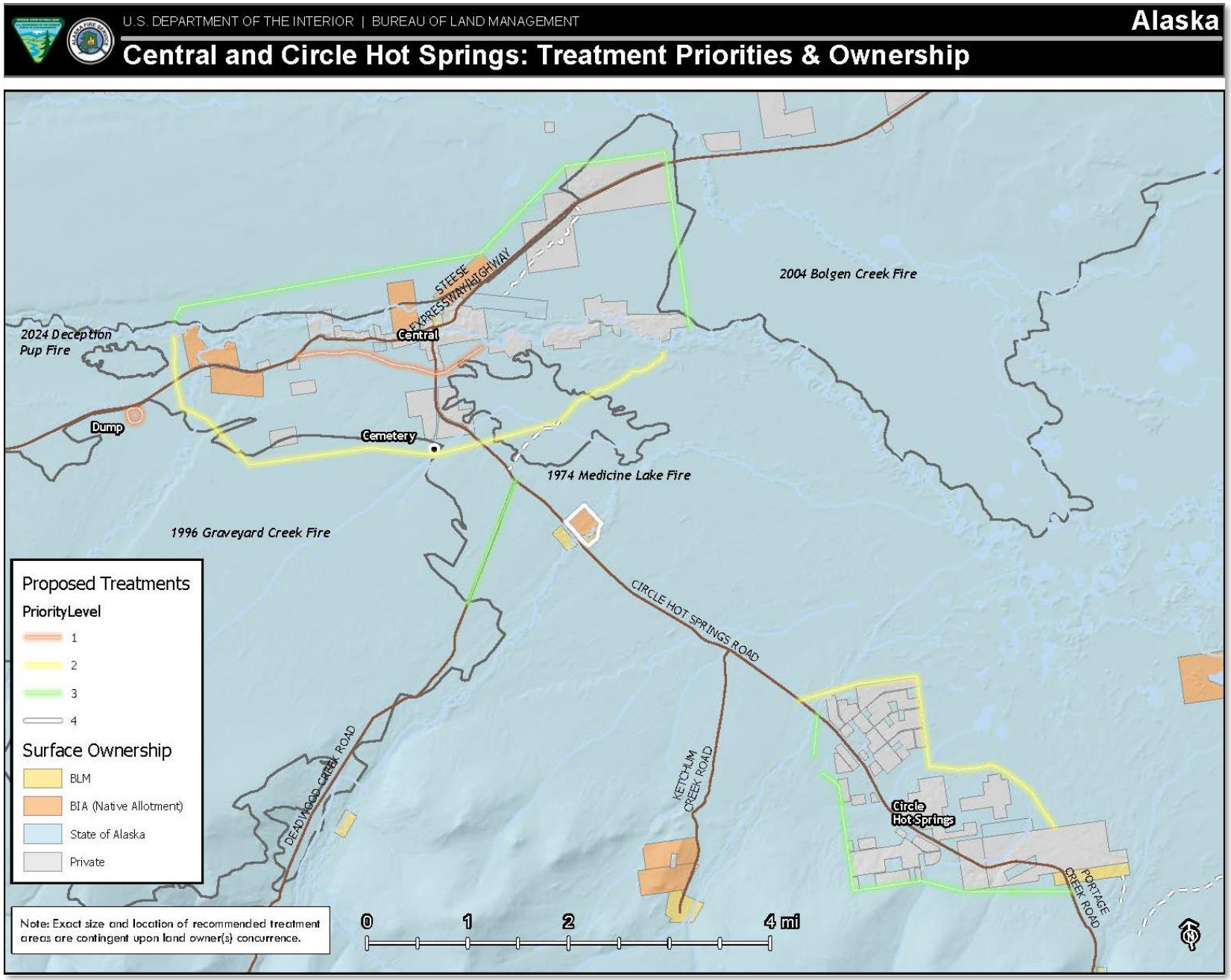

Figure 11: Treatment Priorities & Ownership

Priority # 1 Recommended Treatments

Ownership: State of Alaska Land

Landfill: Between 1979 and 2022, eight dump fires escaped the landfill. To prevent future starts, gravel should be laid at least fifty feet around the circumference of the transfer site. Other treatments could include the removal hazardous fuels adjacent to the dump by mechanized equipment.

Central Interior (1.9 mi) To protect the residential and commercial core of Central, a 1.9 mi fuel break should be mechanically constructed to the south of Central. Natural fuel loading is heavy immediately south and west of Central. By hugging the southern half of town, this treatment reduces the possibility of a fire starting on the wrong side of the fuel break. Note: The treatment West of CHP Road overlays an existing 2004 dozer line, whereas the treatment east of the road would be new. This segment terminates at Crooked Creek.

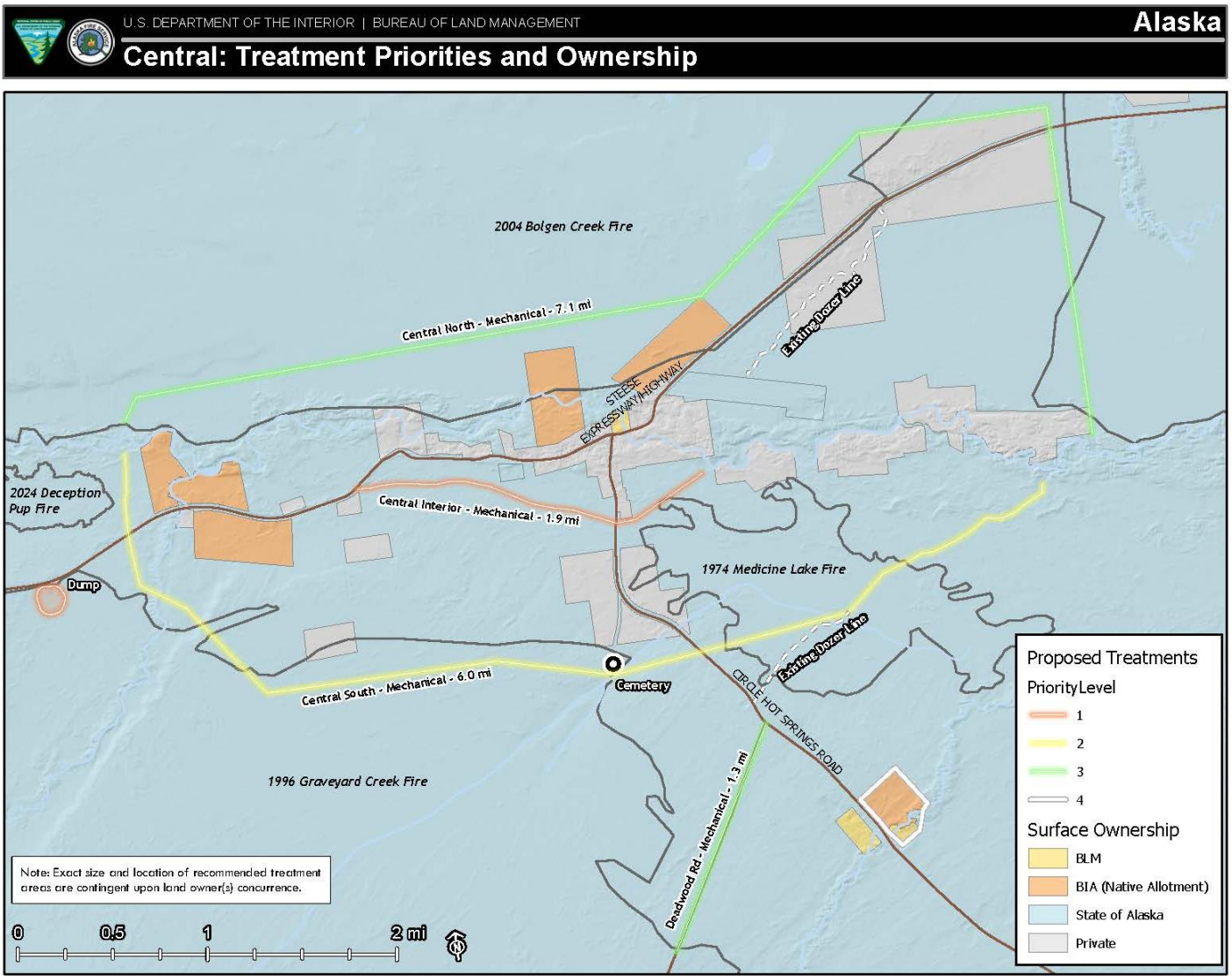

Figure 12: Central Treatment Priorities and Ownership

Priority # 2 Recommended Treatments

Ownership: State of Alaska Land

Note: Priority 2 projects represent a more expansive phase of the project supported by reliable funding.

Central South (6 mi) includes the cemetery, and a variety of structures/homes excluded by the treatment termed Central Interior. Central South, as proposed, is a mechanically constructed linear fuel break that wraps nearly all values within Central's southern half. Much of the route passes through old burn scar, flat terrain and several creeks including Boulder, Graveyard and Crooked Creek. Trees adjacent to creeks will be left standing and, where appropriate, shaded fuel breaks will tie treatments to creeks. Although long, the fuel break is tactically defensible with hose lay and UTV access. It's placement outside the DNR land sale project area protects values within, including possible future state land sale parcels. Note: east of CHP Road, the treatment intersects then follows a 2004 dozer line to Crooked Creek.

CHP East (3.7 mi) is another mechanically constructed fuel break adjacent to Circle Hot Springs. The route follows an existing 2004 dozer line which wraps several subdivisions east of CHP Rd. The existing dozer line is 50 to 75 feet wide. Regrowth is presently 6 to 12 feet tall. This regrowth should be removed, and the fuel break widened and/or straightened in places. Fuels along the route range from black spruce and hardwoods to shrubs and tussocks (middle section).

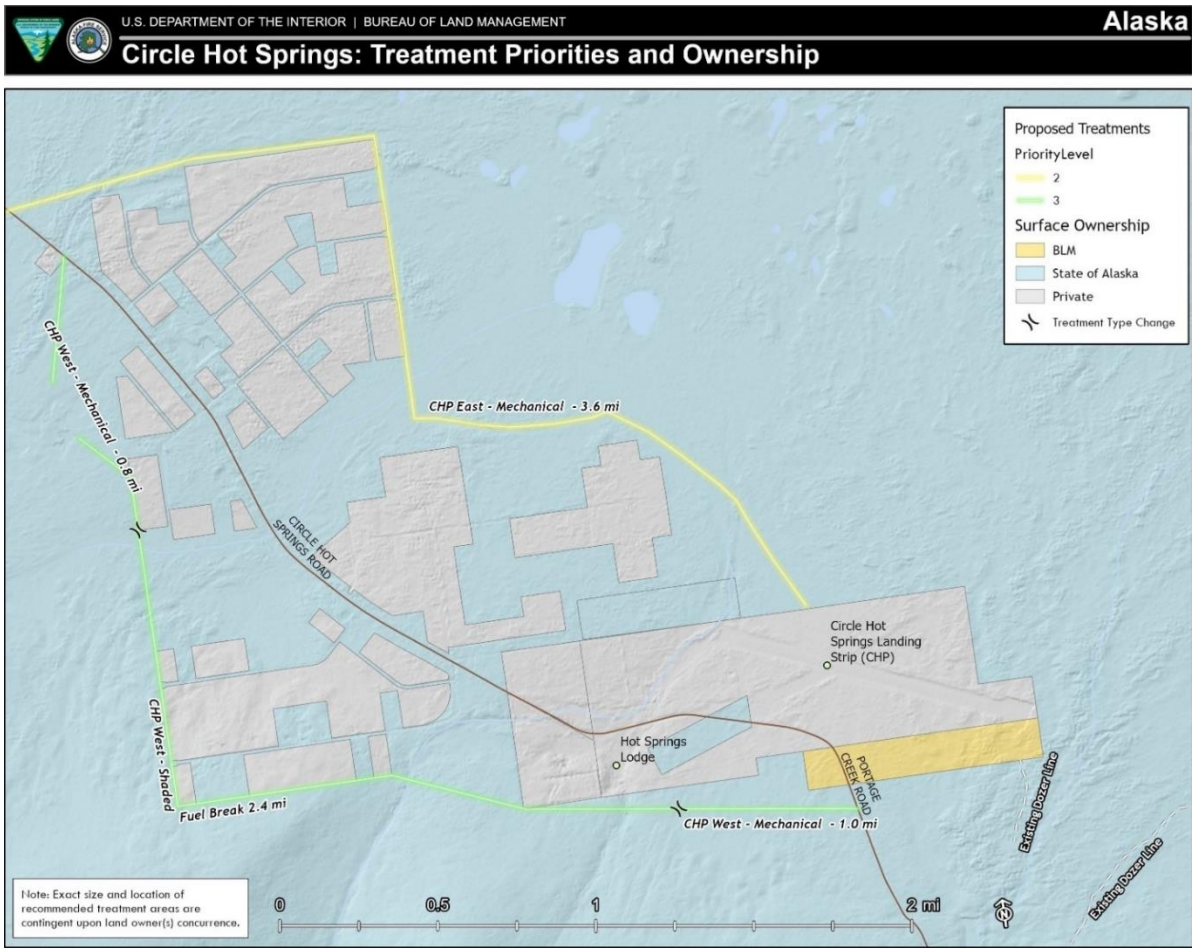

Figure 13: Circle Hot Springs Treatment Priorities & Ownership

Priority # 3 Recommended Treatments

Ownership: State of Alaska Land

Priority # 3 treatments, like Priority # 2, represent a continued expansion of the project toward a provisional end-state.

CHP West (4.2 mi) is a linear fuel break that would complete the protection box around Circle Hot Springs. The varied terrain along this route complicates the construction of the fuel break. However, a combination of treatment types could work best. The lower elevation portions of the fuel break, dominated by black spruce, could be mechanically treated while the upper sections (featuring more varied topography and a spruce/hardwood mix) could be treated manually by cutting and hand piling (shaded fuel break). Most hardwoods would be left standing. This shaded fuel break is 2.4 mi long and the treatment type transition to mechanical is indicated on the map by the symbol of back-to-back parenthesis.

Central North (7.1 mi) is a mechanically constructed linear fuel break that would complete the protection box around Central from the north. The treatment route is almost entirely within the footprint of the 2004 Bolgen Creek Fire scar which explains its Priority # 3 status. Fuels loading along this route is minimal, fuels are primarily shrub, juvenile spruce and hardwoods and the terrain is generally flat. Like Central South, trees adjacent to creeks will be left standing and where appropriate, shaded fuel break will tie treatments to creeks.

Deadwood Road (1.3 mi) is another mechanical treatment recommendation that may provide firefighters with additional tactical engagement opportunities should a fire approach Central from the south. Between CHP Road and the edge of the 1996 Graveyard Fire scar is 1.3-mile-wide unburnt fuel corridor that leads into Central. Mechanically treating fuels adjacent to the road within this 1.3 mi corridor could allow fire personnel to cut off a fire's approach by conducting a burnout along the road and herding the fire into the 1996 burn scar.

Priority # 4 Recommended Treatments

Ownership: State of Alaska Land

The following treatments are additional options that may be classified as Priority 4 projects. Given the scale of the project already described, the following treatments may or may not materialize.

- CHP Road native allotment (.8 mi): This treatment identified by the white polygon in *Figure 12* includes a small parcel of BLM land. The BLM land is included because the boundary coincidences with the allotment. The allotment appears uninhabited; however, it ranks as Priority 4 due to its proximity to other treatment which, in the event of wildfire, may become control lines for backburning purposes. Therefore, the allotment would require immediate protection. The recommended treatment type is a shaded fuel break.
- During the Birch Creek Fire, firefighters constructed an indirect fire line from a mining claim near Portage Creek Rd to Medicine Lake. The lower half of this route is exceedingly swampy, but it may offer some utility as a fuel break in the future if maintained and/or improved. See WUI map, *Figure 3*, east side, dashed white line.
- During the same 2013 fire, a short dozer line was constructed from the same mining claim to the Southeast end of the CHP runway. The dozer line stops well short of the runway, but the line may offer some utility if maintained or improved. See *Figure 12.*

- Finally, hazard fuels adjacent to CHP Road and the Steese Highway (between the landfill and Central) could be mechanically treated. Removing hazard fuels adjacent to road would reduce crossroad spotting potential, benefiting suppression efforts.

Roles and Responsibilities

This mitigation plan sets forth the goals and objectives for both Central and Circle Hot Springs to mitigate the risk of wildland fire per the Risk Assessment and CWPP planning effort completed by AFS personnel. Landownership of proposed treatment areas will dictate which funding opportunities are available for each project, however, all the identified treatments would occur on State of Alaska land. Mechanical treatments would likely be funded through Good Neighbor Agreement Authority with the State of Alaska. Non-mechanical work (e.g., shaded fuel break) could be performed by federal resources including Alaska Fire Service employees and/or Alaska contract crews.

Funding Opportunities

- BLM Good Neighbor Agreement Authority
- USDA Wildfire Defense Grants
- Forest Stewardship Grants
- BIA Reserved Treaty Rights (RTRL) Grants

Monitoring Plan

Treatment implementation will be a multi-year project. AFS personnel will biannually evaluate the status and progress of the project to determine if it is meeting the goals and objective set forth in this document. AFS personnel will complete environmental monitoring by capturing photo points and utilizing a Survey 1,2,3 monitoring application. Plans to maintain completed treatments (to remove regrowth) should begin at least one year prior to the treatments' failure to meet objectives.

VII. SIGNATURE PAGE

Alaska Fire Service

KIP SHIELDS Digitally signed by KIP SHIELDS
Date: 2025.05.14 14:41:43 -08'00'

Kip Shields, Fire Management Officer
Upper Yukon Zone, BLM Alaska Fire Service

Bureau of Indian Affairs

FABIAN KEIRN Digitally signed by FABIAN KEIRN
Date: 2025.05.14 16:19:20 -08'00'

Fabian Keirn, Acting Superintendent
BIA Alaska Region, Fairbanks Agency

State of Alaska

K. Meany K. Meany
2025.05.15 10:09:14 -08'00'

Kevin Meany, Northern Region Forester
Division of Forestry and Fire Protection

Reviewed By:

PATRICK BAKER Digitally signed by PATRICK BAKER
Date: 2025.05.15 09:36:06 -08'00'

Patrick Baker, Fuels/Fire Technician
BLM - Fairbanks District Office