COMMUNITY WILDFIRE PROTECTION PLAN

Tolsona — Lake Louise

VALDEZ - COPPER RIVER
DIVISION OF FORESTRY & FIRE PROTECTION

ALASKA DIVISION OF FORESTRY & FIRE PROTECTION

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

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

Table of Contents

Executive Summary

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

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

The community risk/hazardous fuels assessment confirms that the fuel accumulation and threat of danger from wildland fire to Tolsona / Lake Louise is high. This rating is due to vegetative fuel types and configuration in and outside the community. Hazards that reside in the Tolsona / Lake Louise planning area consist of expanses of dry grass during pre-season green up, roads not having adequate road signs and mapping and long response times for emergency resources with limited radio communications. Many homes do not have adequate defensible space and are surrounded by hazardous debris including inoperable vehicles, uninhabitable trailers, and buildings.

The Tolsona / Lake Louise area has been impacted by spruce beetle *(Dendroctonus rufipennis)* in recent years, in association with a spruce beetle outbreak in Southcentral that began in 2016. This has resulted in pockets of recent beetle kill scattered throughout the CWPP area. Additionally, in the 1990s, the Kenai Peninsula and Copper River Basin experienced a spruce beetle *(Dendroctonus rufipennis)* outbreak that affected nearly 2.3 million acres by its peak in 1996, killing most large diameter spruce trees in many parts of these regions *(Werner et al. 2006)*. The Copper River Basin saw large scale infestation from Alaska spruce beetle for many years during this outbreak, resulting in heavy fuel loading of standing and fallen beetle-killed spruce. The result of over a decade of this epidemic is heavy fuel loading of standing and fallen beetle killed spruce. Spruce beetle is a natural forest disturbance much like wildland fire, which can cause an increase in fuel loading and resistance to suppression efforts. These conditions set the stage for a catastrophic wildland fire event if efforts are not taken to reduce the risk.

Based on community input from the 2021/2022 survey results, top hazards Tolsona / Lake Louise residents identified include lack of clear road signage, unimproved roads with minimal gravel to support large fire apparatus, access being cut off due to one road in and out of the communities, needs for equipment and training for the Volunteer Fire Department, and no subsurface water source, only surface water sources are available to fill equipment.

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

Though natural barriers like Tolsona Lake, Lake Louise, Crosswind Lake along with other lakes with swamp lands that have sparse vegetation offer some defense, notable vulnerabilities persist, particularly to the west and east of the community to include high concentration and continuous fuels. Additionally, the local Volunteer Fire Department (VFD) encounters obstacles due to limited resources, training, and equipment. The Alaska Division of Forestry & Fire Protection (DOF) has prolonged response times of 75+ minutes by road and 35+ minutes by helicopter to reach the community of Lake Louise.

Background

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

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

This Community Wildfire Protection Plan will be the first for Tolsona / Lake Louise. Creating a cost share program that can be implemented in the following years to assist homeowners with costs that they encounter to create defensible space around their homes is a goal outlined in the Action Plan. This type of program was developed for the Glennallen and McCarthy communities in 2009 and 2011. This was a highly successful program that resulted in many homeowners clearing trees and creating adequate defensible space around their residents. The natural conditions surrounding Tolsona / Lake Louise remain equally concerning, with areas of beetle killed trees and fuel loading of dead and down trees, that pose a threat to the wildland urban interface.

Refer to Appendix A for guidance on Alaska statewide interagency wildland fire management response and planning.

Collaboration

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

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

COMMUNITY PROCESS

Community input was solicited by in-person visits to Tolsona / Lake Louise including both formal and informal meetings, presence at public events, online and mail delivered surveys, social media, and a collaborative website displaying the latest information. All ideas were collected and analyzed to determine the priority needs and actions included in this plan.

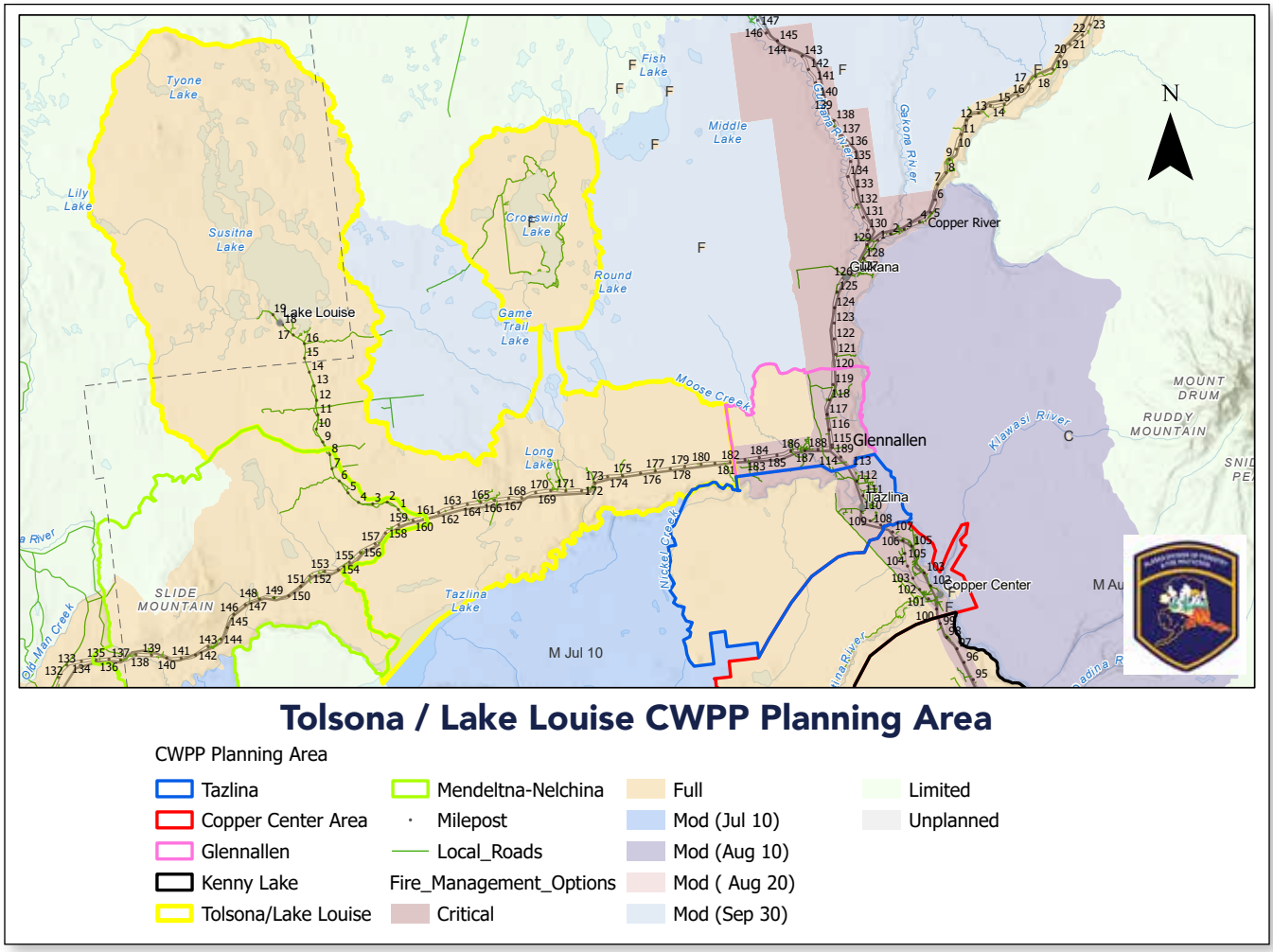
CWPP PLANNING AREA

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

Critical-Fire-Management option is defined by the State of Alaska and Alaska Fire Service as “The highest priority for suppression actions. Lands in wildland urban interface and

other densely populated areas where there is an immediate threat to human life, primary residences, inhabited property, community-dependent infrastructure, and structural resources designated as National Historic Landmarks should be considered for the Critical Management Option. This classification is applicable to an entire village or town as well as a single inhabited structure. “

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



The Tolsona / Lake Louise Community Wildfire Protection Planning Area covers from mile 182.5 to 161 on the Glenn Highway. The northern section of this planning area encompasses access to Crosswind Lake, Tolsona Lake and their communities as well as Lake Louise and its community including Tyone and Susitna Lake. The southern border follows the Tazlina River to Tazlina Lake where it connects with the Mendeltna / Nelchina planning area. There are multiple campgrounds, lodges, bed and breakfasts establishments, infrastructure, primary residents and many recreational cabins included in this planning area.

Community Profile

Tolsona is located off the Glenn Highway with much of the community hooked up to modern amenities such as electrical and phone. However, Lake Louise Road cut off is 50 road miles west of Glennallen. Once you have reached the Lake Louise intersection you must travel an additional 16 miles to reach the community. Tyone and Susitna Lake are located to the north of Lake Louise. These communities are accessible by boat or float plane in the summer months and plane or snowmachine in the winter months. Crosswind Lake is located north of Tolsona Lake and is accessible by float plane in the summer months and snowmachine or plane in the winter months. These communities do not have access to modern amenities such as power, telephone or running water, leaving these communities dependent upon generators and extremely long emergency response times.

Both Tolsona and Lake Louise, are inhabited by yearlong residents with an influx of tourists during the Spring, Summer, and Fall months. These communities are all remote with extensive response times. Spruce trees line these communities with dense fuel loading. This is a continuously forested land of spruce and mixed hardwood, areas impacted by beetle kill from an outbreak in the 1990's, and a 1,400 plus acre fire scar from the Tabert Lake Fire in 2013. On the northernmost side of this planning area a burn scar lies just outside the planning area from 2004; the Alphabet Hills Fire that burned 37,000 plus acres.

During the summer, subsistence fishing for salmon in the world-famous Copper River brings large numbers of Alaskans and tourists through the Tolsona / Lake Louise area. Gardening, berry picking, herb gathering, and hunting are popular pursuits among locals. Winter activities include trapping, snow machining, and ice fishing. The natural resource values in Tolsona / Lake Louise consist of subsistence fishing, hunting, forest foraging, berry picking and personal use firewood timber harvesting.

LOCATION

The Community of Tolsona is in the Copper River Basin in South Central Alaska. Their general geographic location is approximately 62.09° north latitude, 146.04° west longitude, township 4 north, range 4 west, section 30, Copper River Principal Meridian.

The Community of Lake Louise is in the Copper River Basin in South Central Alaska. Their general geographic location is approximately 62.27° north latitude, 146.53° west longitude, township 6 north, range 7 west, section 5, Copper River Principal Meridian.

POPULATION

According to the 2020 Census data the population of Tolsona and Lake Louise is 27 people.

CRITICAL FACILITIES (INFRASTRUCTURE)

There is a total number of 560 homes in the Tolsona / Lake Louise communities, 13 are occupied and 547 vacant, recreational cabins or uninhabitable homes.

Community buildings and businesses include 3 local lodges that provide food and housing, a local snowmachine club that provides tail grooming and activities for snowmachiners in the winter months, many boats are stored in Lake Louise, and during the summer months there is a large influx of Alaskan's and tourists that come to this area to enjoy the campgrounds, fishing and the lake recreational activities. There is not a local dump; the closest landfill is in Glennallen about 50-miles from the community, however there is a Matanuska-Susitna Borough waste transfer station located off of Lake Louise Road. This facility serves the entire Copper River Basin.

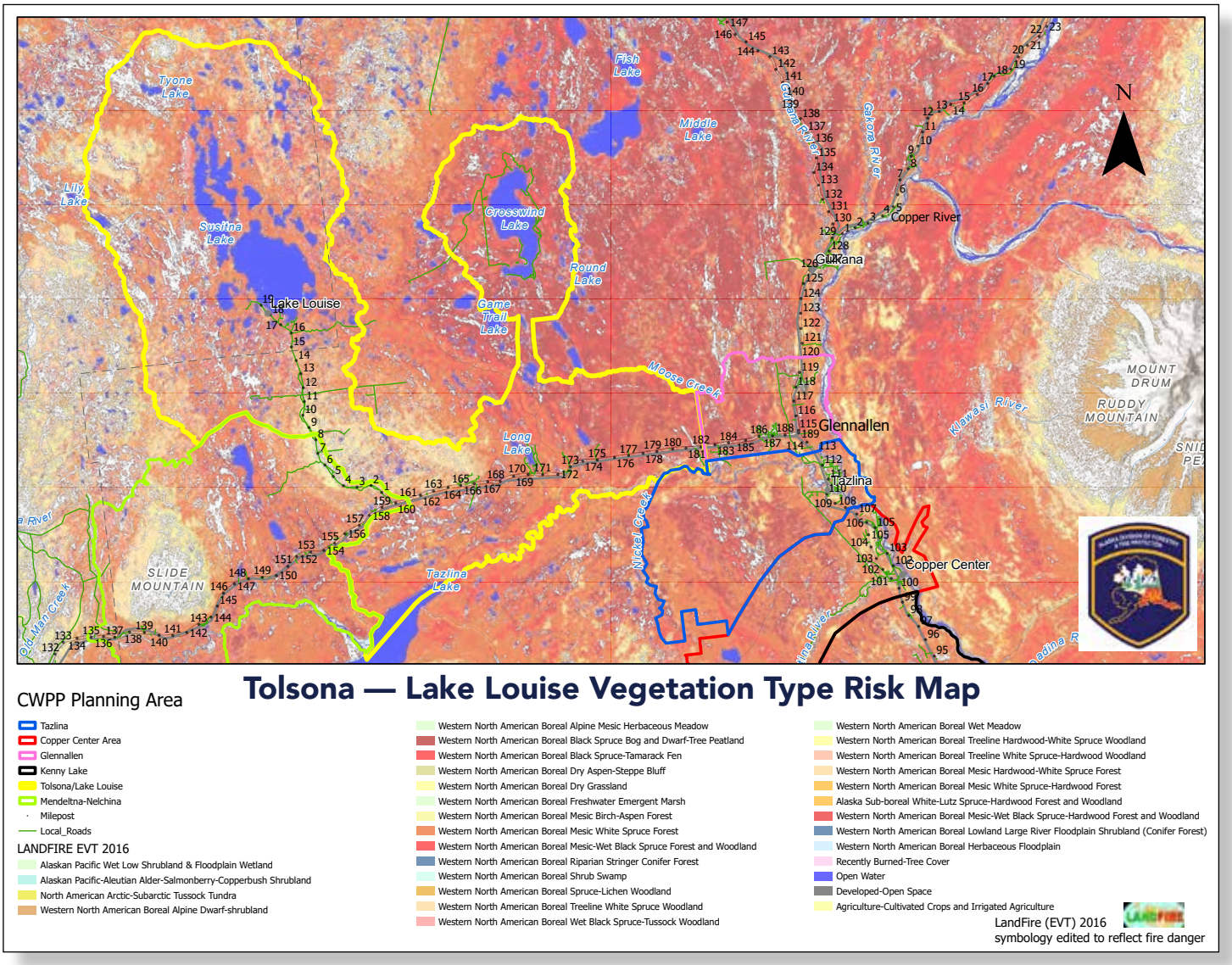
SEASONAL FACTORS

Spring pre-green up grass poses a wildland fire threat, commonly found around structures and previously cleared areas. Summer thunderstorms bring frequent lightning from mid-June to mid-August bringing the potential of lightning caused fires. During the summer the population of Tolsona / Lake Louise soars with an influx of summer residents as well as fishermen and tourists. Many Alaskans and tourists pass through this area on their way to subsistence dip netting for salmon in the Copper River, increasing the risk of wildland fire within the WUI.

WILDLAND FIRE HISTORY

Large fire history in the surrounding area:

- **2019 Lake Louise Fire burned over 62 acres west of Lake Louise in the Tolsona / Lake Louise planning area.**
- **2019 lightning caused Tokiana Creek Fire burned over 820 acres south of the Tolsona / Lake Louise planning area in the Tazlina planning area.**
- **2019 lightning caused Tokiana 2 Fire burned over 13,900 acres south of the Tolsona / Lake Louise planning area in the Tazlina planning area.**
- **2019 lightning caused Tokiana 3 Fire burned over 155 acres south of the Tolsona / Lake Louise planning area in the Tazlina planning area.**
- **2019 lightning caused Tokiana 4 Fire burned over 74 acres south of the Tolsona / Lake Louise planning area in the Tazlina planning area.**
- **2013 Tabert Lake Fire burned over 1,489 acres in the Tolsona / Lake Louise planning area.**
- **2004 Alphebet Hills Fire burned over 37, 541 acres just north of Tyone Lake plotting just north of the Tolsona / Lake Louise planning area.**
- **From 1940 to the present, numerous human caused fires can be found in the Alaska Fire History Location database within Tolsona / Lake Louise CWPP Planning area. These, wildland urban interface (WUI), fires were smaller in size; however, if they were not contained while small, they could have led to a catastrophic outcome.**



Tolsona — Lake Louise Vegetation Type Risk Map

CWPP Planning Area
- Tazlina
- Copper Center Area
- Glennallen
- Kenny Lake
- Tolsona/Lake Louise
- Mendeltna-Nelchina
- Milepost
- Local_Roads

LANDFIRE EVT 2016
- Alaskan Pacific Wet Low Shrubland & Floodplain Wetland
- Alaskan Pacific-Aleutian Alder-Salmonberry-Copperbush Shrubland
- North American Arctic-Subarctic Tussock Tundra
- Western North American Boreal Alpine Dwarf-shrubland
- Western North American Boreal Alpine Mesic Herbaceous Meadow
- Western North American Boreal Black Spruce Bog and Dwarf-Tree Peatland
- Western North American Boreal Black Spruce-Tamarack Fen
- Western North American Boreal Dry Aspen-Steppe Bluff
- Western North American Boreal Dry Grassland
- Western North American Boreal Freshwater Emergent Marsh
- Western North American Boreal Mesic Birch-Aspen Forest
- Western North American Boreal Mesic White Spruce Forest
- Western North American Boreal Mesic-Wet Black Spruce Forest and Woodland
- Western North American Boreal Riparian Stringer Conifer Forest
- Western North American Boreal Shrub Swamp
- Western North American Boreal Spruce-Lichen Woodland
- Western North American Boreal Treeline White Spruce Woodland
- Western North American Boreal Wet Black Spruce-Tussock Woodland
- Western North American Boreal Wet Meadow
- Western North American Boreal Treeline Hardwood-White Spruce Woodland
- Western North American Boreal Treeline White Spruce-Hardwood Woodland
- Western North American Boreal Mesic Hardwood-White Spruce Forest
- Western North American Boreal Mesic White Spruce-Hardwood Forest
- Alaska Sub-boreal White-Lutz Spruce-Hardwood Forest and Woodland
- Western North American Boreal Mesic-Wet Black Spruce-Hardwood Forest and Woodland
- Western North American Boreal Lowland Large River Floodplain Shrubland (Conifer Forest)
- Western North American Boreal Herbaceous Floodplain
- Recently Burned-Tree Cover
- Open Water
- Developed-Open Space
- Agriculture-Cultivated Crops and Irrigated Agriculture

LandFire (EVT) 2016
symbology edited to reflect fire danger

RISK/HAZARD ANALYSIS, AVAILABLE FUELS

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

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

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

COMMUNITY RISK ASSESSMENT

Rating Elements

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

1. INSIDE COMMUNITY:

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

Rating: High

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

2. OUTSIDE COMMUNITY:

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

Rating: High

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

3. BARRIERS:

This includes water, natural and human-made features.

Rating: High

The Tolsona / Lake Louise area has a waterway, Tazlina River, spanning the southern side of the planning area, but due to the lack of significant barriers and the concentrations of spruce trees, Tolsona, Lake Louise, and Crosswind Lake area is determined to be in the risk/hazard analysis category of high.

4. FIRE PROTECTION RESOURCE AVAILABILITY:

Includes local and agency resources.

Rating: High

A rating of high for resource availability criteria states that adequate initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away. The Division of Forestry & Fire Protection (DOF) has statutory authority to protect forested lands from wildland fire on state, private, and borough lands and has a contractual agreement with the BLM Fire Service to provide protection of federal jurisdiction and Native lands. Valdez-Copper River Area (DOF) response times are 60+ minutes by road and approximately 30 minutes by helicopter. Other air resources are 1 hour+ out, and extended attack resources could be as long as 12 hours away. During the peak fire season a helitack crew and helicopter capable of bucket drops is available locally. Smokejumpers are also available from Fairbanks with a response time of about 90 minutes. Crews could also be available from Palmer and Fairbanks with a minimum response time of 6–12 hours and up to 48 hours, depending on availability and other fire activity across the state. The Glenn- Rich VFD response area is from mile 138-189 of the Glenn Highway and from Mile 0 - 14 of the Lake Louise Road. The Matanuska-Susitna Borough responds from mile 14 to the end of Lake Louise Road. The Louise, Susitna, Tyone Community Association has fire cache boxes with pups and hose located in remote locations to assist with wildland fire suppression. The closest Glenn Rich VFD substation is off of Tolsona Lake Road. Glenn-Rich VFD has equipment and training needs. Due to the terrain and remote communities, radio development is limited in many parts of the Tolsona / Lake Louise planning area.

5. COMMUNITY FIREWISE RATING:

Includes landscaping, construction, water supply and access.

Rating: High

LANDSCAPING: Less than 35% of homes and community buildings have a clearing of flammable vegetation at least 30 feet around the structure or have lawns that are mowed and watered regularly. Ladder fuels can be found throughout the community and in-between structures with pockets of trees lacking crown spacing. Tall and matted uncut grass can be found along road corridors and around structures, along with unoccupied and uninhabitable structures with debris, trash, and inoperable vehicles surrounding them.

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

WATER SUPPLY: Less than 35% of homes do not have a reliable water source or the means to protect their property with a water source in the event of a wildland fire. The Chitina VFD relies on surface water sources year-round due to not having a community designated well.

ACCESS: The only road access route that is at least 2 lanes wide and clearly marked is the Glenn Highway. The Lake Louise Road is at least 2 lanes wide and clearly marked however, it is a very rough road with areas of major frost heaves. Development along the east shore of Tolsona Lake is accessed by Tolsona Lake Road. Many remote properties are only accessible by boat, float plane, or seasonably limited tails. Ample turnaround space for vehicles/fire equipment exists in less than 35% of homes and community buildings. Due to persistent landslides within the Copper Basin all roads that exist along bluffs and rivers are susceptible to sluffing. If there is not ongoing construction and road closures, there exists more than one escape route and multiple safety zone.

Escape Routes:

1. Glenn Highway
2. Lake Louise Road — Located at mile 159.7 of the Glenn Highway
3. Tolsona Lake Road — Located at mile 170.5 of the Glenn Highway

Safety Zones:

1. Lake Louise Airstrip — Located at 18.5 mile on Lake Louise Access Road
2. Lake Louise Boat Launch — Located at 18.6 mile Lake Louise Road
3. Tolsona Lake Lodge — Located at .7 mile Tolsona Lake Road — Turn at Mile 170 Glenn Highway, then turn onto Tolsona Lake Road
4. Glenn Rich substation, Tolsona — Located at .5 mile Tolsona Lake Road — Turn at Mile 170 Glenn Highway, then turn onto Tolsona Lake Road
5. Tolsona gravel pit — Located at Mile 170 Glenn Highway directly across from Tolsona Lake Road

6. OVERALL COMMUNITY RATING:

OVERALL RATING CHART SUMMARY

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

The overall assessment shows the threat of danger from wildland fire to the communities of Tolsona / Lake Louise as high in all categories. Due to the remoteness and extended response time of resources with minimal communication, and continuous spruce, these communities overall risk rating is elevated to very high.

Wildland fire risk to the Tolsona / Lake Louise community using Wildfirerisk.org is very high. Tolsona / Lake Louise is higher than 97% of communities in the United States. Risk is determined by the Risk to Homes national percentile rank of the selected community, county, tribal area or state. Low is less than 40th percentile; Medium is 40th –70th percentile; High is 70th–90th percentile; Very High is equal to or greater than 90th percentile. More information regarding this rating can be found www.wildfirerisk.org.

Action Plan

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

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

Natural barriers like the Tazlina River, lakes and marshy terrain provide some protection, but there are significant gaps, especially to the north and south of the community/developed areas. The local volunteer fire department (VFD) faces challenges due to limited resources, and inadequate training and equipment. Incoming emergency resources experience long response times to Lake Louise and the surrounding lakes with minimal to no radio coverage.

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

PRIORITIZED ASSESSMENT FINDINGS

1. Dry grasses especially around structures during pre-green up
2. Community roads do not have clear road signs
3. Homes and businesses need to be Firewised
4. Access being cut off in the event of a large-scale wildfire
5. Long response times for first responders/firefighters
6. VFD training and equipment needs
7. Develop an evacuation plan
8. Lack of subsurface water source
9. Lack of adequate communications
10. Identity other fuel reduction projects and remote helispot / cache locations
11. Community woody mass disposal site
12. Protection of Native heritage sites
13. Unsafe burning practices
14. Fire safety signage at public use areas
15. Public wildland fire education

TASKS AND MATRIX OF MITIGATION MEASURES

The following table is a task matrix and identifies solutions for each prioritized assessment finding listed in the previous section. Ensuring proper risk mitigation and potential entities that may address these tasks.

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Dry grasses especially around structures during pre-green up (Implementation)	1. Educate home and business owners on dangers of pre-green up dry grass and removal actions. 2. Implement mitigation program through grant funding.	Homeowners State of Alaska Division of Forestry & Fire Protection
Community roads do not have clear road signs (Implementation)	1. Update maps. 2. Clear brush around existing road signs. 3. Work with DOT to install new road signs.	Louise Susitna Tyone Community Association State of Alaska Department of Transportation State of Alaska Division of Forestry & Fire Protection
Homes and businesses need to be Firewised (Implementation)	1. Educate homeowners on Firewise and home hardening principles. 2. VFD participation on home/structure assessments and creation of defensible space. 3. Apply for a Firewise grant program that will establish a cost share program for homeowners. 4. Identify/designate an area or equipment for the community members to dispose of woody mass byproduct. 5. Apply for grant program and funding for a community cleanup project for removal of hazardous materials such as but not limited to inoperable vehicles, tires, and other hazards. 6. Complete a hazardous materials cleanup project on homes/structures within the planning area. 7. Adopt State of Alaska Stewardship Program model for Firewise home assessments.	Bureau of Indian Affairs Glenn-Rich Volunteer Fire Department Homeowners Louise Susitna Tyone Community Association Lake Louise Volunteer Fire Department State of Alaska Department of Environmental Conservation State of Alaska Division of Forestry & Fire Protection
Access being cut off in the event of a large-scale wildfire (Implementation) (Planning)	1. Apply for grants to assist homeowners in widening existing roads and driveways to support large firefighting apparatus to include brush clearing and/or widening roads. 2. Identify primary and secondary escape routes and safety zones for remote access locations.	Bureau of Indian Affairs Louise Susitna Tyone Community Association State of Alaska Division of Forestry & Fire Protection
Long response times for first responders/firefighters (Implementation) (Planning)	1. Support VFD training needs. 2. Advertise for recruitment of new VFD members.State of Alaska Division of Forestry & Fire Protection	Glenn-Rich Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
VFD training and equipment needs (Implementation)	1. Continue wildland fire response program with training, equipment, and coordination with the State of Alaska Copper River DOF office. 2. Strengthen local prevention programs in coordination with State of Alaska Copper River DOF office.	State of Alaska Division of Forestry & Fire Protection Bureau of Indian Affairs Glenn-Rich Volunteer Fire Department Lake Louise Volunteer Fire Department
Develop an evacuation plan (Planning)	1. Review and modernize existing community emergency plan 2. Include updated and centralized community contact list. 3. Include maps with road signage and house identifiers (in conjunction with community Firewise mapping). 4. Adopt Alaska Ready, Set, Go standards. 5. Work with State of Alaska Emergency Coordination Center and Copper Valley Telephone to set up an emergency alert system.	Copper Valley Telephone Louise Susitna Tyone Community Association Local Emergency Planning Committee State of Alaska Division of Homeland Security and Emergency Management State of Alaska Division of Forestry & Fire Protection
Lack of subsurface water source (Implementation)	1. Identify area for community well to be drilled. 2. Apply for a grant to fund the project.	Copper River Development Association
Lack of adequate communications (Implementation)	1. Work with DOF to set up a permanent or seasonal repeater in Lake Louise. 2. Coordinate use with multiple agencies including EMS and VFD. 3. Update VFD radios.	State of Alaska Division of Forestry & Fire Protection
Identity other fuel reduction projects and remote helispot / cache locations (Planning)	1. Determine areas where spring pre-green up grasses pose a threat. 2. Determine areas of beetle-kill and other dead-standing timber. 3. Identify other infrastructure to be protected, plan fuel reduction/fuels removal project to protect them. 4. Address work through mitigation plans. 5. Determine viable locations for remote helispots and wildland fire cache locations.	Ahtna Inc. Bureau of Indian Affairs Bureau of Land Management State of Alaska Division of Forestry & Fire Protection Wrangell - St. Elias National Park and Preserve
Community woody mass disposal site (Implementation)	1. Annually check and maintain Susitina Tyone Louise Lake fire caches	Louise Susitna Tyone Community Association State of Alaska Division of Forestry & Fire Protection
Protection of Native heritage sites (Implementation)	1. Native entities internally identify heritage sites to be protected. 2. Implement appropriate measures and desired fire suppression tactics for protecting these areas. 3. Insure they are denoted as “other land” contact land manager on Know Sites Database.	Ahtna Inc. Bureau of Land Management Bureau of Indian Affairs State of Alaska Division of Forestry & Fire Protection

ASSESSMENT FINDING	ASSOCIATED TASK	RESPONSIBLE ENTITIES
Unsafe burning practices (Implementation)	1. Implement wildland fire and debris burning safety programs into the community. 2. Hold community fire safety events and education opportunities. 3. Post signage and information around community, campgrounds and fishwheel sites.	State of Alaska Division of Forestry & Fire Protection
Fire safety signage at public use areas (Implementation) (Planning)	1. Identify locations of high public use. 2. Obtain signage pertaining to fire safety and other responsible use of natural resources.	State of Alaska Division of Forestry & Fire Protection
Public wildland fire education (Implementation)	1. Promote teaching general wildland fire knowledge to the community with emphasis on safe burning practices and creating defensible space through Firewise and Home Hardening programs. 2. Continue wildland fire education outreach in schools.	Bureau of Indian Affairs Glenn-Rich Volunteer Fire Department Lake Louise Volunteer Fire Department State of Alaska Division of Forestry & Fire Protection

Dry grasses especially around structures during pre-green up

Community roads do not have clear road signs

Homes and businesses need to be Firewised

Access being cut off in the event of a large-scale wildfire

Long response times for first responders/firefighters

VFD training and equipment needs

Develop an evacuation plan

Lack of subsurface water source

Lack of adequate communications

Identity other fuel reduction projects and remote helispot / cache locations

Community woody mass disposal site

Protection of Native heritage sites

Unsafe burning practices

Fire safety signage at public use areas

Public wildland fire education

Summary, Review, and Updating Process

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

Wildfirerisk.org outlines Tolsona / Lake Louise wildland fire risk of 97% higher than other communities throughout the United States. (July 2024)

Through collaboration on this CWPP, community members and organizations, native entities, and the Tolsona and Lake Louise VFD's will take first steps to mitigate the potential negative impacts from wildland fire. The community along with its entities are encouraged to continue fuels mitigation, education, and implementation that are consistent with the Alaska Firewise program.

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

The following table represents the timeline that the Chitina CWPP needs to be reviewed, updated and when it expires.

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

Signature Page

This plan has been reviewed and approved by the following:

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

X JOSHUA SCOTT Digitally signed by JOSHUA SCOTT Date: 2026.01.09 13:05:38 -09'00' Date

Wrangell - St. Elias National Park and Preserve

X William M. Dunk Jr. Digitally signed by WILLIAM DUNK Date: 2026.01.14 13:34:52 -09'00' Date

Bureau of Land Management

X JOLENE JOHN Digitally signed by JOLENE JOHN Date: 2026.01.16 11:48:28 -09'00' Date

Bureau of Indian Affairs

X Date

Ahtna Inc.

Signed by:
X Scott Feicht – Fire Chief – GRFR Date
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VFD Community Representative — Tolsona

Signed by:
X Scott Feicht – Fire Chief – GRFR Date
DE3C2A7739384DB...

VFD Community Representative — Lake Louise

Appendix A

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B

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

Rating Elements

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

Risk/Hazard Analysis, Available Fuels

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

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

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 1

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

Narrative description fuels within one mile of community.

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

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 2

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

Narrative description fuels 1-10 miles from community.

3. **Barriers**

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

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

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

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

BARRIER RATING CHART

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

Narrative description of natural barriers.

Narrative description of constructed (human-made) barriers.

4. Fire Protection Resource Availability

FIRE PROTECTION RESOURCES RESPONSE CHART

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

Narrative description of fire protection resources.

5. Community Firewise Rating

Alaska Firewise Standards for Creating Defensible Space

Landscaping: There is a clearing of flammable vegetation at least 30 feet around the home for firefighting equipment: coniferous brush and dead/overhanging branches are removed; trees are pruned 6-10 feet above the ground; lawn is mowed and watered regularly, and ladder fuels are

removed from the yard; remaining trees are spaced at least 30’ apart at crowns; garden equipment (hoses and hand tools) are kept on the property.

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

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

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

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

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

Narrative description of fire protection resources.

6. Overall Community Rating

OVERALL RATING CHART

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

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

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

Appendix C

Fjørdland Fire Solutions

C.1 — RISK ASSESSMENT AND ACTION PLAN

CONTENTS

LOUISE•CROSSWIND•TOLSONA 2 FJØRDLAND FIRE SOLUTIONS

COMMUNITY CONCERNS

- Substantial access issues to semi-remote lakefront communities
- Need for Safety Zone/Escape Route establishment and awareness
- Need for defensible space around structures
- Need for programs that facilitate/incentivize vegetation removal from private structures
- Need for additional/updated VFD equipment, including but not limited to a water tender
- Inadequate road signage
- Private roads structurally inadequate or otherwise inaccessible to large fire apparatus
- Risk of tourist/hunter/recreation fires
- Beetle killed spruce contributing to dead fuel loading
- Need for additional VFD Wildland training
- Need for additional/enhanced VFD Equipment
- Need for homeowner burning 'good practice' education
- Need for community woody debris disposal location
- Need for general community-aimed wildfire training
- Long response time for adequate first responders

1 Establish Exposure Model Map

Associated Tasks

1. Create mapping system of Tolsona/Lake Louise Community to determine which structures are most at risk of wildfire exposure
   a. Metrics should include fuels, topography and terrain-driven wind influences
   b. Use exposure model mapping system to establish community defensible space priorities
2. Coordinate public outreach to inform homes/neighborhoods of their risk determinations

Additional Notes

Exposure Model Mapping to be made public so-as to encourage a sense of individual homeowner responsibility for the Firewising of their own homes.

2

Community Firewise/Defensible Space

Associated Tasks

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

Additional Notes

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

3

Wide-scale Implementation of Helispots in Remote Wildland Urban Interface

Associated Tasks

1. Identify and construct strategic helispots throughout Susitna Lake, Crosswind Lake and Lake Louise/Crosswind Lake/Tolsona areas
    a. Prioritization for helispots should correspond to the difficulty of current access by agency resources
2. Helispots should correspond with a written structure protection plan and could include pre-established agency gear caches to streamline operations during large-scale structure protection operations
3. Helispot construction should focus on points that are deemed dual purpose, i.e. incorporated into a strategic fuel break

Additional Notes

A close working relationship with the Alaska Smokejumpers and the Alaska Smokejumper Paracargo Program would be beneficial to mitigate these access issues.

4

Fuel Break Encompassing the Southeast Structures of Lake Louise

Associated Tasks

1. Examine the viability of connecting small lakes with a fuel break to protect strategic clusters of structures in this area
2. If possible, construct fuel break with emphasis on improved agency firefighter access
3. If possible, integrate construction of designated helispots within fuel break to deploy agency resources
4. If viable, select fuel break location in a dual-purpose area
5. Plan and implement methods to repurpose fuel break byproduct (woody mass material) for community firewood, biomass if applicable, etc.

Additional Notes

The fuel break could potentially start at the community two-track to the south of Lake Louise Lodge and head west to the first unnamed lake.

5

Create Community Emergency Plan

Associated Tasks

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

Additional Notes

Consider using existing models for small community Emergency Plans such as SCERP.

6

VFD Training & Funding

Associated Tasks

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

Additional Notes

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

7 Local Fuels Crew

Associated Tasks

1. Form local Fuels Crew
2. Attain funding to form Fuels Crew to assist in fuels reduction projects, Native Allotment protection, Heritage Site protection, community Firewise, helispot construction
3. Prioritize Wildfire training for Fuels Crew
4. Prioritize close working relationship/overlap with VFD, as well as DOF and other Wildfire agencies

Associated Tasks

Emphasis on Wildfire Training for local Fuels Crew including but not limited to FFT1 (Squad Boss) qualification and CRWB (Crew Boss) qualification.
A current viable pathway to Fuels Crew funding is through BIA financial incentive programs.

8 Protection of Native Heritage Sites and Allotments

Associated Tasks

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

9 Community Woody Mass Disposal Site

Associated Tasks

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

10 Biomass Viability

Associated Tasks

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

11

Standing Dead Timber Mitigation

Associated Tasks

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

11

Public Wildfire Education

Associated Tasks

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

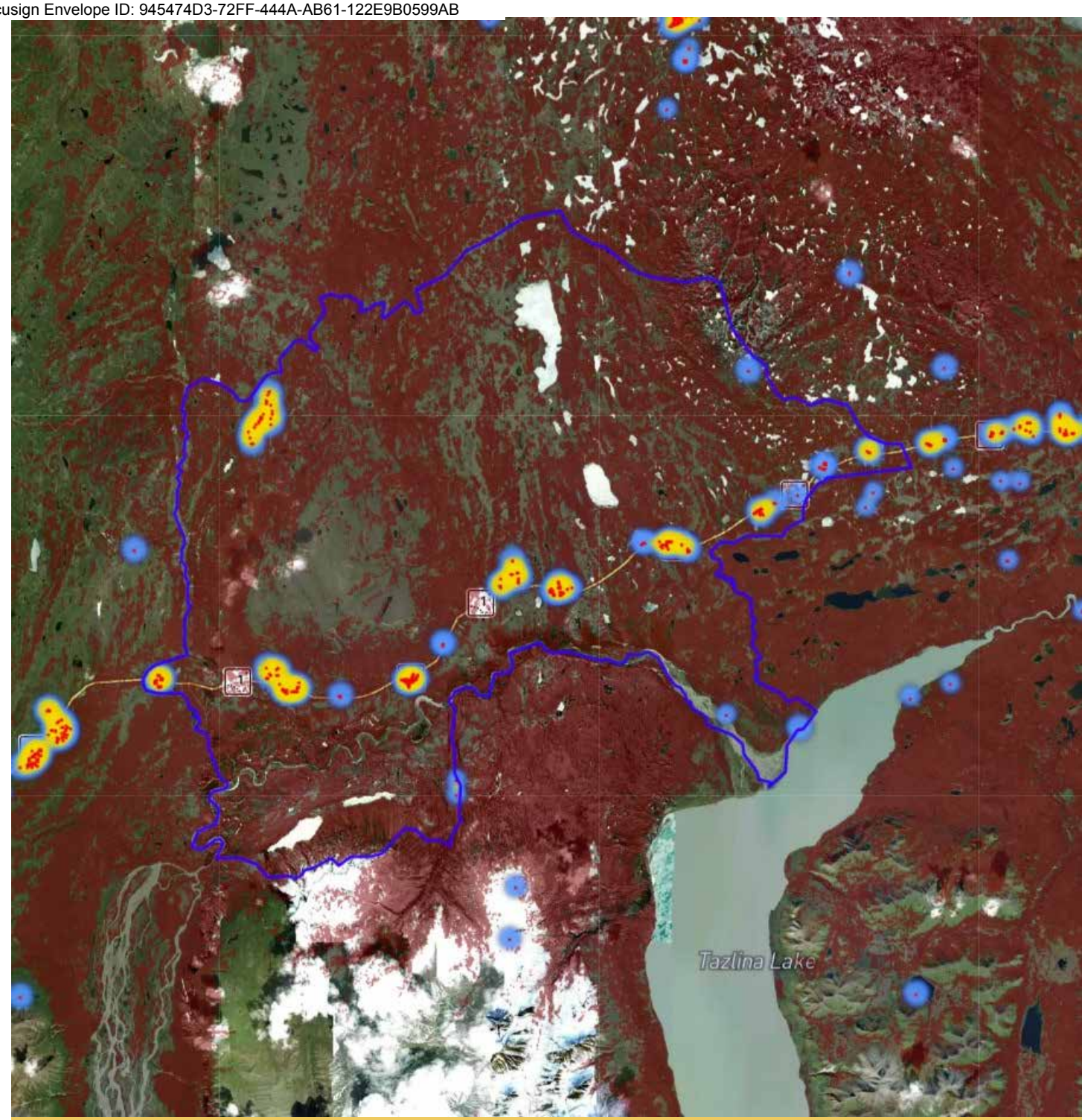
Additional Notes

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

C.2 — MAPS

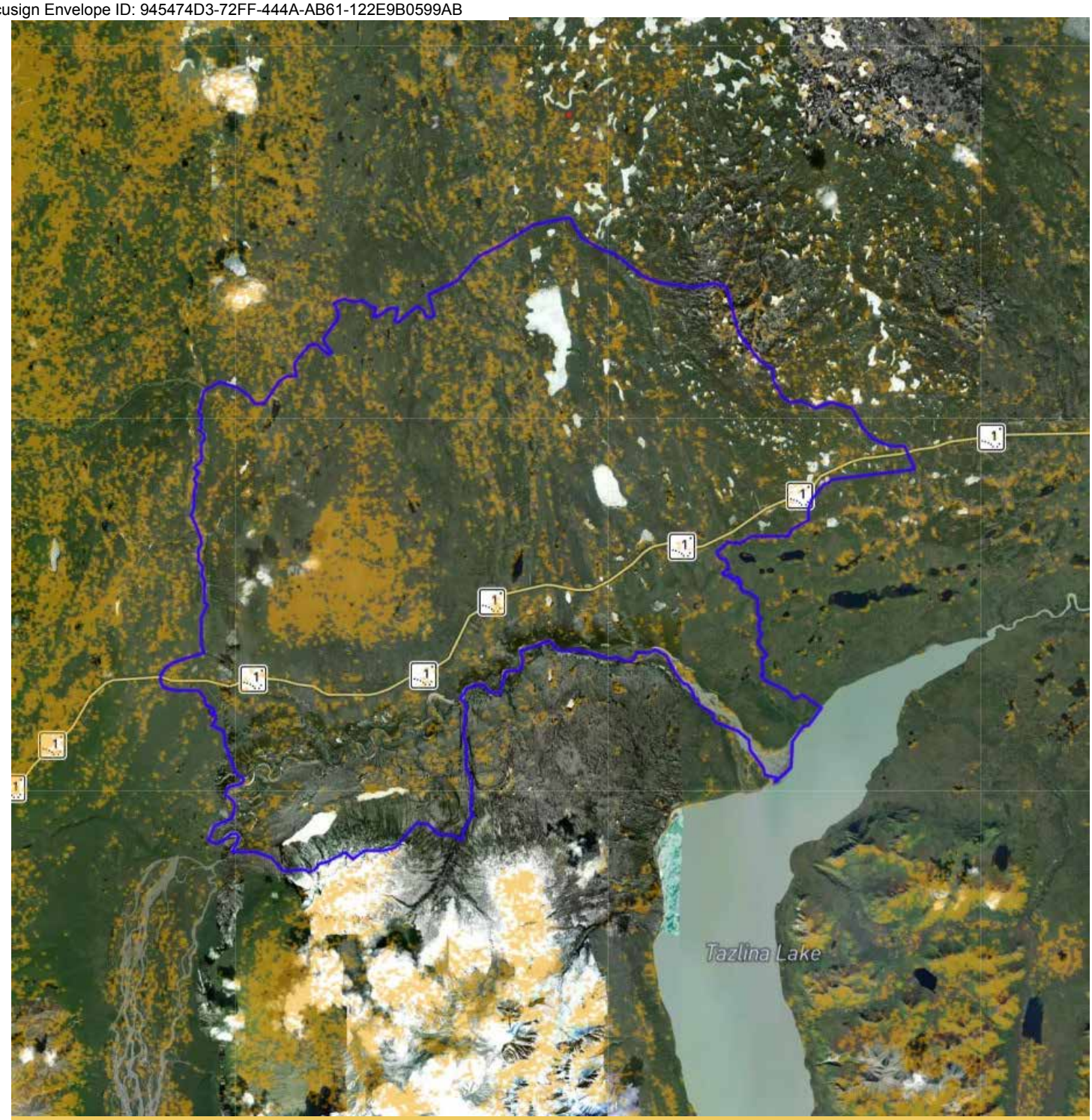
MAPS APPENDIX

LOUISE/CROSSWIND/TOLSONA 12 FJØRDLAND FIRE SOLUTIONS



STRUCTURE DENSITY MAP WITH SPRUCE IN RED

LOUISE/CROSSWIND/TOLSONA 13 FJØRDLAND FIRE SOLUTIONS



GRASSES IN GOLD

LOUISE/CROSSWIND/TOLSONA 14 FJØRDLAND FIRE SOLUTIONS

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

Community: **Lake Louise/Crosswind Lake/Tolsona Area**

Rating Elements

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

Risk/Hazard Analysis, Available Fuels

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

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

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 1

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

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

Notes on fuels within one mile of community:

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

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

RISK/HAZARD ANALYSIS AVAILABLE FUELS CHART 2

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

Notes on fuels 1-10 miles from community:

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

3. Barriers

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

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

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

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

BARRIER RATING CHART

Barrier Type	Rating for Community (Low, Moderate or High Fire Danger)	Where Found:
Water Features	Major river	
Other Natural Features	Tazlina Lake/Tazlina River	Spanning majority of Southern side of Lake Louise/Crosswind Lake/Tolsona Area Wildland Urban Interface boundary
Constructed (Human-made) Features	None	

Overall Community Barrier Rating	**HIGH**	

Notes on natural and constructed (human-made) barriers:

Lake Louise/Crosswind Lake/Tolsona Area has a significant waterway spanning the Southern side of its CWPP boundary, but due to the concentrations of Spruce between the waterway and the community, Lake Louise/Crosswind Lake/Tolsona Area is determined to be in the Risk/Hazard Analysis category of: HIGH

4. Fire Protection Resource Availability

FIRE PROTECTION RESOURCES RESPONSE CHART

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

Notes on fire protection resources:

Due to the difficulty of access to a substantial number of remote and semi-remote lakefront structures in this area, Lake Louise/Crosswind Lake/Tolsona Area is determined to be in the Risk/Hazard Analysis category of: HIGH

5. Community Firewise Rating

Landscaping: Less than 35% of homes and community buildings have a clearing of flammable vegetation at least 30 feet around the structure or have lawns that are mowed and watered regularly. Ladder fuels can be found throughout the community and in-between structures with pockets of trees lacking crown spacing. Tall and matted uncut grass can be found along road corridors and around structures, along with unoccupied and dilapidated structures with debris, trash and junk cars surrounding them.

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

Water Supply: Most homes do not have a reliable water source or the means to protect their property with a water source in event of a wildland fire.

Access Guidelines: Glenn Highway is two lanes wide with ample turnarounds. The access to most structures throughout Lake Louise/Crosswind Lake/Tolsona Area is fair. Combustible materials are located in many yards, under decks and porches and firewood and other flammable materials can be found within 30 ft. of many structures. More than one escape route and safety zone exist.

Possible Escape Routes:

1. Glenn Highway

Possible Safety Zones:

1. Junction of Tolsona Lake Road and Glenn Highway
2. Tolsona Lake Quarry South

COMMUNITY FIREWISE FOR DEFENSIBLE SPACE RATING CHART

(Overall community assessment, not individual structures)

Alaska Firewise Standards	Low Excellent Over 65% of homesites and community buildings meet standard	Moderate Between 35- 65% of homesites and community buildings meet standard	High Less than 35% of homesites and community buildings meet standard
Landscaping			X

Construction			X
Water Supply		X	
Access Guidelines/ Combustibles			X
Overall Rating			**HIGH**

Notes on defensible space within this community:

Due to inadequate defensible space around more than 65% of structures/allotments, non-fire-hardened construction methods of more than 65% of structures, inadequate access to more than 65% of structures/allotments, Lake Louise/Crosswind Lake/Tolsona Area is determined to be in the Risk/Hazard Analysis category of: HIGH

6. Overall Community Rating

OVERALL RATING CHART SUMMARY

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

Notes on other contributing factors to risk and mitigation of wildland fire in this community:
See Action Plan

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

Lake Louise/Crosswind Lake/Tolsona Area, through the Overall Rating Chart Summary, has received an overall rating of: HIGH

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

Tolsona — Lake Louise

COMMUNITY WILDFIRE PROTECTION PLAN