

# COMMUNITY WILDFIRE PROTECTION PLAN

Strelna, Alaska

**Prepared for: The Strelna Community**  
**By: Strelna Volunteer Fire Department, State of Alaska Division of**  
**Forestry and National Park Service**

# COMMUNITY WILDFIRE PROTECTION PLAN

## Strelna, Alaska

December 2008

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# Strelna

## Community Wildfire Protection Plan

### Executive Summary

The Strelna Community Wildfire Protection Plan (CWPP) is a collaborative effort made in response to the 2003 Healthy Forest Restoration Act (HFRA). This act directs communities at risk of wildfire to develop a risk assessment and mitigation plan. Guidance for the Strelna Community Wildfire Protection Plan is based on “Preparing a Wildfire Protection Plan: A Handbook for Wildland Urban Interface Communities” (March 2004) and the Alaska Wildland Fire Coordinating Group CWPP outline.

The spruce beetle, *Dendroctonus rufipennis* (Kirby), has caused extensive spruce mortality in mature stands throughout the Copper River Basin, including the Strelna community. Over a decade of this epidemic has resulted in heavy fuel loading of dead spruce, along with a steady decline in the health of the remaining forest. These conditions set the stage in and around the Strelna community for catastrophic wildfire in an area that has not seen significant wildfire occurrence since the 1920's.

- **Collaboration:** This CWPP is a collaboration of the Strelna Volunteer Fire Department, State of Alaska Division of Forestry, National Park Service and the members of the Strelna Community.
- **Prioritized Fuel Reduction:** The State of Alaska, Division of Forestry completed a hazard/risk assessment of the vegetation within the Strelna Wildland/Urban Interface boundaries. This risk assessment map identifies the areas that pose a hazard to the community and prioritizes areas where fuel mitigations are needed.
- **Structural Ignitability:** Conditions at homes and structures that encourage fire spread from the wildland must be addressed. Firewise standards must be taught. Defensible space around homes has begun to be provided in the form of hazardous fuels mitigation to many homeowners in the Strelna wildland/urban interface areas. There is still a large amount of fuels as well as man made objects, such as fuel tanks and vehicles against or adjacent to structures that could cause or contribute to the ignition and/or spread of wildfire that need to be mitigated.

## **Wildland Urban Interface Boundary**

Wildland/urban interface (WUI) is the line where human development meets and intermingles with undeveloped wildland or vegetative fuels. The Strelna WUI boundary is designated along the McCarthy road from mile 9 through mile 15 and three miles north along Nugget Creek Mine Road. The intent of the Strelna CWPP is to mitigate the potential for disaster within this boundary by recognizing the hazards, prioritizing risks, and then developing a workable action plan with clear goals and objectives.

## **Project Methodology**

### **PLANNING PROCESS**

In the fall of 2007, Strelna Volunteer Fire Chief Carrie Hale saw the need for a formal Community Wildfire Protection Plan. She began working with the Division of Forestry Area Forester Gary Mullen and with the National Park Service Fire Management Officer Mark Musitano to begin the documentation process and fuels assessment.

## **Community Profile**

Strelna is an unincorporated community of approximately 76 residents living in an unorganized borough within the Wrangell St. Elias National Park (the largest national Park in the United States). There is no local government and very few commercial amenities.

Strelna is located between the banks of the Kotsina and the Chitina Rivers, approximately 10 miles from their confluence with the Copper River, at mile 10 through 15 of the McCarthy Road. The community of Strelna is within the boundaries of the Wrangell St Elias National Park and Preserve, roughly 76 miles southeast of Glennallen. The community lies at approximately 61.5158 north latitude and -144.436 west longitude (Sec. 14, T004S, R005E, Copper River Meridian). The elevation is approximately 1200 feet above sea level. Strelna is located in the Chitina recording district. The climate in Strelna is characterized by long, cold winters, hot, dry springs and relatively warm summers. Total annual precipitation averages 12 inches, with an average annual snowfall of 52 inches. Temperature extremes range from a low of minus 60 degrees Fahrenheit to a high of 91 degrees Fahrenheit.

Subsistence plays a vital role in the lives of Strelna residents as most depend heavily on subsistence harvests of fish, wild game, berries. Local gardening and agriculture is also a vital part of most of the Strelna resident's rural lifestyle.

## Community Background

The community of Strelna originated as a mining community and a rail station for the C R & N Railroad. There were several mines in the area. The Alaska Copper Corporations Mine, located 17 miles north of Strelna on Nugget creek, was producing gold as early as 1907. It was equipped with two Chicago Pneumatic Tool Co. Compressors, and was opened by a 300 foot shaft and tunnel. Other early mining companies in the area were the Chitina-Kuskalana Co., and the North Midas Co. By 1927, only the North Midas Co. was in operation on a limited scale. After the Kennicott mines closed in 1938, support services moved to the Glennallen area. Strelna and Chitina became virtual ghost towns with a population consisting primarily of native people. Strelna was homesteaded in the mid 1970's, and a few descendants of the original homesteaders occupy the area now. Most full time residents lead primarily subsistence lifestyles to adjust for the lack of local employment opportunities.



**Sun setting over Strelna Lake**

## Emergency Preparedness

### State Division of Forestry

The State of Alaska, Division of Forestry has statutory authority to protect forested lands from wildfire on state, private and federal lands in the Copper River Valley.

### Division of Forestry approximate response time to Strelna

Helicopter --- 30 minutes

Fire Engine ---75 minutes

**STRELNA VOLUNTEER FIRE DEPARTMENT**  
FIRE FIGHTING CAPABILITIES  
OPERATIONAL VEHICLES

- Engine 1 – 750 gallon pumper - Fair
- Brush truck - 200 gallon type 7 - Excellent

The Strelna Volunteer Fire Department has structure and wildland fire suppression responsibilities from mile 3 through 18 of the McCarthy Road. Approximately 20 volunteers are in on-call status throughout the year. However, many of the volunteers work out of area in the summer months. Lack of telephone service and radio repeaters makes communication difficult in this area.

**Escape Routes:**

1. McCarthy road east to the Kuskulana River
2. McCarthy Road West to Chitina
3. Private drives to lakes

Escape routes are narrow with heavy fuels lining most access roads.

**Safety Zones:**

The only safety zones currently available in the Strelna area are the three large lakes: Strelna, Silver, and Sculpin Lakes as well as the Kuskulana Gravel Pit.

**Wildfire History**

- 1915 – Sourdough Hill Fire – 384,000 acres  
The fire was presumably set by sparks from the railroad. It burned from Chitina to the Kennicott River and from the Chitina River to the mountains north.
- 1915 – Kennicott Fire – 64,000 acres  
The fire was intentionally set to kill timber so as to provide fuel-wood for sale at the Kennicott mine.
- Three of the 6 worst fire seasons in Alaska history have occurred in the last six years. Over 12 million acres were burned in those three years.
- Approximately 90% of wildland fires in the Copper River Basin are human caused. Lightning has had little influence in the local fire environment.

## Hazard and Risk Assessment

Hazard areas have been identified using the criteria of: fuel typing, topography, seasonal fuels, human traffic, and values at risk. Strelna Fire Regime is IV and Conition Class is D and E.

### **Fuel Hazards**

The Copper River Valley has several species of trees. Among these are: black and white spruce, aspen, paper birch, balsam poplar and alder. Ground conditions, including soil type and drainage, and terrain (slope and aspect) influence the type of resident tree species. Extensive black spruce is the main hazardous fuel type. Fire is an integral part of the ecology of the black spruce forest and the primary agent of change. Due to tree form, resin, ladder fuels, dry moss and feather moss, the trees burn extremely well. Fires can actively burn when humidity reaches below 40%. Sustained crown fires can occur when humidities fall below 30%. Stands of mature white spruce and mixed conifer/hardwood forests can also make suppression efforts difficult. Tundra vegetation can be a main fire carrier and peat fires sometimes require several burning periods to extinguish. Light fuels such as grasses can become extremely dry after the snow melts away and remain so even after the leaves are out on the trees.

The Risk Assessment Rating system will be based on the following:

- **Seasonal High:** Dry grassy areas, especially around structures that pose a significant risk between the times of snow melt and green up.
- **High:** Areas close to populated subdivisions with heavy fuel loading in spruce forest.
- **Low to Moderate:** Hardwood stands, uninhabited areas, and areas on flat topography that poses little threat to ignition or spread.
- **Treated Areas:** Areas that have been treated either by the Chitina Hazardous Fuel Reduction Crews or by private landowners that have reduced risk greatly but have further need of reduction.

Seasonal High areas pose a significant threat of ignition during a few weeks in the spring, after the snow melts and before the grass “greens up”.

The High areas present significant risk to the community due to ignitability, topography, wind, and higher populations.

Naturally occurring fuels are only one of the hazards posing a threat to the community. Many hazards come from man made objects, which can be an even greater threat.

Human caused fuels that present a risk to the community include:

- Abandoned vehicles
- Fuel tanks in close proximity to structures
- Piles of woody debris
- Wood piles adjacent to structures
- Unsafe burning practices
- Abandoned campfires

**Risk of Wildfire Occurrence:**

Approximately 90% of wildland fires in the Copper River Basin are human caused. Fires caused by lightning strikes are rare, but they do occur. Statistical data shows that fires in this area occur in all areas of human population. Traffic continues to increase along the McCarthy road with fishermen in search of a quiet spot and tourists visiting the Wrangell St-Elias National Park. This increasing traffic increases the chances of human caused wildland fires occurring significantly.

**Values of Concern:**

The lives of community members and firefighters are the primary concern. Most structures in the area are primary homes. There is also an increasing number of high dollar seasonal and vacation homes in the area. The road corridor to McCarthy and Wrangell St. Elias National Park is important to keep open for emergency traffic.

The Strelna Overall Rating Chart scores as such:

Risk/Hazard – In community	High to Moderate
Risk/Hazard – Outside community	High
Barriers	Poor to Fair
Fire Protection	Moderate to High
Community FireWise Rating	40% which rates fair

## Hazards Identified

- No safety zones available
- Access roads are narrow and overgrown
- Inadequate clearing around structures
- No emergency or evacuation plan
- Many driveways are inaccessible to emergency vehicles
- Lack of equipment for local responders
- Seasonal grasses

The risk of wildfire to the community has four components: hazardous fuels, ignition risk, values of concern, and suppression difficulty. Risk can be reduced by mitigating any one of these four components. The goal of selected risk reduction projects is to reduce the greatest amount of wildfire threat to the community.

Because the fuels around Strelna have a consistent black spruce component, most of the community qualifies as a high risk area. This plan focuses on the mixture of components: fuels combined with populated areas without adequate defensible space. The ratings in this assessment are relative. The assessment simply shows the order that fuel reduction must be prioritized.

Considering the problem of evacuation egress and lack of safety zones, fuels mitigation will start in areas with greatest risk and continue along access routes. Home owners will be encouraged to prepare their property using the Firewise principles. Cost share funding will be sought to help treat 100 feet beyond Firewise recommendations. Other grants will be sought through the Western States WUI and other grants. These steps will protect values from wildland fires spreading from outside as well as inside the community. See attached map containing the risk analysis.

Risk Hazard Analysis in community	Moderate
Risk Hazard Analysis outside of community	High
Barrier Protection rating	Poor
Fire Protection Rating	Poor
Community Firewise Rating	Poor 28%

## Priorities

1. **Fuel Reduction around structures**
2. **Fuel Reduction along access routes**
3. **Safety Zones**
4. **Evacuation/Emergency plan**
5. **Equipment for local VFD**

## Community Needs

### **Fuel Reduction**

Approximately 90% of wildland fires in the Valdez Copper River Area are human caused, the first threat to the community could be neighboring land owners or tourists passing through. The secondary threat may be wind driven fire through black spruce. Our plan of reducing fuels around individual homes could address both threats.

Another priority is to clear back fuels along Nugget Creek Mine Road to improve access and egress for private and emergency personnel. The reduction of fuel along this road would provide better visibility and reduce the severity of radiant heat during a wildland fire. Without such measures, the road will be dangerously impassable if extreme wildland fire occurs, resulting in potential entrapment situations.

Clearing along the McCarthy Road from mile 9 to mile 15 would improve traffic flow in an emergency situation, again providing for better visibility and reducing radiant heat in a wildfire event.

The priority is to clear around structures far enough to allow home owners to shelter in place in case of wildland fire. With property owner's cooperation, reducing fuel beyond the Firewise specifications will mitigate most emergency evacuation difficulties.

### **Safety Zones**

There are no areas within the Strelna wildland/urban interface boundary that can serve as "safety zones" with the exception of the three large lakes: Silver Lake, Sculpin Lake and Strelna Lake. Safety zones will have to be designed and built.

## **Evacuation/Emergency Plan**

An evacuation plan for the Strelna area faces many difficulties. Of primary concern is the lack of a safe place to evacuate to. With a continuous white and black spruce component throughout the area, the one road could be closed off quickly. Also, for many homeowners this is their only residence and they will not leave in the event of catastrophic wildfire. This furthers the need for fuel reduction to make it possible for them to “shelter in place” and greatly increase the odds of their structure surviving such an event.

In the instance when evacuation is the only answer, protocol is as follows:

Evacuation *warnings, directives* and where warranted *orders* in the Copper River Basin will be carried out only by the on-scene fire department (Strelna VFD) that is registered with the State Fire Marshall (AS 18.70.075 and 090).

The document “Evacuation Guidelines” created jointly by State Forestry and Alaska Fire Service in consultation with multiple agencies and fire departments in Alaska; a “Field Guide To Evacuation Planning & Implementation” (02/13/01) will be implemented as the evacuation protocol in this CWPP.

Emergency situations will be managed using the Incident Command System.

## **Equipment for VFD**

Strelna VFD is a new fire department. They were recognized in 2007. They have two engines and very little equipment and are lacking much of the gear needed to fight either wildland or structural fires in a safe and effective manner. This includes personal protective equipment (PPE), air packs, pumps, hose, and hand tools.

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## Goals and Objectives

### **GOAL: Reduction of Hazardous Fuels**

- **Objective:** Clear along driveways and side roads
- **Objective:** Clear along McCarthy road right-of-way
- **Objective:** Clear fuels along Nugget Creek Mine Trail
- **Objective:** Reduce hazardous fuels around structures

### **GOAL: Safety Zones**

- **Objective:** Identify usable sites
- **Objective:** Apply for monies through cost-share funding and Western States WUI grants.
- **Objective:** Design and implement a Safety Zone Site to fit community needs

### **GOAL: Evacuation and Emergency Plan**

- **Objective:** Coordinate with emergency services to write an Evacuation and Emergency plan
- **Objective:** Develop a public communication system
- **Objective:** Implement these in the community

### **GOAL: Water Sources**

- **Objective:** Identify usable sites
- **Objective:** Design site and construct accordingly

### **GOAL: Recruit, Train and Equip Local Firefighters**

- **Objective:** Identify funding sources for fire fighter equipment and training.
- **Objective:** Equip and train locals to fight fires in a wildland/urban interface (WUI).

## Action Plan

<b>Description #1</b>	<b>Complete a CWPP</b>	<b>Timeline</b>	<b>Responsible Agency / Organization</b>
	Complete a Community Wildfire Protection Plan		
<b>Description #2</b>	<b>Assist in the community outreach and education of the local home owners.</b>		
	Promote and develop Firewise and wildland fire prevention workshops, presentations and displays for local events.		
<b>Description #3</b>	<b>Assist in the recruitment and training of volunteer fire department fire personnel.</b>		
Tasks	Identify methods for recruiting firefighters; Work in conjunction with other agencies and organizations in training for WUI fire situations.		
	Identify opportunities to assist in the training of new recruited firefighters i.e. Code Red.		
<b>Description #4</b>	<b>Coordinate the administration of biomass fuels program so that it includes the Strelna, McCarthy and Chitina areas.</b>	<b>Resources Needed</b>	<b>Who is Responsible</b>
Tasks	Identify opportunities for marketing and utilization of small diameter wood products. In order to sustain fire protection and fuels reduction programs there must be a way to pay for it. To date, grant funding through the National Fire Plan and Western States grants have paid for most of the fuels reduction work that has occurred on state and private lands. The National Fire Plan funding has been declining.		
	Local investments and incentives. An incentive such as cost share grant		

	funding may be one way to motivate residents to reduce fuels around personal property.		
	Biomass marketing and utilization of small diameter wood may be a strategy to motivate businesses to help cover the cost of removing hazardous fuels on state and federal lands.		
<b>Description #5</b>	<b>Prioritize and coordinate hazardous fuels reduction projects</b>		
	Identify high risk areas and develop cost effective treatments.		
<b>Description #6</b>	<p>Support and encourage the treatment of hazardous fuels around resident’s homes.</p> <p><b>Develop, Monitor, and Update Strelna Pre-Disaster Evacuation Plan</b></p> <p>Identify and construct an area to be used in as a safety zone in case of a wildfire emergency.</p> <p>Reinforce access to and from the safety zone.</p> <p>Review an evacuation strategy with Strelna VFD as specified in a “Field Guide to Evacuation Planning and Implementation”</p> <p>Emergency situations will be managed using the Incident Command System.</p>		Strelna VFD, NPS, DOF, AST

**Signature Page**

**We below have agreed to the contents of this Community  
Wildland Protection Plan:**



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AK Division of Forestry VCRA AFMO



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Community Representative  
Strelna VFD Fire Chief

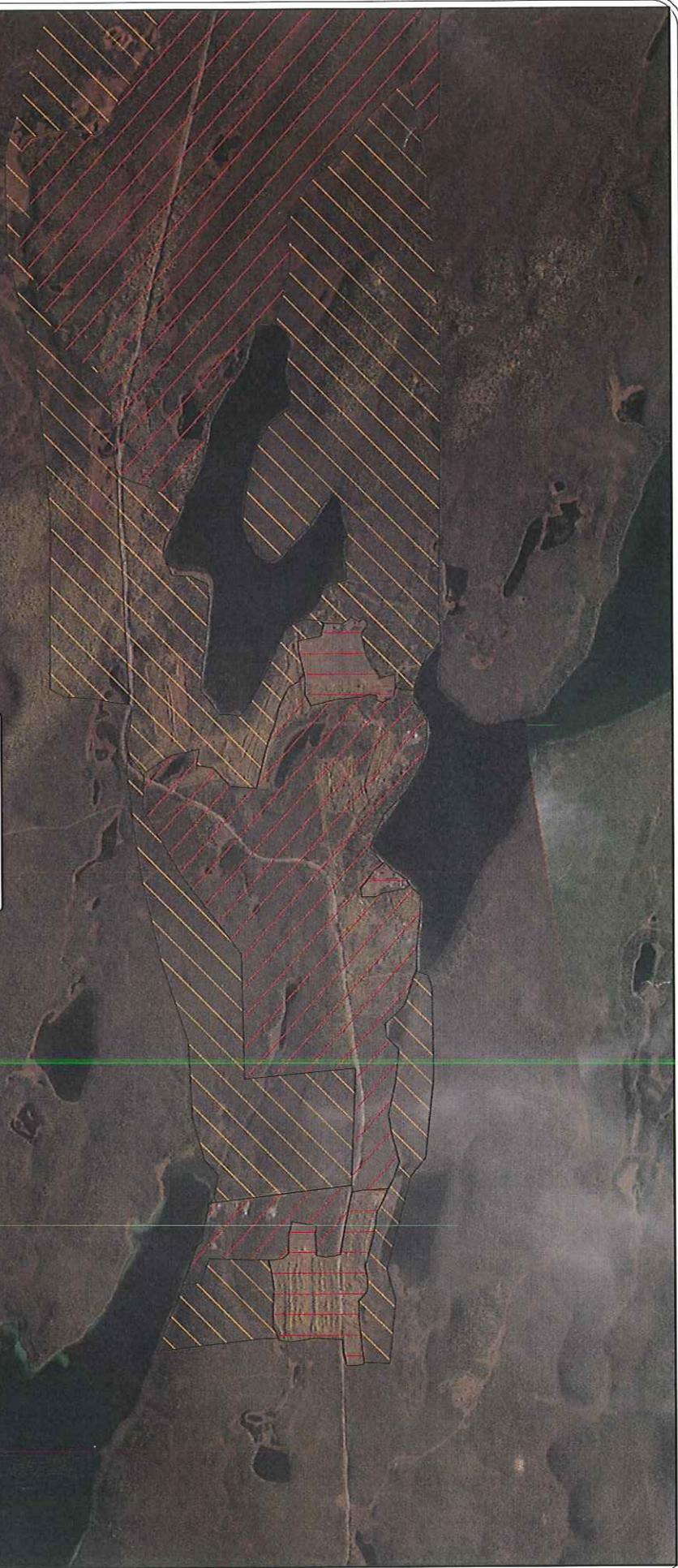
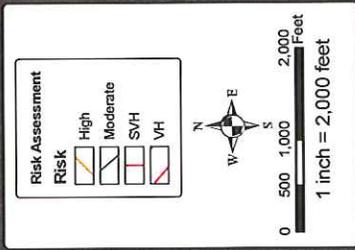
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AK. State Forester

Strelina, Alaska  
Community Wildfire Protection Plan - 2009  
Risk Assessment - Western Portion



Alaska Division of Forestry  
Valdez-Copper River Area  
January, 2009



Strelina, Alaska  
Community Wildfire Protection Plan - 2009  
Risk Assessment - Eastern Portion



Alaska Division of Forestry  
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