

# Community Wildfire Protection Plan

Hamlet of Aklavik

July | 2021



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English

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French

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Kīspin ki nitawih̄tīn ē nīhīyawihk ōma ācimōwin, tipwāsīnān.

Cree

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Tłıchq̄ yatı k'èè. Dı wegodi newq̄ dè, gots'ō gonede.

Tłıchq̄

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ʔerih̄t'ís Dēne Sų́néné yatı t'a huts'elkēr xa beyáyatı theɔ̄ ɔat'e, nuwe ts'ēn yóttı.

Chipewyan

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Edı gondı dehgháh got'je zhatıé k'éé edat'éh enahddhę nıde naxets'é edahí.

South Slavey

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K'áhshó got'jne xədə k'é hederı ɔedjht'é yerınwę nıde dúle.

North Slavey

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Jii gwandak izhii ginjık vat'atr'ijáhch'uu zhit yınohthan jı', diıts'at gınohkhii.

Gwich'in

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Uvanittuaq ilitchurisukupku Inuvialuktun, ququaqłuta.

Inuvialuktun

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Ċ'đđ ħħ'bbđċ ʌřłjđřċ đđ'ğđċ-śđłğğ'đ, đđ'đċđđ'đđ'đđđđđđ.

Inuktitut

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Hapkoa titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

Inuinnaqtun

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Indigenous Languages:

French:

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## Contents

1	Introduction .....	1
2	Planning Area and Stakeholders.....	2
3	Hazard & Risk Assessment.....	2
3.1	Wildfire Ignition Potential.....	2
3.2	Wildfire Behaviour Potential.....	4
3.2.1	Forest Fuel Types.....	4
3.3	FireSmart Hazard Assessments.....	5
4	Vegetation Management Options .....	6
4.1	Existing Vegetation Management.....	6
4.2	Proposed Vegetation Management.....	7
4.2.1	Zone 1a and 1 .....	7
4.2.2	Zone 2-3.....	7
4.3	Vegetation Management Maintenance .....	8
5.	Development Options .....	8
5.1	Structural Options.....	8
5.2	Infrastructure Options .....	9
5.2.1	Access .....	9
5.2.2	Water Supply .....	9
5.2.3	Franchised Utilities .....	9
6.	Public Education Options .....	10
7.	Inter-Agency Cooperation and Cross-Training Options .....	12
8.	Emergency Planning Options.....	13
9	Recommendations Summary .....	14

# 1 Introduction

In 2012, a Community Wildfire Protection Plan (CWPP) was developed for the Hamlet of Aklavik to address the hazard and the risk to the community from wildfire. That CWPP was developed to provide practical and operational wildland /urban interface (WUI) risk mitigation strategies to reduce the threat from wildfire to the community.

The original CWPP was developed by Montane Forest Management Ltd in cooperation with the Government of the Northwest Territories (GNWT) and Aklavik.

In 2018 the GNWT, Department of Environment and Natural Resources (ENR) updated the Aklavik CWPP by using the most recent information, science and expertise available. This included using standardized FireSmart assessment protocols and mitigative measures were developed based on the 7 disciplines of FireSmart.

1. Vegetation Management
2. Development
3. Legislation
4. Public Education and Engagement
5. Inter-Agency Cooperation
6. Cross Training
7. Emergency Planning

The update included:

- The FireSmart mitigation efforts completed around the community
- The change in hazard around the community.
- New recommendations or modification to existing recommendations

Aklavik, in cooperation with ENR, implemented some of the original recommendations but there is still work to do.

The update includes recommendations to assist in setting priorities to reduce the threat from wildfire. It is important to note that while implementing these recommendations will reduce the threat from wildfire to structures, it will never completely remove the threat.

This plan should be reviewed regularly to ensure that it remains a priority to the Hamlet and its residents.

## 2 Planning Area and Stakeholders

The planning area includes all lands within Aklavik and a two-kilometre buffer surrounding the community (Map 1).

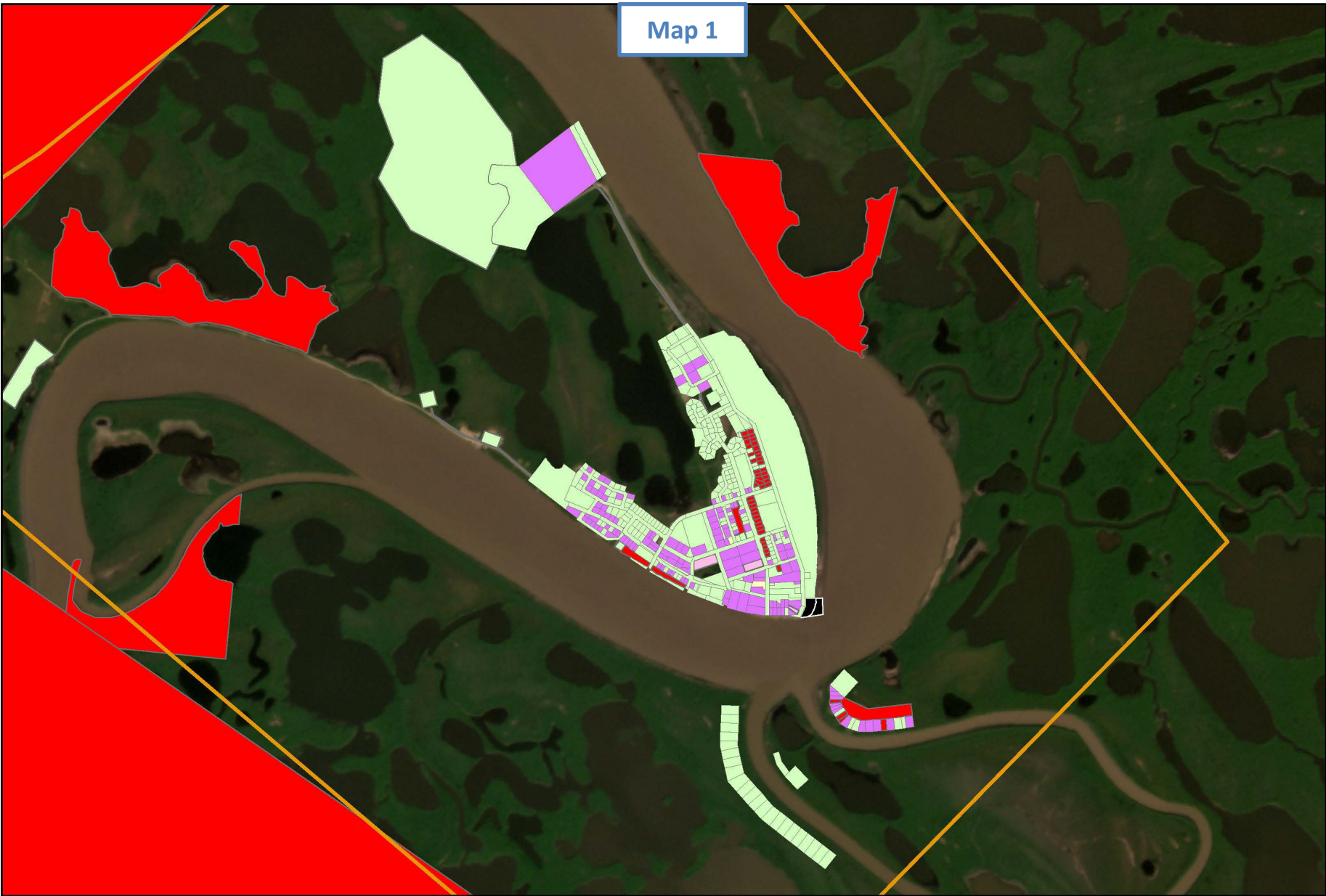
Stakeholders involved in the planning process included:

- Government of the Northwest Territories, Environment and Natural Resources
- Hamlet of Aklavik

Land status authority is represented by the following (Map 1):







- Commissioner
- Federal
- Gwich'in
- Mixed
- Private


Map 1



# Aklavik Land Status Authority

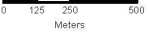
**Land Ownership**

 Commissioner	 Municipal	 Planning Area
 Federal	 Private	
 Gwich'in		



N

1:25,000





### 3 Hazard & Risk Assessment

In the original 2012 CWPP a hazard and risk assessment was undertaken to determine the potential impact wildfire could have on the community. This was based on an analysis of the historical wildfire ignition sources, fire incidence and the wildland fire potential of the forest surrounding the community.

#### 3.1 Wildfire Ignition Potential

The assessment of recent fire incidence was completed using historical fire data from GNWT Environment and Natural Resources (ENR) for the ten-year period from 2009 to 2018.

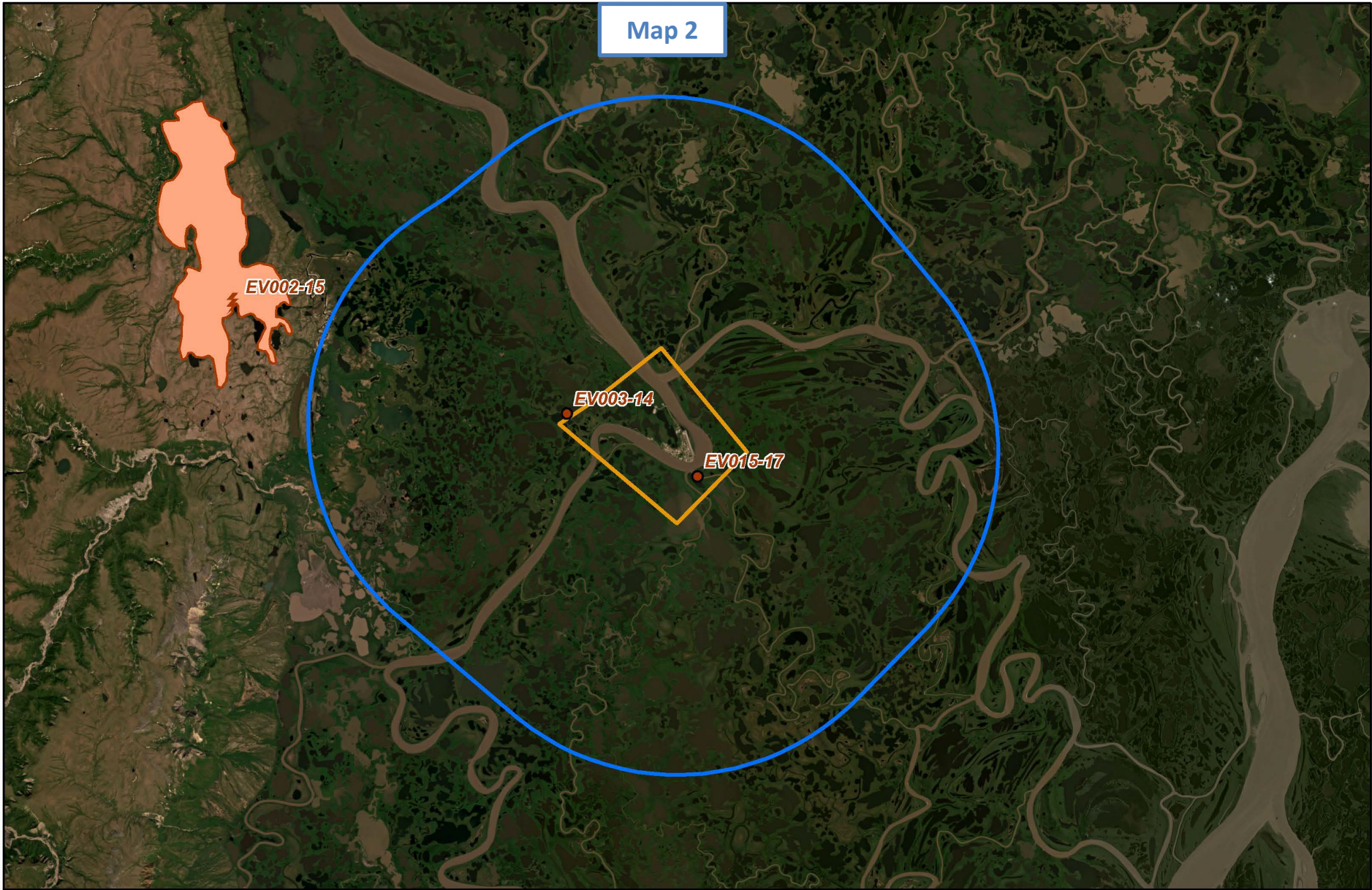
Fire incidence data indicates that two human-caused wildfires were discovered within a 10 kilometer radius of the community (Table 1 & Map 2).

**Table 1: Fire Incidence by Cause (2009 - 2018)**







<b>General Cause</b>	<b>Number of Fires</b>	<b>Percent of Total</b>
Human-Caused	2	100
Lightning-Caused	0	
<b>Totals</b>	<b>2</b>	<b>100</b>


**The risk of wildfire in the planning area is Low based on fire incidence data.**

Map 2



# Aklavik Ten Year Fire History

-  Planning Area 10km Buffer
-  Planning Area
-  Large Fire History
-  Human Caused
-  Lightning
-  Unknown



0 1,250 2,500 5,000  
Meters

1:200,000

N



## **3.2 Wildfire Behaviour Potential**

### **3.2.1 Forest Fuel Types**

Fire Behaviour Prediction (FBP) fuel types were used to analyze the forest fuel types and fire behaviour potential within and adjacent to Aklavik.

The planning area is dominated with deciduous-scrub (D-1) and water (WA) with scattered patches of boreal spruce (C-2), cured-grass (O1), and non-fuel (NF) fuels.

### 3.3 FireSmart Hazard Assessments

FireSmart hazard assessments (P.I.P., 2003) were conducted on development and adjacent forest fuel types within the planning area. The FireSmart hazard assessment process evaluates wildland and structural fuel types, structural features, and topography within and adjacent to the development area to consistently quantify the wildland/urban interface hazards within the planning area and to help set priorities for mitigative options. All development within Aklavik is at minimal threat to wildfire (Table 2)

**Table 2: FireSmart Hazard Assessments**

Development Area	Structure/Site Hazard (0 - 30m)
Aklavik	Low

Hazard factors are discussed below.

#### Aklavik

FireSmart hazard for Aklavik is rated as **LOW**. Fuels immediately adjacent primarily consist of non-fuel, cured-grass, or scrub-deciduous that may only support surface fire during spring and fall. Some structures, particularly the remote cabins, have inadequate defensible space from cured-grass resulting in increased threat. Exterior structure materials are primarily metal and asphalt-shingle roofing and hardiplank siding on newer structures and wood siding on older structures. Access roads are an all-weather loop with a dead-end design.



**The FireSmart threat for Aklavik is Low based on fuel types adjacent to structures, exterior structural materials and fire incidence data, with the highest threat being from cured-grass fuels adjacent to homes**

## 4 Vegetation Management Options

The goal of vegetation management is to create a clear space between the community and the forest to reduce the intensity and rate of spread of wildfire approaching or leaving the community. Vegetation management options are proposed at the appropriate scale, based on hazard and risk, to reduce the threat of wildfire to developed areas. While fuel modification projects reduce the threat of wildfire to developments, they do not ensure structure survival under all hazard conditions.

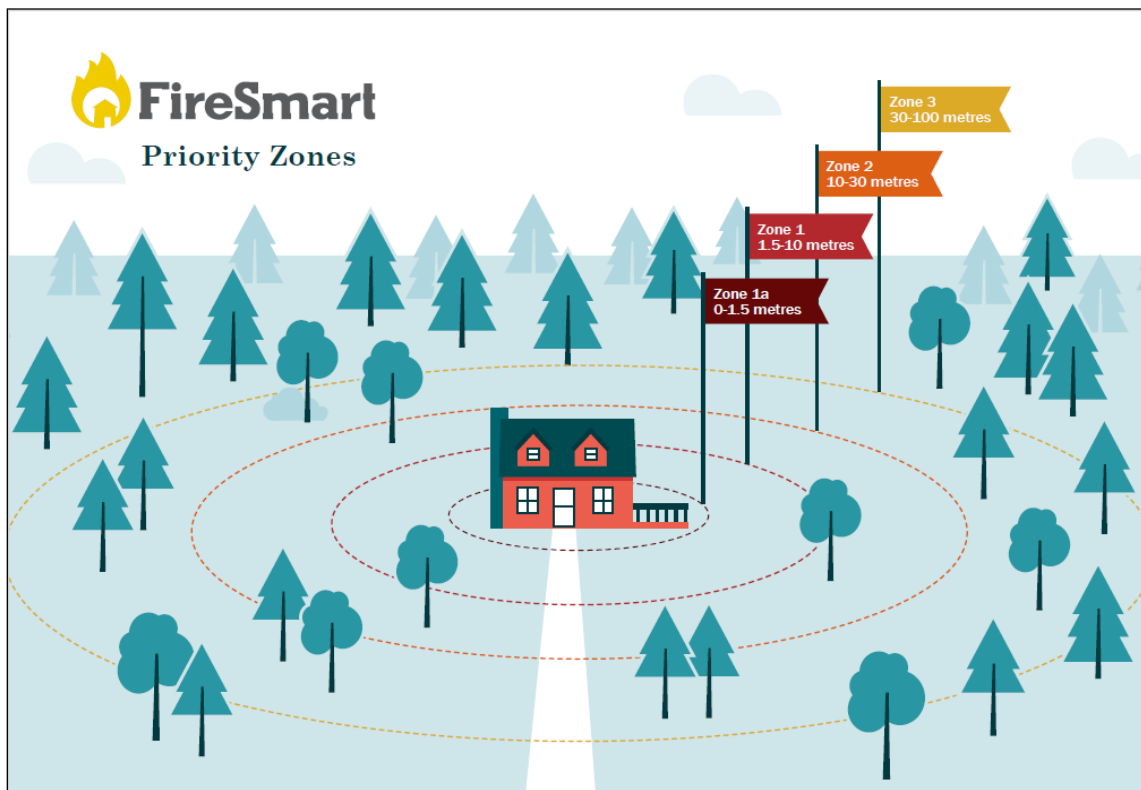
Vegetation management consists of one or any combination of the following options:

- Fuel removal (remove trees)
- Fuel reduction (thin and prune trees)
- Species conversion (plant less flammable trees)

Complete descriptions of the methods included in each of the above options are included in the link:

<https://www.firesmartcanada.ca/mdocs-posts/firesmart-priority-zones-2017/>

*FireSmart* standards refer to the interface priority zones with vegetation management for interface structures recommended in Zones 1 and 1a, 2 at a minimum and in Zone 3 based on hazard and risk.



**Figure 1– Interface Priority Zones (PIP, 2017)**

## 4.1 Existing Vegetation Management

There are no existing fuel modification areas around Aklavik.

## 4.2 Proposed Vegetation Management

### 4.2.1 Zone 1a and 1

Zone 1a vegetation management is **inadequate** for many of structures due to encroachment of native grass fuels.

FireSmart Zone 1a vegetation management options include:

- Creating a noncombustible zone around structures by clearing vegetation and combustible material down to mineral soil within 1.5 metres of structures.
- Use noncombustible materials in this critical zone of 1.5 metres directly adjacent to your home such as gravel, bricks or concrete.
- Woody shrubs, trees or tree branches should be avoided in this zone and any that are present should be properly mitigated.

FireSmart Zone 1 vegetation management options include:

- Removal of flammable forest vegetation within 10 metres of structures.
- Removal of all coniferous ladder fuels (limbs) to a minimum height of 2 metres from ground level on residual overstory trees.
- Removal of all dead and down forest vegetation from the forest floor.
- Increased maintenance to ensure that all combustible needles, leaves, and native grass are removed from on and around structures.
- Establishment and maintenance of a non-combustible surface cover around the structure including the use of FireSmart landscaping species.
- Removal of all combustible material piles (firewood, lumber, etc) within 10 metres of the structure.

For more information on FireSmart Zone 1 standards refer to *FireSmart – Protecting Your Community from Wildfire* (PIP 2003).

**Recommendation 1:** Encourage residents to establish adequate Zone 1a and Zone 1 defensible space around their structures.

### 4.2.2 Zone 2-3

There are no recommended Zone 2-3 fuel modification areas based on the wildfire threat to the community.



### 4.3 Vegetation Management Maintenance

FireSmart Zone 1a and 1 fuel modification maintenance is an ongoing process. Residents should be educated and encouraged to maintain their properties regularly throughout the fire season to reduce the threat of wildfire to their structures.

**Recommendation 2:** Residents should be educated and encouraged to maintain their properties regularly throughout the fire season to reduce the threat of wildfire to their structures.

## 5. Development Options

Consideration of wildfire at the planning stage of new development is encouraged to ensure that wildfire hazard and appropriate mitigation measures are developed and implemented prior to development.

New developments may overlap or conflict with existing fuel modification resulting in a reduction in fuel break effectiveness and an increase in wildfire threat to the new or existing development in the area.

**Recommendation 3:** If a new development removes or reduces the effectiveness of any existing or proposed FireSmart mitigation measures or introduces new wildfire hazards, the area must be assessed and measures implemented to maintain the community protection standards.

### 5.1 Structural Options

Structural characteristics that contribute to a structure's ability to withstand wildfire ignition include type of roofing and siding material, and proper construction and maintenance of eaves, vents, and openings that can accumulate flammable debris and allow wildfire to gain entry to the structure.

The most common roofing materials in the planning area are metal and asphalt-shingle.

Siding materials vary between non-combustible hardi-plank on newer structures and combustible wood on older structures.

It is common for structures to include open decks and undersides.



## 5.2 Infrastructure Options

Infrastructure options include provision of adequate access standards to ensure quick and safe ingress and egress for residents and emergency responders during a wildfire, adequate and accessible water supply for structure protection and suppression, and utility installation standards that do not increase risk to emergency responders during a wildfire emergency.

### 5.2.1 Access

Access road standards throughout the planning area are mainly adequate for an interface community. Access roads are all-weather loop and dead-end design. There is no summer road access to the community.

### 5.2.2 Water Supply

Aklavik does not have municipal hydrant water-supply. All development areas rely on water-tender supply for structure protection activities. Each home is equipped with an in-house water tank.

### 5.2.3 Franchised Utilities

Franchised utilities affected by an interface fire include electrical power and gas. Proper installation and maintenance of these services can minimize the risk to residents and emergency services personnel.

#### **Electrical Power**

Power distribution and residential service is provided through above-ground powerlines from the NTPC generation plant.

#### **Heating Fuel**

Heating fuel is provided by diesel tank supply.

## 6. Public Education Options

Public education plays a key role in promoting and implementing FireSmart principles and projects. Residents, landowners, municipal administration, and elected officials all need to be aware of the risk of wildfires and the solutions to minimizing the risk, and need to become a partner in implementation of the solutions in their communities. If stakeholders understand the issues relating to wildland/urban interface hazard they will be more likely to take action on their own property or to support actions taken by other authorities.

Residents and stakeholders can refer to the GNWT ENR, Forest Management Division website at: <https://www.enr.gov.nt.ca/en/services/be-firesmart> for further information on the GNWT FireSmart program, current wildfire updates, and other wildfire management related information.

### Key Messages

FireSmart hazard assessments identified the need for the following key messages to target audiences in the planning area.

#### Homeowners

Homeowners can increase resiliency of homes and make them less vulnerable to wildfire by development and maintenance of the FireSmart Non-Combustible Zone 1a (0-1.5 metres) and Zone 1 (1.5-10 metres) defensible space surrounding the home, by:

- Clearing vegetation and combustible material down to mineral soil within 1.5 metres of structures.
- Using noncombustible materials in this critical zone of 1.5 metres directly adjacent to your home such as gravel, bricks or concrete.
- Woody shrubs, trees or tree branches should be avoided in this area and any that are present should be properly mitigated
- Storing firewood and other combustible materials more than 10 metres away from the home
- Keeping roof and eaves clear of leaves and other combustible debris
- Creating propane and fuel-tank FireSmart defensible space
- Creating a non-combustible zone for underneath and around any trailers/vehicles and mitigate sheds and other structures to the same standards as those of your home
- If possible and/or applicable maintain Zone 2 (10-30 metres) and Zone 3 (30-100 metres) recommendations, and work with neighbors in any overlapping Priority Zones.

## Communities

Communities can reduce wildfire risk and adopting FireSmart principles by:

- Holding a FireSmart Wildfire Community Preparedness Day or workshop;
- Using local government websites, social media and newsletters to promote FireSmart principles;
- Asking ENR staff what educational and/or promotional resources they have available, such as: wildfire information pamphlets, posters, educational resources, videos etc;
- Applying for the FireSmart Community Recognition Program. For more information visit: [www.firesmartcanada.ca/firesmart-communities/firesmart-canada-community-recognition-program/](http://www.firesmartcanada.ca/firesmart-communities/firesmart-canada-community-recognition-program/).

**Recommendation 4:** Public education on acceptable FireSmart Zone 1a and Zone 1 standards is recommended for all Aklavik residents.



## 7. Inter-Agency Cooperation and Cross-Training Options

Interagency cooperation and cross-training between all stakeholders is necessary to ensure cooperative and effective implementation of wildland/urban interface mitigation options and to coordinate an effective response to a wildland/urban interface fire.

Interagency stakeholders within the planning area include:

- Hamlet of Aklavik
- GNWT
- Gwich'in Tribal Council
- Gwich'in Lands & Resources
- Gwich'in Renewable Resources Board

**Recommendation 5:** Coordinate with the established emergency management committee to determine what will be required during a wildfire emergency. All relevant stakeholders should understand the FireSmart program and help to promote mitigation.

Aklavik has an active fire department. Any opportunity to train and understand wildfire behavior, wildfire firefighting and structural firefighting in the wildland urban interface will benefit all emergency responders. Training and instructors are available in the NWT to introduce the following courses:

### **Wildland Fire**

Wildland Firefighter (NFPA 1051 Level I, S-131, or equivalent)

### **Wildland/Urban Interface Fire**

Structure and Site Preparation Workshop (S-115)

### **Incident Command System**

- ICS Orientation (I-100)
- Basic ICS (I-200)
- Intermediate ICS (I-300)

**Recommendation 6:** The Aklavik Fire Department, Aklavik Public Works and the GNWT should partner on cross-training initiatives to ensure emergency responders are cross-trained to the following:

Basic Wildland firefighter

Structure and Site preparation

Incident Command System (I-100 to I-300) as applicable

## **8. Emergency Planning Options**

Emergency preparedness is an important part of any disaster planning. The need for organization, clear chain of command, and an understanding of job responsibilities during an interface fire are of paramount importance.

The Aklavik Emergency Plan is used to provide authority and direction during an emergency. A wildfire pre-plan is not required due to the low threat of wildfire to the community.

## 9 Recommendation Summary

### Vegetation Management

Issue	Recommendation	Responsible Agency
<b>Zone 1a and Zone 1</b>	<b>Recommendation 1:</b> Encourage residents to establish adequate Zone 1a and Zone 1 defensible space around their structures.	Hamlet of Aklavik
<b>Maintenance</b>	<b>Recommendation 2:</b> Residents should be educated and encouraged to maintain their properties regularly throughout the fire season to reduce the threat of wildfire to their structures.	Hamlet of Aklavik

### Planning and Development

Issue	Recommendation	Responsible Agency
<b>FireSmart Development Planning</b>	<b>Recommendation 3:</b> If a new development removes or reduces the effectiveness of any existing or proposed FireSmart mitigation measures or introduces new wildfire hazards, the area must be assessed and measures implemented to maintain the community protection standards.	Hamlet of Aklavik GNWT

### Public Education

Issue	Recommendation	Responsible Agency
<b>Public Education Priorities</b>	<b>Recommendation 4:</b> Public education on acceptable FireSmart Zone 1a and Zone 1 standards is recommended for all Aklavik residents.	Hamlet of Aklavik GNWT

### Interagency Cooperation & Cross-Training

Issue	Recommendation	Responsible Agency
<b>Interagency Cooperation</b>	<b>Recommendation 5:</b> Coordinate with the established emergency management committee to determine what will be required during a wildfire emergency. All relevant stakeholders should understand the FireSmart program and help to promote mitigation.	Hamlet of Aklavik GNWT
<b>Cross-Training</b>	<b>Recommendation 6:</b> The Aklavik Fire Department, Aklavik Public Works and the GNWT should partner on cross-training initiatives to ensure emergency responders are cross-trained to the following:  Basic Wildland firefighter Structure and Site preparation (S-115) Incident Command System (I-100 to I-300) as applicable	Hamlet of Aklavik GNWT