

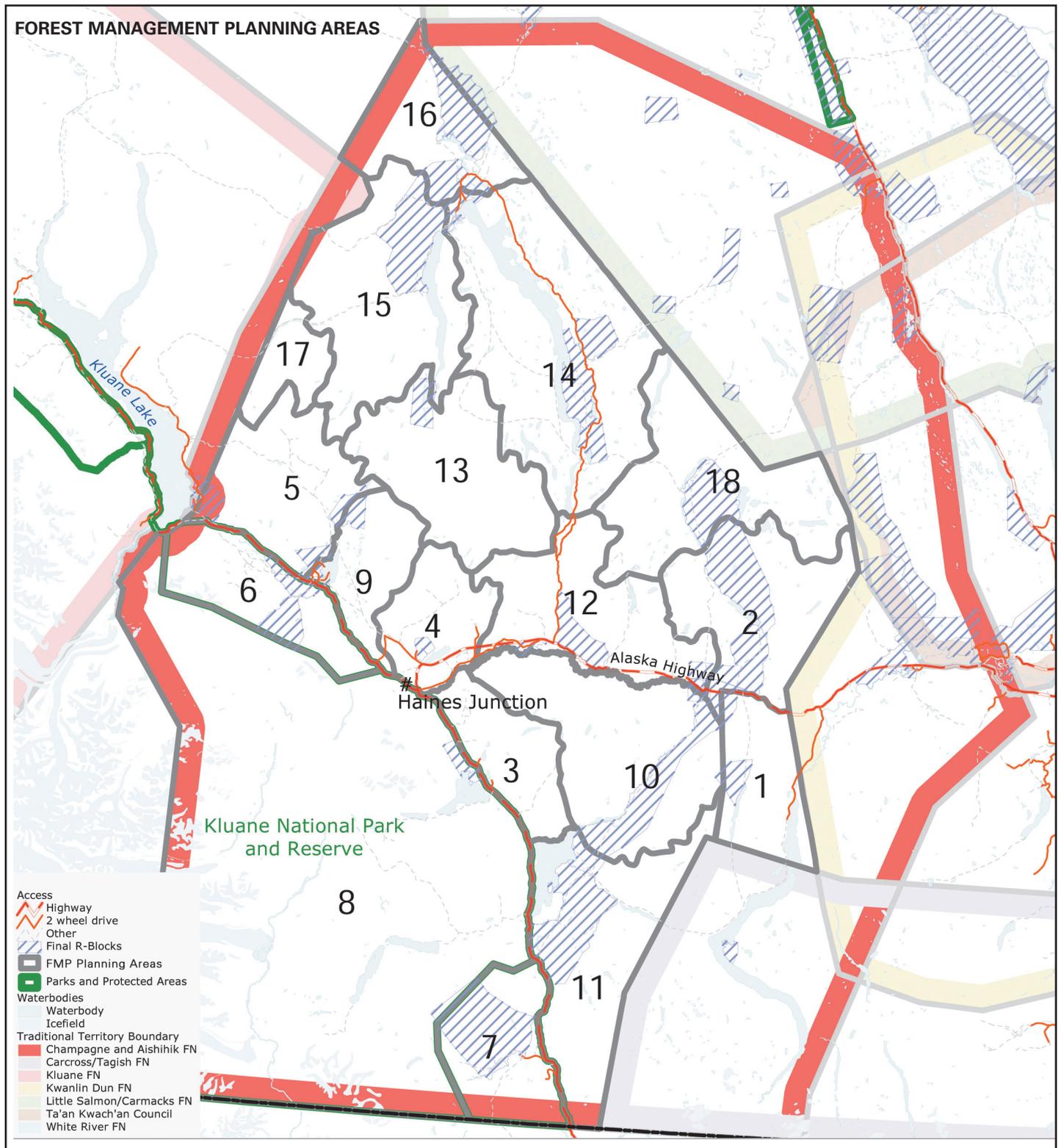
# Strategic Forest Management Plan

Community Directions for a Sustainable Forest



**Strategic Forest Management Plan**  
for the Champagne and Aishihik Traditional Territory

# MAP 1 PLANNING REGION AND PLANNING AREAS



NATIONAL TOPOGRAPHIC DATA BASE (NTDB) COMPILED BY NATURAL RESOURCES CANADA AT 1:250,000. REPRODUCED UNDER LICENSE FROM HER MAJESTY THE QUEEN IN RIGHT OF CANADA, WITH PERMISSION OF NATURAL RESOURCES CANADA.

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MAP COMPILED BY:  
GIS SECTION, FOREST MANAGEMENT BRANCH  
ENERGY, MINES AND RESOURCES  
GOVERNMENT OF YUKON

# IN RECOGNITION

of the  
Strategic Forest Management Plan for the  
Champagne and Aishihik First Nations Traditional Territory



In recognition and acknowledgment of the enthusiasm,  
determination, dedication and participation by...

...the community people on the Asek Renewable Resources  
Council for taking the lead role in coordinating this plan;

...members, past & present, of the forest management  
planning team, the core working group of our two  
governments; and

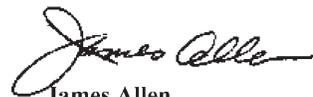
...all the people who call the Champagne & Aishihik  
Traditional Territory their home for providing input  
along the way.



We, the undersigned, extend a  
“Shaw Ni thaw” – Thank You



Archie Lang  
Minister of Energy,  
Mines & Resources  
Government of Yukon



James Allen  
Chief  
Champagne and Aishihik  
First Nations



December, 2004

Dear Minister Lang and Chief Allen:

The Alsek Renewable Resource Council (ARRC) is pleased to recommend the Strategic Forest Management Plan for the Champagne Aishihik Traditional Territory for approval and implementation by the Government of Yukon and Champagne and Aishihik First Nations.

The Strategic Forest Management Plan is the outcome of nearly 10 years of community input, coordinated by the ARRC in close partnership with the Government of Yukon, Champagne and Aishihik First Nations and Indian and Northern Affairs Canada. This "Core Group" has relied on the input of residents, stakeholders and other organizations in the Champagne Aishihik Traditional Territory to develop the long-term goals and objectives for forest management outlined in the Plan.

The Plan is intended to provide a clear framework and practical guidelines for forest managers and planners. It integrates past planning and policy work with directions for future forest activity. Some of the initial actions called for in the Plan include focusing initial planning near Marshall Creek/Pine Lake, Canyon and the Haines Highway North, and developing management directives to address the spruce beetle epidemic and related fire hazard concerns.

The development of this Plan has led to a strong working relationship and cooperative approach to forest management planning in this Traditional Territory. As the next stages of landscape and harvest development planning proceed, the ARRC looks forward to continuing to contribute to forest management in the region in fulfillment of its role under Chapter 17 of the Champagne and Aishihik First Nations Final Agreement.

The Strategic Forest Management Plan represents the first step in planning for sustainable forest use in the Champagne Aishihik Traditional Territory and we are pleased to endorse it.

We also extend our sincere thanks to the community members and former ARRC members who contributed to this Plan:

Past ARRC Members  
Rose Kushniruk, Chair  
Mike Crawshay, Chair  
Hardy Ruf  
Craig McKinnon  
Shane Oakley  
Martin Pauls

Debra Osborne  
Rhonda Markel  
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# CHAMPAGNE AND AISHIHIK TRADITIONAL TERRITORY

## Draft Strategic Forest Management Plan: Community Directions for a Sustainable Forest

### 1. INTRODUCTION

#### 1.1 THE PURPOSE

The basic purpose of this Strategic Forest Management Plan is to provide direction for sustainable forest management in the Champagne and Aishihik Traditional Territory (CATT). It is intended to provide a clear framework and practical guidelines for forest managers and planners. It should assist them in working with others, especially local people who live and work in the area, to ensure that healthy forests are maintained and support a broad range of social, economic and cultural values and uses. (A glossary of the forestry terms used in this plan is included in Appendix 1.)

The plan is a response to the question: what must be done to ensure sustainable forest resources use in the CATT?

In answering this question, the plan has considered the views and values that local residents, stakeholders and non-government organizations have expressed over the last ten years in numerous meetings and workshops about a wide range of land and resource management issues in the region. Generally, they all express one common interest from a broad range of views: the desire for a “balanced” approach to development. To most people in the region, this means an approach that balances maintaining a world-class wilderness environment with viable resource development opportunities that in turn meet community expectations about the scale, pace and location of development and how local people should benefit. The CATT continues to support a traditional subsistence way of life for many people and forest resources are very important to people using the land. New forest developments must be compatible with the values and the practices associated with these traditional attachments to the region’s lands and waters.

The Strategic Forest Management Plan provides the direction and the steps that are necessary to implement a balanced approach to the development of the region’s forest resources as defined by local people. It does so by establishing basic goals and objectives for forest management in the region, and identifying a series of indicators or checks to determine if management activities are proceeding according to plan.

*Sustainable forest management means managing our actions on the land in a way that respects and conserves the ability of both the forest and the diversity of living things that rely on it to renew themselves over the long term. Sustainable forest management requires that:*

- *Forests provide a wide range of environmental, economic and social benefits to people.*
- *Forests are managed as ecosystems – the web of life that ties all living things together – in order to maintain their natural processes and to ensure that they continue to provide a variety of benefits to all people.*
- *People are informed about and involved in forest management decisions that will affect them.*
- *Forest management and planning is based on a cooperative and integrated approach.*
- *Forest management evolves to reflect the best available knowledge and information.*

## 1.2 THE NEED AND THE CHALLENGE

This plan is a response to an urgent need and some serious challenges associated with forest management in the CATT. Over the last decade, the need for long-term, comprehensive forest management planning here has been driven by a number of converging factors:

- A growing interest in developing and expanding commercial timber operations.
- Several significant forest fires and an increased local awareness of fire threats.
- A wide-ranging spruce bark beetle infestation that represents an extreme ecosystem event of major social, economic and environmental significance.
- A continuing and unresolved debate over the most appropriate uses of forest lands.
- The long absence of systematic regional forest management planning in the Yukon.

The Tough Report to the federal Minister of Indian and Northern Affairs in 2002 defined the need and challenge for forest management planning in the Yukon:

“The lack of regional forest management plans is particularly troublesome, and those plans must be a priority for forest managers. Until those plans are completed, no new annual allowable cuts should be established for the areas in question, and no large-scale, long-term tenures should be negotiated. While these regional plans are being prepared, all reasonable efforts, including contingency area planning, should be made to provide timely and sufficient wood, within existing annual allowable cut ceilings to local mills.”



The need for forest planning is compounded by the goals that have already been established and the interests that have been recognized with land use and resource management plans for non-timber values and activities in the CATT. Regional land use, tourism and wildlife management plans and the Kluane National Park and Reserve of Canada Management Plan all offer strategic directions that in one way or another affect forest management in the region.

Strategic forest management planning is a necessary first step towards a balanced and integrated approach to forest management that must be sustainable, if different interests and goals are to be accommodated and respected.

## 1.3 CHAMPAGNE AND AISHIHIK FOREST REGION

### 1.3.1 Planning Region and Time Frame

The planning region includes all crown (federal), public (territorial) and settlement (First Nation) lands in the CATT, but excludes those areas that are overlapped by the traditional territories of adjacent Yukon First Nations: Little Salmon-Carmacks, Carcross-Tagish, Kluane, White River, Ta'an Kwach'an Council and Kwanlin Dun (see Map 1). Kluane National Park is included in the planning region in order to address its relationship and significant influence on the surrounding area.

The region covers almost three million hectares of crown, public and settlement lands. It includes a significant portion of the Kluane Forest District – Y06. The boundary of the planning region may be subject to adjustment in the future, pending the resolution of boundaries in overlapping settlement areas in the future.

*The planning region has been subdivided into 18 planning areas, three of which are non-forested. (see Map 1 – inside cover). The planning areas generally follow watershed boundaries. The Champagne and Aishihik First Nations (CAFN) have settlement lands in all 18 planning areas.*

The Strategic Forest Management Plan has a long-term planning application and should normally be reviewed every eight years – or earlier if warranted – to accommodate new or unanticipated natural events or disturbances, and to make necessary revisions based on the results of monitoring. To allow for the long-term sustainability of the region’s forests and the needs of future generations of people, the planning horizon for some values, such as those associated with timber resources, is about two forest “rotations” – two cycles of the planned number of years between the formation of a forest stand and its final cutting at a specified stage or maturity.

Sustainable forest management activities focus on the maximum sustainable harvest of timber. However, due to the high levels of conifer mortality associated with extensive spruce bark beetle infestation in the region, sustainable forestry is a long-term goal. Achieving sustainable forestry will be an important work in progress, if the necessary conditions to support it are to be realized. In the current context, forest management as a salvage opportunity applied on a recovery basis over time can work towards a sustainable forest industry. This will require a carefully considered, soundly planned and action-oriented approach to forest renewal.

### 1.3.2 The Land

The CATT extends across four Yukon ecoregions: the St. Elias Mountains, the Ruby Range, the Yukon Southern Lakes and the Yukon-Stikine Plateau (see Map 5). This explains the most significant attributes of the region – its extreme diversity and variability. It is a dynamic and occasionally extreme environment.

The region is characterized by dramatic and diverse landscapes from the St. Elias Mountains in the west to the broad valleys of the south to the rolling hills of the north.

There are two major watersheds: the Yukon River draining northwest into the Bering Sea and the Alsek River draining south into the Gulf of Alaska. The region’s lakes – Kluane, Kloo, Aishihik, Kusawa and Dezadeash – are important natural features that have influenced and continue to shape human settlement and activity.

#### 1.3.2.1 Environment

The natural and physical variability of the regions affect fish and wildlife, forest cover, tourist development, settlement and transportation. These dramatic variations in climate, elevation and vegetation create a range of wildlife habitats, which support abundant and diverse wildlife populations. The area is characterized by dynamic natural processes. It is the most seismically active in Canada, and has glacial surges and associated drainage reversals. Landslides, slope instability, major micro-climate shifts and large changes in river flows are characteristic of the region, especially near the mountain ranges.

In the western portion of the region are the massive and spectacular St. Elias Mountains. Vegetation on the mountain slopes is in distinct zones according to elevation: montane forest, sub-alpine and alpine. Vegetation within these zones varies according to bedrock and soil types, exposure of slopes to sun and length of the snow-free period.

In the north and northeast, the Kluane Plateau is characterized by large, rolling hills with elevations to 900 metres, mountains in the Ruby Range with elevations to 1,900 metres and broad valleys drained by the Dezadeash, Takhini, Nisling and Aishihik rivers. The large lakes within the plateau – such as Aishihik and Sekulmun – are prominent landscape features. There are also a number of smaller upland lakes that include Long, Moraine and Taye.

The Shakwak Trench parallels the Front Ranges of the St. Elias Mountains and contains major portions of the Haines and Alaska highway corridors from Dezadeash Lake to Kluane Lake and beyond to Beaver Creek.

The Coastal Mountains are located to the south of the Kluane Plateau. These steep, rugged mountains rise to an elevation of 2,200 metres and are drained by the Dezadeash, Kathleen, Tatshenshini, Klukshu and Takhini rivers. Kusawa, Frederick, Six Mile and Jo Jo lakes are other important landscape features. There are also numerous alpine lakes.

The Kluane Plateau and the Coast Mountains are divided by the Dezadeash and Takhini valleys and what was formerly glacial Lake Champagne. The broad valley forms the major east-west arm of the north Alaska Highway.

The drainage pattern is linked to both the glacial history, and to the future of the glaciers in the area.

### 1.3.2.2 Climate, Soil and Vegetation

The region's climate ranges from subarctic to continental: cold winters and warm, dry summers. The frost-free period in the region is short. Haines Junction ranges from 16 to 86 days. The low mean annual temperature of -3 Celsius is responsible for the presence and distribution of permafrost in the region. The region is in the zone of discontinuous permafrost (except for the St. Elias ice fields), generally in scattered portions. Permafrost occurs where a thick, organic layer insulates the soil. Conversely, fire plays an important role in reducing the organic layer and allowing the ground to thaw.

Much of the soil in the region is embedded with a thick layer of volcanic ash – up to one metre thick on some lower slopes. Most of the tree species are common to other Yukon ecoregions.

The region was glaciated by the last ice age advance 10,000 years ago. Upland areas contain a mix of fine and coarse-grained morainal deposits. Typical fluvial deposits are silts over sand and gravels. The Dezadeash and Takhini river valleys are covered

by deep, fine-textured lake bottoms (deposited by Lake Champagne) interspersed with, and sometimes covered by, glacio-fluvial outwash (usually sand and gravel). There is an extensive outwash plain west of Haines Junction. Valley bottom soil deposits are a mixture of glacial landforms modified by stream flows.

The mountainous nature of the western portion of the planning region means sub-alpine and alpine vegetation covers a significant portion of the region, in areas above 1,100 metres. (see Map 2 – centerfold page). The St. Elias Mountains are largely unforested. Subalpine tundra is typically composed of willow, shrub birch and sedge meadows. Alpine tundra is largely sedge meadows and tussock fields with lichens colonizing exposed rock. Wetland vegetation (sedges) occurs in pockets throughout the region. Sedge meadows are associated with, and interspersed by, willow and dwarf birch. Two of the most significant wetlands are located at the Jarvis River valley north of Kloo Lake and Taye Lake.

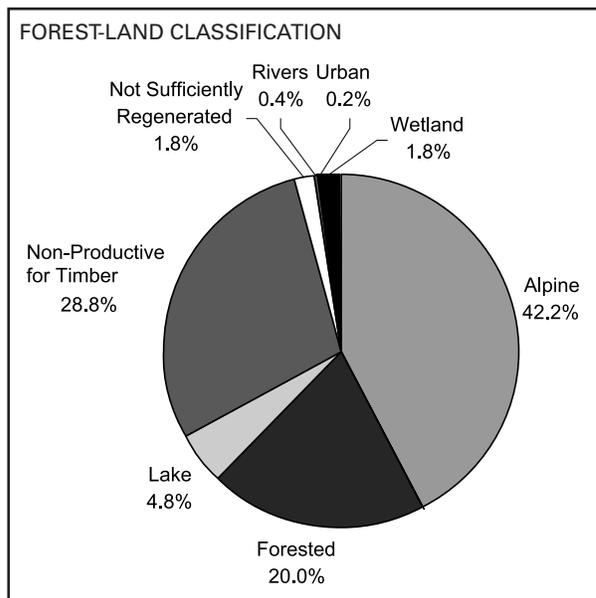
Average annual precipitation in Haines Junction is 305 mm – about half of which falls as rain, the other half as snow. Strong winds are common in major valleys.

### 1.3.2.3 Forests

Climate, soil conditions and topographic relief are major constraints on forest growth and contribute to low forest productivity in the region. Forests are confined to valleys below 1,100 metres. Most of the tree species are common to other Yukon ecoregions.

The most common tree species are white spruce and aspen. White spruce occupy well drained sites throughout the region on both glacial and fluvial landforms. Trembling aspen is found in pure stands on well drained sites at moderate elevations and on south-facing slopes. Less common tree species include lodgepole pine, black spruce, alpine fir and balsam poplar (see Map 2 – centerfold page).

Prior to the bark beetle infestation in the region, the prominent forest stand heights ranged from 10 to 16 m with an average height of 12 m. Very few stands attained average heights greater than 20 m. Also, previous to the beetle infestation, less than 20% of the forest stands were classed as younger than 70 years, with the majority between 80 and 120 years of age.



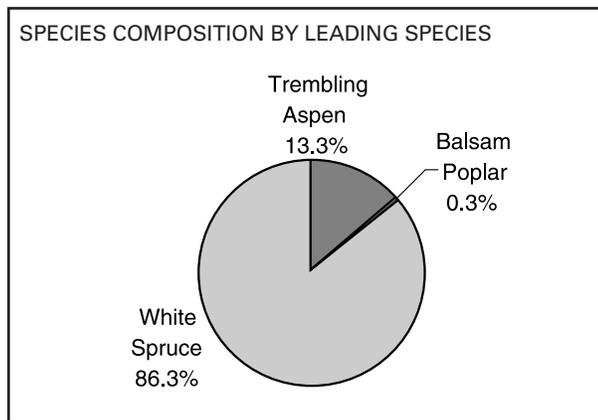
In recent years, bark beetle infestation has dramatically affected age class distribution and stand height, and, likely, species composition over a large area of the planning region. The forest today - where it has been affected - is an overstory of dead, white spruce overtopping a variety of regenerating plant species.

In general the productivity of the CATT FMP region forest is poor, with over 80% of the forest classified as poor. Forest growth is expected to attain heights of 10 to 14 m at 100 years of age.

**Species Composition**

(excluding Kluane National Park and Reserve of Canada)

Species	Area (ha)
White spruce	235,000
Trembling aspen	36,300
Balsam poplar	920
<b>Total</b>	<b>272,220</b>



**1.3.2.4 Natural Disturbances**

Natural disturbances are an inherent feature of functioning forest ecosystems. In the planning region, natural disturbance events have often been extreme and are a reminder that dramatic changes have occurred in the past and are occurring now. Volcanic activity, glacial flooding and surges, episodic wildfires and spruce bark beetle infestation feature prominently in the ecological history of the region.

**Glaciers**

In general, valley glaciers have been retreating and wasting at low elevations since the end of the little ice age (mid-1800s). The activity of surge-type glaciers

in the Kluane area continues to be marked and the subject of long-term studies. The Lowell Glacier today usually abuts the Alsek River, but periodically surges dramatically. In the past, it has completely blocked the Alsek River, creating a massive glacial lake. As recently as 1852, glacial Lake Alsek was 100 kilometres long and about 100 metres wide; a recurrence would place portions of the Alaska Highway and possibly the current town site of Haines Junction under water. The retreat of the Tweedsmuir Glacier could open the Alsek to both navigation and to the upstream migration of salmon. The Lowell Glacier has continued to surge about every 15 to 20 years. The glacier's last major advance was in 1997, when it almost choked Lowell Lake with ice. It retreated the next summer and surged again the following winter. The Steele Glacier last surged in the 1960s, advancing more than eight kilometres in two years.

**Volcanic Activity**

Geological studies have determined the nature of periglacial features, terrain structure, tectonic activity and rates of mountain uplift in the St. Elias Mountains. It is now recognized that volcanoes are distributed in well-defined areas that reflect tectonic plate movement. This is true of some volcanic activity in northern British Columbia, southern and southwestern Yukon and adjacent Alaska. The thin strip of white ash that is common near the top of road-cuts and riverbanks in the region resulted from the volcanic explosions of Mt. Churchill in the St. Elias Range near the Yukon-Alaska border. Mt. Churchill first exploded about 1,900 years ago, followed by a second much larger explosion about 1,200 years ago. These two events produced more ash than any other eruptions of their type in North America during the last 2,000 years. In total, the White River ash covers about 540,000 square kilometres of land in Alaska and northern Canada.

**Spruce Bark Beetle**

Spruce bark beetles are endemic to the boreal forest and also occur in montane spruce forests of the Rocky Mountains and up through British Columbia, the Yukon and Alaska.

Two major spruce bark beetle infestations have been detected in the region, both in the 20th century (Berg and Henry 2003). Between 1934 and 1942, spruce bark beetles infested the area south of Mush and Bates lakes, the Klukshu River, the east valley of the

Tatshenshini River, as far north and east as the village of Champagne, and south into British Columbia. No mitigation measures or salvage logging occurred, and many dead trees in the area remain standing.

The western portion of the region, including Kluane National Park and the Kluane Wildlife Sanctuary, is currently experiencing an extreme outbreak of spruce bark beetles (see Map 3). This outbreak represents one of the most expansive and severe spruce bark beetle infestations in North America over the last decades.

Since 1992, beetles have been epidemic in the region, and there has been a dramatic increase in the number of spruce bark beetles attacking white spruce in a large area that extends from Mush and Bates lakes north to Christmas and Cultus creeks at Kluane Lake and east to the Moraine and Hutchi lakes. The total area affected in British Columbia and the Yukon through 2003, based on the forest health survey conducted by the Canadian Forest Service and the Yukon Forest Management Branch, was approximately 300,000 hectares. Most of this was in the planning region.

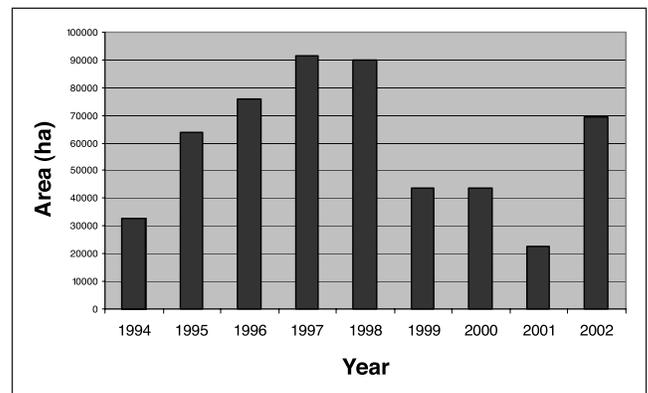


Severe outbreaks and increases in forest mortality are driven by several general conditions:

- Favorable forest conditions – A quantity of older, easily stressed, even-aged white spruce forest distributed in contiguous patches.
- Favorable climatic conditions – Increasing average temperatures year-round and less annual precipitation.
- Critical mass of beetle population – A beetle population that has become high enough to allow exponential population growth. A critical mass is often created by large patches of blowdown or stressed trees.

In the area, dry summers may have contributed to the moisture “stressing” of older and weaker trees. Many of the spruce stands are over 100 years old. Beetle populations are usually controlled naturally by cold winters. However, recent mild winters in the Kluane area may have contributed to an increase in the beetle population. This combination of conditions may also have contributed to the extreme natural disturbance occurring in the western portion of the region’s white spruce forest. If the region’s climate continues to become warmer and drier, this combination of increasing moisture stress and increased beetle populations could lead to “... increased attack and mortality of smaller size classes of trees ...” (Berg and Henry 2003).

The annual rate of new infestation is dynamic. Survey data indicates significant and increasing beetle activity in the mid-1990s, followed by a three-year low and then a dramatic resurgence in 2002.



*This figure illustrates annual levels of new beetle infestation. The data are not indicative of a cumulative impact over time, as much of the area infested could be the result of in-filling on previously attacked stands.*

#### **Other Forest Insects and Disease**

There are numerous forest insects and disease common within the CATT planning region. The Yukon Forest Health Report, 2003 describes some of those which have been reported or occur in the region.

#### **Root Disease**

A common forest disease found within the CATT FMP region is root disease. Root disease is commonly associated with individually wind fallen trees, however the role root disease plays in predisposition of trees to bark beetle attack is not clearly understood.

In recent years one of the Canadian Forest Service objectives has been to study the relationship between root disease and spruce bark beetle. Root disease is difficult to identify and by the time symptoms (wilts and diebacks) appear most or all the root system may be destroyed. The dead roots then provide a pathway for wood destroying fungi (which could not penetrate live roots) into the butt or heartwood of the tree causing decay and predisposing the tree to windthrow.

### **Two-Cycle Spruce Budworm**

In July 2002 a significant number of budworm moths were seen in the Kaskawulsh River Valley, and farther north at Congdon Creek on the west side of Kluane Lake. This budworm takes two years per adult cycle, which differs from the Eastern spruce budworm, which takes only one. Only scattered low instances of bud damage were seen along the Alaska Highway between Kluane Lake and Haines Junction, however from Kluane Lake north to Pine Valley 60 to 80% of buds were damaged.

### **Bruce Spanworm**

Severe defoliation in the alpine willows south of Dezadeash Lake was first reported in 2002. The Bruce spanworm is a common defoliator of willow and aspen in the north. The area of forest damage mapped by air last year was 4,390 ha. The main body of the infestation has moved south into British Columbia. Although feeding resulted in complete stripping of the willow thickets, less than 10% mortality was observed. The willows will quickly regain their vigor following the collapse of the population – an event that may have already occurred.

### **Wildfire**

For at least the last 50 years, the western portion of the region has been less affected by fire than the central and southern Yukon (see Map 4). Between 1946 and 2003, 23 larger fires and numerous smaller fires burned an area of 100,100 hectares in the planning region, excluding KNPR. There are some areas that have never burned. In comparison to the central Yukon, where the fire cycle ranges from 150 to 200 years, a fire cycle of more than 1,000 years is calculated in localized areas in KNPR. For most of the planning region fire cycles are debatable and a true cycle is difficult to quantify with existing data. Historically, the year-to-year probability of wildfire has been low. However, considering the beetle outbreak, a recent warm weather trend and increased

human-caused fire events, a major fire certainly could occur in the area. Unless mitigation measures are increased, the risk to community infrastructure and property will remain high.

Fire climate has been rated as moderate in the vicinity of Haines Junction. A low incidence of lightning strikes contributes to a moderate risk of wildfire ignition from outside the community. The areas near the St. Elias Mountains fall into a lightning and rain shadow; the incidence of lightning strikes increases to the east of the region. However, over the last decade, this fire climate rating has been offset by increased fuel hazard that can be attributed to a change in the structure of the forest (from a healthy, live, mature, white spruce forest) associated with extensive spruce beetle infestation in the area. The prevalence of wind in the area in combination with high fuel ratings and dry soils contributes to a higher proportion of extreme potential fire days.

Most wildfires are caused by humans. The effects of two significant human-caused wildfires in 1998 (7,000 hectares) combined with the expanding spruce bark beetle attack in the region have made fire risk to the communities a widespread concern. In the spring of 2000, the ARRC and the Village of Haines Junction identified three areas to be planned for fuel abatement and fire-hazard reduction to the north and south of the town site. Planning has been carried out in two of them, and a number of stands dominated by conifers and prone to crown fires were targeted for green tree and salvage logging. To date, forest harvesting has occurred in the MacIntosh area (operating units 1 and 2) as a result of these plans.

### **1.3.2.5 Fish and Wildlife**

The diversity of the physical environments in the region and the numerous water bodies and rivers account for the variety of fish and wildlife populations. The diversity here is the greatest in the Yukon. Fourteen species of large mammals, including ungulates and carnivores, inhabit the region. This represents the highest diversity in the world north of the 60th parallel. At least 20 species of small mammals occur, several at either the northern or southern limit of their distribution.

Moose, caribou and sheep are the most common ungulates. Local knowledge suggests an expanding deer population. The region has a wide range of

boreal forest carnivores including wolf, coyote, red fox, wolverine, lynx and grizzly and black bears.

Elk and bison are both re-introduced species. Elk are mainly located in two areas: the Takhini River valley and the Hutchi Lake-Nordenskiold River valley. They are also frequently seen in the vicinity of Stony Creek and Mendenhall, Taye and Hutchi lakes. The Aishihik bison herd ranges over a much broader area of about 1,000 square kilometres around Aishihik Lake. They are found regularly in areas from Gladstone lakes east through to the Nisling valley and throughout the Taye, Hutchi and Nordenskiold valleys. Sporadically they are seen south of the Alaska Highway between Mendenhall, Champagne and Marshall creeks.

Some 118 species of birds nest in the region, including uncommon or rare species, here or in Canada, such as peregrine falcons, gyrfalcons, bald and golden eagles, trumpeter swans and great grey owls. The region is on a major migration route; winds funneling down the Shakwak Trench may contribute to its use as a significant bird migration corridor. Thousands of migrating ducks, geese and swans use the region's wetlands. In summer, waterfowl are dispersed widely throughout the region, but in low numbers.

Lakes and rivers in the region provide habitat for a diversity of fish populations. Typically, the fish in these lakes grow slowly and are sensitive to changes in water temperatures, oxygen levels and nutrient status. Freshwater fish found in lakes and rivers in the region include northern pike, whitefish, rainbow trout, arctic grayling, lake trout, burbot, inconnu and others. Anadromous fish (which spend part of their life cycle in saltwater) found in the region include chinook, sockeye, coho and chum salmon. The Alsek and Yukon river systems contain both freshwater and anadromous fish.

### 1.3.3 The People

There are about 1,200 people in the region. Most live in Haines Junction (pop. 850), which is located at the intersection of the Alaska Highway and the Haines Road, just outside of Kluane National Park.

The Champagne and Aishihik First Nations were named from the people who first settled in the area at two of its historic settlements: Champagne, located on the Dezadeash River; and Aishihik, situated at the headwaters of the Alsek River drainage. Formerly, this

Southern Tutchone population was located throughout the region in other villages including Kloo Lake, Klukshu, Canyon, Shāwshe and Hutchi.

Traditional land use followed a north-to-west pattern, linking the Yukon interior with the coast. Only since the construction of highways in the Takhini and Dezadeash valleys and Shakwak Trench have regional movements been transformed to an east-west orientation.

The extensive trail network throughout the region reflects the extent to which people traveled, ranging over wide areas and utilizing river valleys. The close relationship the Champagne and Aishihik people with the land developed a strong cultural tradition of respect for animals and the environment. Land information was shared orally and was conveyed through myths, place names and mind maps. Strong navigational skills and knowledge of the habits and habitats of animals were taught and learned over generations.

Today the CAFN has more than 1,100 members, many of whom live in Whitehorse. Within the region, CAFN members live in the communities of Haines Junction, Champagne, Klukshu, Canyon, Mendenhall, Takhini and Aishihik Village.

The CAFN signed its final land claim agreement and its self-government agreement in 1995. As part of the land claim settlement, the CAFN retained ownership to approximately 2,400 square kilometres of land. The CAFN people retain strong traditional ties to their lands and resources, while actively pursuing economic opportunities in many sectors of the local and Yukon economies.

The region is also home to many other Yukoners of diverse ancestries who live in Haines Junction and the smaller communities of Mendenhall and Silver City. The Klondike Gold Rush and World War II construction of the Alaska Highway and Haines-Alaska pipeline brought many people into the area. Today, people from other parts of the Yukon, Canada and the world continue to settle and work in the region, attracted by its outstanding beauty, recreational opportunities and natural resources.

### 1.3.4 The Economy

Historically, the economy of the region has been resource-based.

The CAFN people for generations have hunted, trapped, fished and guided in the area. A rich and diverse traditional economy has sustained the people for generations and endures today on the basis of strong and deep-seated cultural and spiritual connections to the land and wildlife. CAFN people continue to participate actively in their traditional economy and rely on traditional land use in order to meet a significant portion of their domestic needs.

Hunting, trapping and fishing by other Yukoners have a long history as well and they retain a strong desire to continue these pursuits. Outfitting and trapping concessions in the region retain a high level of interest, importance and activity.

The Klondike Gold Rush brought a wave of settlers into the region. Today, many people have a long history with mining and the significant contribution it has made to the economy of the region. While the level of mining activity today has diminished greatly, interest in mineral exploration continues.

Wilderness-based tourism is emerging as a significant economic sector in the regional economy, and many local people place a high value on the potential benefits it may contribute. It is gradually evolving from a seasonal to a year-round industry, and from a “gateway” to Alaska to a destination in its own right.

An emerging interest in agriculture in the region has contributed to the development of some lands for farming and ranching and the development of land use guidelines for future land management and planning.

Commercial forest operations have a long history in the region and have provided building materials for road construction, settlement and mining operations, as well as fuelwood. Over this time, a number of small milling operations have met this need.

Government services provide major economic benefits to the region. The CAFN, the Village of Haines Junction, Parks Canada Agency and the Yukon Government together provide significant employment opportunities to local people. Small service businesses also provide seasonal and year-round employment and are important local engines of future economic growth.

There is optimism about the economic potential of forest resource development in the region. In the last decade, the incidence of a short-term spike in lumber prices and the onslaught of spruce bark beetle infestations have sparked a growing interest in the potential for an increased level of locally driven development in the forest sector. However, the absence of forest management plans, long-term forest tenures, secure timber supplies, market certainty and a public consensus about the desired scale, pace and place of commercial forest operations, have been major constraints on industry development and have raised serious public issues about the future of the sector.

<b>TIMBER HARVEST VOLUMES FOR KLUANE FOREST DISTRICT (Y06): 1998-2003 (CUBIC METRES OF ROUNDWOOD)</b>						
	Dry/ Beetle Kill Permitted	Dry/ Beetle Kill Harvested	Salvage Permitted	Salvage Harvested	Total R/W Permitted	Total R/W Harvested
1998	0	0	182	182	182	182
1999	12,125	1,137	1,000	1,000	13,325	2,325
2000	0	0	0	0	0	0
2001	17,135	5,320	0	0	18,135	5,631
2002	10,500	6,246	0	0	10,500	6,246
2003	17,644	3,682	0	0	18,104	3,782

The potential construction of an Alaska Highway Pipeline through the planning region could also affect forest harvesting opportunities in the area of a right-of-way. A right-of-way likely would traverse some of the most productive forest areas of the region and require harvesting of large volumes of trees. This represents a significant potential short-term economic benefit for the region.

### 1.3.5 Special Places

The region has a large proportion of protected and special management areas and heritage sites. Some of these have been formally recognized in legislation. Others have been formally proposed for protection. Still others may be conserved through well-considered land use and resource use planning (see Appendix 2D for additional information).

#### **Kluane National Park and Reserve of Canada**

Kluane National Park and Reserve is an area south and east of the Slims River, which flows into the south end of Kluane Lake. The park is included in the planning region, and the 1995 CAFN Final Agreement added 5,900 square kilometres, or about one third, of the adjacent Kluane National Park Reserve to the park.

Kluane National Park is managed by Parks Canada Agency in cooperation with the CAFN. The Kluane Park Management Board is a public board established under the CAFN Final Agreement to provide advice to Parks Canada Agency and the CAFN on the management of the park. The park is currently operated under a management plan approved by the Minister responsible for Parks Canada.

TYPE OF AREA	PROTECTED AREA	STATUS	AREA (HA)
National park, and CAFN Final Agreement special management area	Kluane National Park and Reserve	Established	595,200
Territorial park	Kusawa Park	Proposed	N/A
Provincial park (B.C.)	Tatshenshini-Elsek	Established	Outside planning area
Heritage river	Elsek Tatshenshini	Established Established	N/A N/A
Wildlife sanctuary	Kluane	Established	116,400
Historic site per CAFN Final Agreement	Shäwshe (Dalton Post)	Established	50 (inside national park)
Special forest reserve	Marshall Creek	Established	3,970

## 2. FOREST PLANNING PROCESS

The fundamental requirements for forest management planning in the CATT are established in the CAFN Final Agreement, notably in sections 17.5 through 17.8.

A letter of understanding (LOU) signed in 1998 between Indian and Northern Affairs Canada (INAC), the Yukon Government, the CAFN and the Alsek Renewable Resource Council commits the parties to work together in the development of forest management plans for public and settlement lands in the Champagne and Aishihik Traditional Territory. The LOU provides a unique foundation for a harmonized approach to forest management in the region.

### 2.1 LEGISLATIVE CONTEXT

The CAFN Final Agreement, in addition to establishing the basis for forest management planning in the CATT, establishes the rights and lands that CAFN citizens retain throughout the traditional territory.

The authority and responsibility for forest planning and management, including the approval of forest management plans, effective April 1, 2003, in the CATT rests with First Nation (pursuant to Section 17.5.2 of the CAFN Final Agreement) on settlement land, the Forest Management Branch of the Yukon Government on crown/commissioners land (pursuant to Section 17.5.1 of the CAFN Final Agreement, the Devolution Transfer Agreement and the *Territorial Lands (Yukon) Act*) and, in Kluane National Park, Parks Canada Agency (pursuant to Section 17.5.1 of the CAFN Final Agreement and the *Canada National Parks Act* and Regulations).

The role of the Alsek Renewable Resource Council in forest management planning process undertaken in CATT arises from the LOU (signed in 1998) and the subsequent Terms of Reference developed to deliver the forest planning discussed in the LOU.

Key legislation, regulations and policies affecting forest management and planning in the CATT include:

- *(Yukon) Lands Act*
- *Territorial Lands Act*
- Land Use Regulations
- Yukon Timber Regulation
- Forest Protection Regulation (2003)
- *Fisheries Act*
- *Canadian Environmental Assessment Act*
- *Yukon Environmental and Socio-Economic Assessment Act*
- *Yukon Wildlife Act* and Regulations
- *Parks and Land Certainty Act*
- *National Parks of Canada Act* and Regulations
- *CAFN Lands Act*
- *CAFN Fish and Wildlife Act*
- *CAFN Traditional Activities Protection Act*
- (INAC) Timber Harvest Planning and Operating Guidebook (1999)

In the spring of 2003, the Yukon Government began the preparation of a forest policy framework to guide the development of Yukon's first comprehensive forest legislation.

In the region, several other forestry-specific planning reports have been prepared in advance of strategic forest management planning. They include:

- Strategic Baseline Assessment: Bear Creek Salvage Area, kilometres 1650. October 1996.
- Strategic Baseline Harvest: Marshall Creek. October 1996.
- Strategic Baseline Assessment: Bear Creek Salvage Area. October 1996.
- Haines Junction Spruce Bark Beetle Technical Committee: Spruce Bark Beetle Severe Infestation Area Management Options. 1997.
- Fuels Classification and Fire Climatology for Whitehorse, Watson Lake and Haines Junction. 1998.

- Resource Report: Salvage Harvest in the 1998 Marshall Creek Fire. December 1998.
- Preliminary Timber Supply Analysis for the Southern Yukon. 1998.
- Yukon Community Wildfire Risk and Reduction Assessment: Final Report. 2000.
- Haines Junction Planning Area 1: Forest Development Plan. August 2001.
- Haines Junction Planning Area 2: Final Resource Report – Hazard Reduction and Timber Salvage FMP in the Vicinity of Haines Junction. July 2001.
- Kluane National Park and Reserve / Community of Haines Junction Preliminary Fire Risk Assessment. May 2002.



## 2.2 PLANNING FRAMEWORK

Setting up sustainable forest management in the CATT will not be accomplished overnight or in one stroke. It will require several distinct planning stages that gradually “narrow” the decisions and direction from the general goals through basic landscape level arrangements down to specific harvest block location and design.

The Strategic Forest Management Plan is a first and important step that sets out what issues and concerns, values and interests must be addressed as forest planning moves forward through subsequent stages to more integrated and detailed planning for forest resource development in the CATT. It represents a set of directions, based on a general consensus, between governments (Canada, Yukon and CAFN) and people within the CATT. That in turn will guide forest planners and managers about how they should approach future resource development and then planning for it. It establishes the public benchmarks against which forest planning and management in the CATT should be evaluated in the years to come.

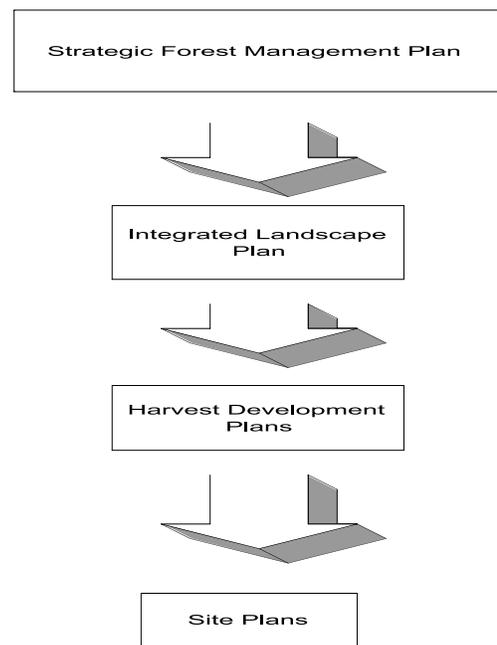
The next closely linked stages following the Strategic Forest Management Plan are:

**Stage 2 – Integrated Landscape Planning** that will include the identification of broad areas available or not for forest development, and strategies for reducing or eliminating significant negative effects on other resources and values.

**Stage 3 – Harvest Development Planning** that design the general harvest activities consistent with the outcome of landscape planning (e.g. main road location, harvest block location).

**Stage 4 – Site Planning** that field check and engineer harvest block boundaries, landings, volumes and exact road locations consistent with the higher level plans.

These are shown in sequence in the diagram below and described in detail in the tables that follow.



**FOREST MANAGEMENT PLANNING STAGES**

STAGE OF PLANNING	CONTENTS	PREPARED BY
<p><b>1. STRATEGIC FOREST MANAGEMENT PLANNING:</b> Regional Application</p>	<ul style="list-style-type: none"> <li>• Statement of social, economic, environmental and cultural community values and related strategic directions.</li> <li>• General principles, goals and objectives for forest management in the CATT planning region and strategic directions.</li> <li>• Delineates 18 landscape areas (or planning areas) in the planning region.</li> <li>• Incorporates strategic directions from the Kluane Land Use Plan and Yukon Forest Strategy.</li> <li>• Incorporates strategic directions from other plans affecting forest resources (e.g. wildlife management plans, Kluane Park Management Plan, etc.).</li> <li>• Application of 20 years; planning horizon of two forest rotations.</li> </ul>	<p>ARRC and forest management planning team in consultation with government agencies, the community and other affected public interests. Recommended by ARRC to CAFN, Yukon, Parks Canada Agency</p>
<p><b>2. INTEGRATED LANDSCAPE PLANNING:</b> Watershed/Planning Unit Application</p>	<ul style="list-style-type: none"> <li>• Comparative evaluations of resource and resource use assessments (e.g. fish and wildlife habitat, wildlife movement corridors, traditional camps, trapping, outfitting, agricultural, recreational and timber harvest areas, etc.).</li> <li>• Detailed technical analysis of the resources and resource values within the CATT planning region.</li> <li>• Incorporation of other land and resource plans and guidelines (e.g. wildlife, habitat, special areas, agriculture, etc.).</li> <li>• Identification of “go”, “no go” and “go-light” zones for timber harvesting (harvest planning areas).</li> <li>• Consistent with CA Strategic Forest Management Plan.</li> <li>• Application of 5-20 years.</li> </ul>	<p>CAFN, territorial and federal government resource managers, technicians and planners and contracted technical assistance. Consultation with ARRC, stakeholder groups and general public. Reviewed and recommended by ARRC to CAFN and Yukon.</p>

FOREST MANAGEMENT PLANNING STAGES, continued

STAGE OF PLANNING	CONTENTS	PREPARED BY
<p><b>3. HARVEST DEVELOPMENT PLANNING:</b> Sub-watershed/ Core-Zone Application</p>	<ul style="list-style-type: none"> <li>• Forest engineering to identify main access location and general harvest design.</li> <li>• Mitigation within identified timber harvest areas consistent with criteria and principles of landscape and strategic planning.</li> <li>• Location of proposed cut blocks with a harvest schedule and volumes.</li> <li>• Location and class of roads with stream crossings</li> <li>• Strategies to address engineering development, riparian areas, wildlife areas, viewscales, silviculture and protection issues and areas.</li> <li>• Strategies to address cultural values, traditional users, trappers, outfitters and other resources users.</li> <li>• Review and reporting criteria.</li> <li>• Previous harvesting history.</li> <li>• Consistent with CA Strategic Forest Management Plan and CATT Integrated Landscape Plan.</li> <li>• Application of approximately 5 years.</li> </ul>	<p>Depending on the size and form of the permit or tenure: responsible federal, territorial and CAFN agencies and/or permit or tenure holder in consultation with other forest users.</p> <p>Plan review by public and ARRC and recommendations by ARRC.</p> <p>Plan monitoring and review by CAFN and territorial forest managers and reporting to ARRC.</p>
<p><b>4. SITE PLANNING:</b> Harvest Area Application</p>	<ul style="list-style-type: none"> <li>• Identifies specific proposed harvesting and operational design and activities for the coming year (e.g. exact road/landing/harvest area location, refined volume estimates, equipment, stream crossing methods).</li> <li>• Description of project activities must be consistent with harvest development plan.</li> <li>• Plan is used by regulators to set terms and conditions of individual permits and for compliance and enforcement purposes.</li> <li>• Prepared and applied annually.</li> </ul>	<p>Operator or client in consultation with territorial and CAFN forest managers and regulators.</p> <p>Plan monitoring and review by CAFN and Yukon forest managers.</p>

## 2.3 PLANNING PROCESS

### 2.3.1 Chronology of Key Steps

- |  |   |
|--|---|
| <p>1992 Completion of Greater Kluane Land Use Plan.</p>  | <p>Completion of Haines Junction Planning Area 1 – Forest Development Plan by INAC Forest Resources.</p>  |
| <p>1996 Completion of strategic baseline assessment for Bear Creek Salvage Area by INAC Forest Resources.</p>  | <p>Completion of Haines Junction Planning Area 2 – Final Resource Report – Hazard Reduction and Timber Salvage FMP in the Vicinity of Haines Junction by INAC Forest Resources.</p>   |
| <p>1998 Letter of understanding signed between Canada, Yukon, CAFN and ARRC to work together on the development of forest management plans for the Champagne and Aishihik Traditional Territory.</p> <p>Completion of (preliminary) resource report for salvage harvest in the 1998 Marshall Creek fire by INAC Forest Resources.</p> <p>The ARRC hosts workshop on Marshall Creek proposed harvest and forwards recommendations to government.</p> <p>Completion of report on spruce bark beetle severe infestation area management options by Spruce Bark Beetle Technical Committee.</p> <p>Completion of preliminary timber supply analysis for the Southern Yukon by INAC Forest Resources.</p> | <p>2002 Development of CATT Strategic Forest Management Plan.</p> <p>Identify contents of the plan.</p> <p>Identify key issues associated with each of the 18 planning units.</p> <p>Identify draft goals and principles.</p> <p>Public comment on key issues for each of 18 planning units and on draft goals and principles.</p> <p>Public comment on draft principles, goals and objectives.</p> <p>Development of draft Strategic Forest Management Plan.</p> |
| <p>2000 Terms of reference for CATT forest management planning team completed.</p> <p>Forest planning region subdivided into 18 planning areas.</p> <p>Agreement by Core Group to revise planning process and to shift forest planning to Core Group with the ARRC performing a facilitating role.</p> <p>Completion of Yukon community wildfire risk and reduction assessment by INAC Forest Resources.</p>   | <p>2003 Continued development of draft Strategic Forest Management Plan.</p> <p>Core Group review of draft plan.</p> <p>Planning team review of draft plan.</p> <p>Public review of draft plan.</p>   |
| <p>2001 Agreement by INAC, Yukon, CAFN and ARRC to focus forest management planning on a staged approach with immediate attention to strategic forest management planning.</p>   | <p>2004 Completion of Public Review and Recommendations to Governments</p> <p>Public presentations on Draft Strategic Forest Management Plan</p> <p>Review of Public Comments</p> <p>Revision of draft plan.</p> <p>Recommendation of final plan by ARRC to CAFN and Yukon governments.</p>   |

## 2.3.2 Participation in Strategic Forest Management Planning

### Approval Bodies

The approval bodies for the Strategic Forest Management Plan are the Yukon Government and the Champagne and Aishihik First Nations. They make final decisions to approve and implement the plan that is recommended by the ARRC.

### Core Group

The Core Group consists of the representatives of the ARRC, Yukon's Department of Environment, and the approval bodies: the CAFN and the Yukon Forest Management Branch (former INAC Forest Resources Branch prior to devolution). These representatives coordinate their respective agency's participation in the development of the plan. The ARRC performed the lead coordinating role in the development of the plan.

### Planning Team

Membership of the planning team consists of the Core Group plus Parks Canada Agency, the Village of Haines Junction and stakeholder representatives of different community interests. The planning team has provided advice to the Core Group in the development of the plan.

### Community Participation

The ARRC has facilitated public participation in the planning process by sponsoring open houses and information meetings, developing information materials, doing community surveys and making formal opportunities for public consultation on forest management planning and the plan.



### 3. STRATEGIC DIRECTIONS FOR FOREST MANAGEMENT PLANNING

In the last decade, a number of management plans and policies have been developed related to wildlife, land and resources management, park management and economic development. These will all affect forest management planning in the region. Many of these have strategic goals and recommendations that should inform the development of forest management plans and provide direction to them. Some of these are specific and explicit, others are implied.

The strategic considerations and directions for forest management in the region that are outlined in this section are selectively derived from these plans and policies. They answer the question “what does this plan or policy mean for forest management planning?”

#### 3.1 GREATER KLUANE LAND USE PLAN

The Greater Kluane Land Use Plan (GKLUP) represents the only regional plan of its type that has been developed so far in the Yukon. It was recommended to Canada and Yukon for adoption in 1992. Only the CAFN has formally endorsed the plan, although the federal and territorial governments have consulted it for land management and development in the region. As a regional land use plan, its formal role is to provide strategic direction to resource management plans in specific sectors, such as forestry.

Over a decade has passed since the completion of the GKLUP. As a result, a number of its sector specific recommendations are not adequate to address some of the land and resource issues facing the region. For instance, new land use guidelines have been developed to help manage rural residential and agricultural development. In this same vein, the forest recommendations of the plan are no longer sufficient to address forest management issues. The strategic directions provided by the CATT Strategic Forest Management Plan should meet the management needs and address the management issues of the region’s forests.

#### Strategic Considerations

The CATT Strategic Forest Management Plan should be consistent with the general values and goals of the GKLUP listed below:

#### General goals (1992):

- 1 Commitment to balanced and sustainable development.
- 2 Recognition of Yukon First Nations’ values and perceptions toward land use and resource development.
- 3 Promotion and protection of heritage resources.
- 4 Promotion of employment opportunities for residents of the region.
- 5 Enhancement of quality of life.

#### Principles (1992):

- 1 The plan and subsequent resource management decisions must provide for cultural, economic and social development based on both renewable and non-renewable resources; future resource developments must be shown to be economically feasible, environmentally sound and socially acceptable.
- 2 Resource management decisions must reflect the importance of traditional First Nation land use.
- 3 Areas of outstanding ecological, biological, cultural and physical significance must be fully recognized and given appropriate protection.
- 4 Local people should receive, to the fullest extent possible, the most direct economic and social benefits from resource use in the Greater Kluane Region.
- 5 Local and traditional resource users must have the opportunity to participate fully in resource management and policy decisions that affect the region.

### **Forest Sector Conditions:**

Many forest sector conditions and forest management circumstances have changed in the 10 years since forest recommendations were developed by the GKLUP Commission (see Appendix 2E for GKLUP's forestry recommendations). These changes include:

- Ratifying and legislating the CAFN Final Agreement and Self-Government Agreement.
- Creating the ARRC.
- Establishing cooperative arrangements for forest management planning in the region among Canada, Yukon, CAFN and ARRC.
- Devolution of forest management responsibilities from Canada to Yukon.
- Rapid expansion of the spruce bark beetle infestation and the major significance of its continuing long-term effect on the region's forests, including a decrease in merchantable timber.
- Increased concern about beetle infestation and public uncertainty about related forest management options.
- Several significant wild fires in the region.
- Increased concern about fire risk and public uncertainty about related forest management options and abatement strategies.
- A decrease in the harvest ceiling from 20,000 cubic metres of greenwood to a preliminary estimated harvest ceiling of only 1,500 cubic metres.
- Increased local interest in optimizing community benefits from forest management.
- Increased forest management capacity in the federal and territorial governments.
- Development of forest management strategies (Yukon Forest Strategy), planning processes and policies.

### **Strategic Directions**

- Consistent with the general goals and principles of the GKLUP, the principles, goals, objectives and directions of the CATT Strategic Forest Management Plan shall provide the basic guidelines for forest management and forest resources development in the region.

## **3.2 KLUANE NATIONAL PARK AND RESERVE OF CANADA MANAGEMENT PLAN**

Kluane National Park is part of the world's largest internationally recognized protected area. The current Kluane National Park and Reserve of Canada Management Plan is a plan that has been approved by the minister responsible for Parks Canada on the recommendation of the Parks Canada Agency, CAFN and the Kluane Park Management Board.

The park management plan recognizes that the park is inseparable from the land that surrounds it. It shares a part of the region's ecosystems. Wildlife migration patterns, wildfire and beetle infestations do not stop at the park's boundary. Human activities outside of the park – such as forestry and rural development – may have effects and are potential “stressors” on the park. Conversely, park management may affect forest management, especially wildfire and beetle management, outside of the park. The park plan identifies ecosystem-based management as key to park management and the maintenance of ecological integrity. It establishes several important strategic goals that are particularly relevant to regional forest management planning.

### **Strategic Considerations**

Selected goals from the park management plan that are relevant to forest management:

- Integrated planning and management in the greater Kluane ecosystem leads to enhanced ecological integrity.
- Integrated ecological monitoring programs for the collection, storage, analysis and interpretation of data leads to enhanced ecological integrity in the greater Kluane ecosystem.

### **Strategic Directions**

- Management planning and management shall be ecosystem-based and consider trans-boundary effects.
- Planning and management shall build relationships and share information among governments, agencies, interest groups and individuals in the regional ecosystem.

### 3.3 VILLAGE OF HAINES JUNCTION OFFICIAL COMMUNITY PLAN

#### Strategic Considerations

Selected goals, objectives and policies from the community plan (1995) that are relevant to forest management:

- The Village of Haines Junction will promote Haines Junction as an attractive, affordable and economically viable community with resources and infrastructure to sustain growth and development.
- To ensure that the community maintains a social, environmental and economic balance.
- To vigorously promote and develop Haines Junction and Kluane Country as a tourist destination.
- To develop and promote tourism as the major economic opportunity for the area, placing particular emphasis on encouraging winter tourism activities to create year-round employment in the municipality.
- To continue to maintain a high level of environmental quality in and adjacent to the village will ensure that future developments are planned in a manner such that they have minimal negative environmental impacts in or on adjacent lands.

#### Strategic Directions

- Achieve a balanced approach to forest management consistent with community social, economic and environmental values.
- Forest management strategies shall be guided by the imperative of maintaining a high-quality environment and development strategies that provide benefits to local people.
- Forest management planning shall consider the high priority that is attached to year-round sustainable tourism development in the region.

### 3.4 CAFN ECONOMIC DEVELOPMENT GOALS

#### Strategic Considerations

- The CAFN people and government shall promote a healthy, unified and self-reliant people, while conserving and enhancing the environment and culture.
- Economic development must be based on the principles of sustainability:
- Development that results in beneficial social and economic change that does not damage the environment, culture and social life upon which the CAFN people and communities are dependent.
- Development that meets the needs of the CAFN people today without undermining the ability of future generations to meet their needs.
- Development that respects a balance of modern and traditional ways.
- Development that balances and integrates economic benefits with the meeting of social needs.
- Development that empowers the CAFN people and communities to become more self-reliant.
- Economic development goals (2001) include:
- Build the capacity of CAFN citizens and businesses.
- Increase the participation of CAFN citizens in all aspects of the economy.
- Create economic wealth for the CAFN that will improve the quality of life for all CAFN citizens.

#### Strategic Directions

- Forest management planning shall incorporate the principle of sustainability and the imperative of balancing traditional use and forest development activities.
- Forest management planning shall consider approaches to forest planning, management and development that contribute to the self-reliance of CAFN communities and people.
- Forest development shall contribute to the employment, capacity building and quality of life of CAFN people.

### 3.5 CAFN TRADITIONAL ACTIVITIES PROTECTION ACT AND CAFN FISH AND WILDLIFE ACT

#### Strategic Considerations

As a self-governing First Nation, the CAFN has passed legislation (1998) that should be considered by forest managers who may be unfamiliar with the legislation.

#### Strategic Directions

- Forest management planning shall be based on an integrated approach to forest resource uses and development.
- Forest management and planning shall pursue strategies to enhance the traditional use economy in the CATT.
- Forest management planning shall consider the application of First Nations' traditional laws and customs.
- Forest management planning shall include measures to build the capacity of the CAFN government in forest management.

### 3.6 KLUANE REGION TOURISM PLAN

#### Strategic Considerations

Selected plan goals (2000) that are relevant to forest management:

- Promote Kluane as a year-round destination wilderness experience.
- Enhance visitor use of the area.
- Increase local benefits from tourism by 1998 ensuring the benefits from tourism are reflected in the local economy.

#### Strategic Directions

- Forest management planning shall consider approaches and measures to enhance the development of the region's tourism industry and related local benefits.

### 3.7 ELSEK MOOSE MANAGEMENT PLAN

#### Strategic Considerations

Summary of selected concerns and actions (1997):

- Maintain monitoring programs for moose and wolf populations.
- Identify, map and monitor key moose habitat.
- Use land and resource use planning and the creation of special management areas to protect key moose habitat, include corridors.

#### Strategic Directions

- Integrate moose management planning and strategies in forest management plans and strategies.

### 3.8 YUKON BISON MANAGEMENT PLAN

#### Strategic Considerations

Selected management objectives (1998):

- Develop habitat management strategies that will ensure the maintenance of wood bison range.
- Implement mitigative measures to reduce the impact of bison on other ecosystem components.

#### Strategic Directions

- Integrate bison habitat management strategies in forest management plans as required.
- Where appropriate, consider the forest ecosystem impacts of bison in forest ecosystem monitoring programs.



### 3.9 AISHIHIK INTEGRATED WILDLIFE MANAGEMENT PLAN

#### Strategic Considerations

Summary of selected principles, concerns and solutions (2000):

- Take an ecosystem-based management approach so that populations stay within ecosystem tolerances and at levels that provide reasonable harvest opportunities for all hunters.
- Focus on monitoring wildlife populations and their environment to address community concerns about potential declines in moose, caribou and sheep and grizzly bears.

#### Strategic Directions

- Forest management planning shall be ecosystem based.
- Forest management planning shall contribute to and include the results of integrated ecosystem monitoring programs that focus on key wildlife populations, including caribou, sheep, moose and grizzly bear.

### 3.10 KLUANE NATIONAL PARK AND RESERVE: GRIZZLY BEAR MANAGEMENT RECOMMENDATIONS

#### Strategic Considerations

- Review recommendations for maintaining grizzly bear populations in the greater Kluane ecosystem (the park and surrounding area) (2001).

#### Strategic Directions

- Integrate grizzly bear management strategies in forest management plans as appropriate.

### 3.11 SPECIES AT RISK

#### Strategic Considerations

Wildlife in the Champagne and Aishihik Forest Planning Region identified as species at risk in the Yukon or outside the Yukon.

SPECIES	STATUS	SOURCE
Wood bison (introduced)	Threatened	COSEWIC/ Yukon Wildlife Act
Peregrine falcon	Threatened (few in number)/Specially Protected	COSEWIC
Grizzly bear	Special Concern in Canada. Healthy population in FMP Region	COSEWIC
Wolverine	Special Concern. Healthy population in FMP Region	COSEWIC
Squanga whitefish	Special Concern	COSEWIC
Mule deer	Specially Protected	Yukon Wildlife Act
Elk (introduced)	Specially Protected	Yukon Wildlife Act
Cougar	Specially Protected (rare)	Yukon Wildlife Act
Trumpeter swan	Specially Protected	Yukon Wildlife Act

See Appendix 2H for more information on species at risk and the Committee for the Status of Endangered Wildlife in Canada (COSEWIC).

#### Strategic Directions

- Forest management planning shall take the special measures necessary to maintain or enhance identified species at risk.

## 4. PRINCIPLES FOR FOREST MANAGEMENT

This plan recognizes the goals and principles of the Yukon Forest Strategy and supports the vision that it offers as a guide to forest management:

Our vision is for a fully functioning forest ecosystem that benefits all living things, while providing environmental, economic, social and cultural benefits for present and future generations.

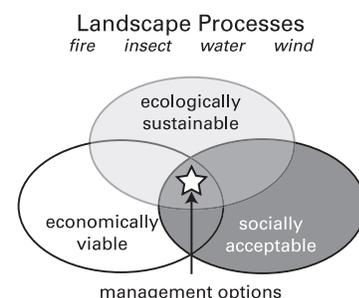
*Ecosystem refers to the web of life. It is a dynamic web of people, plants, animals and other organisms, together with the non-living elements of the environment, functioning as an interdependent system.*

Forest management and future forest planning in the Champagne and Aishihik Traditional Territory shall be ecosystem-based and take into account the following basic principles:

- Recognize the resiliency and restorative capacity of forest lands while maintaining or enhancing biological diversity and productivity and ecosystem integrity.
- Contribute to community economic stability through the development of a forest industry established on realistic conditions that clearly define the economic viability and local benefits of forestry operations.
- Recognize, respect and incorporate the legal rights of all forest users and the fish and wildlife harvesting rights established under the Champagne and Aishihik Final Agreement.
- Ensure compliance with national and international agreements affecting forest management and planning.
- Recognize in forest management plans and processes the spiritual, social, cultural and economic needs and customs of all users of the forest, both present and future generations, and the diversity of forest values that they hold.
- Ensure that forest management and planning is fully informed by and integrated with other resource and land use management and planning.

- Exercise risk management prior to making forest management decisions, where knowledge is uncertain, information is incomplete or deficient and the risks are unknown or not understood.
- Utilize the best available scientific, local and traditional knowledge and lessons from past practices both in the planning area and from comparable circumstances elsewhere.
- Ensure that local people are fully consulted and occupy a meaningful role in decisions affecting management and planning within the region, since potentially they will be most affected by the impacts and benefits associated with future forestry development.
- Provide a basis for educational and training opportunities for the general public, forest workers, forest-based businesses, planners and managers to improve their understanding of forest management issues and strategies and to build their capacity to better manage the impacts and benefits associated with forestry development.

*The Yukon Forest Strategy suggests three basic tests for forest management plans, if they are to succeed. It uses the example of a three-legged stool: if one leg is missing the stool falls over. The three tests illustrated below are: is the forest use ecologically sustainable? Are the range of forest uses and actions socially acceptable? Are the forest uses economically viable – can they be financially supported? If the answer to all three questions is “yes” – the possible forest management actions probably meet the test of sustainability.*



## 5. FOREST MANAGEMENT GOALS, OBJECTIVES AND INDICATORS

The goals in this plan address the fundamental areas critical to sustainable forest management in the CATT. There are only four, and their focus is clear:

- Functioning forest ecosystems
- Community sustainability and benefits
- Cooperative forest management
- Building local human capacity.

The order of the list is not meant to reflect their relative values. This plan accepts the broad range of values that have been expressed and attempts to balance the sometimes competing views of how the forest should be managed and used.

This challenge is not unique to this plan, and there is a desire within the region to use forest management activities to maintain or enhance, where possible, the value and benefits of forest resources and uses, such as watersheds and fisheries, wilderness tourism and small-scale commercial timber operations in which local people can participate. This plan, according to its principles and through each of the strategic goals and objectives, establishes a direction and conditions for regional forest management to meet these challenges.

### Local Indicators

Strategic level goals and objectives, because they are very broad, often fail to convey what they mean to a local community and how progress towards their achievement should be measured or tested. Community-based indicators, that is, indicators that are developed by local people, can often do this.

Indicators are “signs” or “markers” to determine whether progress is being made or not, how “healthy” things are. Indicators are another means of demonstrating what a community values and the “signs” it checks to determine the health of its economy, forests, wildlife, culture and so on.

Indicators when associated with forest management goals and objectives are used to answer the question, “Are our goals and objectives working?” They provide a practical means for testing progress towards forest management goals and objectives against specific local expectations and a broad range of values.

Local indicators allow forest managers and the general public in a region to see more clearly, albeit selectively, where progress is being made and where improvements are necessary. Importantly, they tell managers how their efforts will be judged, and how impacts from forestry and other activities will be evaluated. In this way, they are a critical part of monitoring programs and, if supported by good information – both scientific and measurable observations, and traditional and local descriptive observations – can provide an early indication of where changes may be required in forest management. In this way, they are a key tool in adaptive forest management.

The proposed indicators in this plan generally apply at the strategic level – in other words, across the entire Champagne and Aishihik Forest Management Planning Region. As subsequent forest management planning is developed – integrated landscape planning, harvest development planning – local indicators should be refined. They can be made more specific (e.g. the abundance of specific wildlife species) and scaled down to smaller areas (e.g. planning area #4 or specific stands of trees).

*The Canadian Council of Forest Ministers (CCFM) approved a system of criteria and indicators in 2000. They are complex and comprehensive in scope; they were designed to apply nationally. The Western Newfoundland Model Forest Criteria and Indicators Steering Committee has developed a system of local criteria and indicators based on the CCFM model, but modified for Newfoundland and Labrador. Other model forests have done the same. These are both useful references and should be consulted by forest managers in the region.*

*The local indicators model developed for the Champagne and Aishihik Forest Management Planning Region are essentially shaped by the goals and objectives that reflect the values and concerns of the people living in the region. They are selective and can be added to or changed as needed. They are not as complex as other models. They apply across a smaller area, and, because of their relative simplicity, they should be easier to apply, to use and to understand. This should be helpful since they are an important tool for measuring the effectiveness of forest management strategies in the region.*

*Forest productivity refers to two ideas. The first and more general is the ability of the forest to regenerate itself. In the second idea, productivity of a forest stand is usually calculated from the site index. This is based on the height and age of the dominant trees. The site index includes the effect of the three components of forest productivity: vegetation characteristics, climatic environment and site properties. This method is not useful in measuring unusual processes such as an insect outbreak, a change in a forest's composition or a variation in climate. Researchers are working on more functional approaches, based on growth mechanisms, which can be used to determine the separate contributions of vegetation, climate and site.*

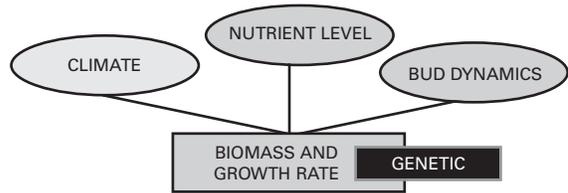
## GOAL A – FUNCTIONING FOREST ECOSYSTEMS

Maintain the function and integrity of forest ecosystems by conserving forest productivity and biodiversity and related waters, soils, ecosystems and landscapes.

This goal focuses on maintaining the health and vitality of the forest and the web of living and non-living things that are part of it. A healthy forest in the planning region is a biologically diverse forest; it is characterized by a full variety of fish and wildlife species (species diversity) and habitats and by special places and landscapes (ecosystem diversity).

A healthy forest is not a static, unchanging forest; in fact, disturbances are a vital part of forest ecosystems, so that while insects, fire and storms may damage or kill some trees, that doesn't mean that they are harming the forest as a whole. A healthy forest is a productive forest, with constant new growth of trees, other plants and animals.

### Forest productivity



A healthy forest is also resilient, meaning it can deal with change and disturbance without losing its basic productivity. Human activities, if not carefully managed, can add to the stresses that a normal forest ecosystem experiences and may reach the point where productivity and resilience starts to decline.

Soil and water are essential to life and to a healthy forest ecosystem. They provide the basis from which things grow and develop. The quantity and quality of water and soil affect forests. Maintaining a consistent quantity and quality of soils and water is vital to sustainable forest management, if current and future generations are to benefit from productive forests. To accomplish this, forest practices, including logging and the construction of access roads, must be managed appropriately.

*Ecosystem management means managing human activities to conserve the elements that make up and maintain ecosystems.*

This forest management goal shall be accomplished through the following objectives:

**OBJECTIVE 1:**

**Maintain, restore or enhance forest ecosystem function, including:**

- Forest regeneration and succession, and
- Species and ecosystem diversity.

**Indicators:**

- Variation in forest mosaic (pattern, composition and structure, including age-class distribution).
- Level of abundance and diversity of wildlife populations.
- Extent and diversity of key ecosystem features.

**OBJECTIVE 2:**

**Support the ecosystem's ability to maintain natural processes.**

**Indicators:**

- Area and severity of insect, fire and disease disturbance and succession patterns afterwards (as compared against natural range).
- Area and severity of human-caused disturbances and succession patterns afterwards (level of success in mimicking normal range of variability of natural disturbances).
- Negative impacts of re-introduced species (e.g. bison).
- Woody debris.

**OBJECTIVE 3:**

**Protect fish and wildlife populations and their habitats, including valued species and species-at-risk, and biologically distinctive or unique features.**

**Indicators:**

- Change in abundance and distribution of forest-dependent species classified as species-at-risk.
- Change in abundance of fish and wildlife species that play key ecosystem roles.
- Change in productivity of selected species (e.g. moose, whitefish).
- Change in landscape and quality of suitable

habitat (land and water) for select or valued species or species-at-risk.

- Status of unique or distinctive biological features (e.g. important staging and nesting areas, areas of high wildlife concentrations) and activities or arrangements to protect them.
- Conservation management and protection arrangements (e.g. plans, programs, agreements, habitat and species designations, etc.).

| *Species may include animals, fish, insects, trees, shrubs, flowers, lichens, etc.*

**OBJECTIVE 4:**

**Ensure appropriate wildlife movement corridors between important habitats and key landscape features.**

**Indicators:**

- Status of areas of suitable habitat for existing and potential movement corridors, considering factors such as connectivity, fragmentation and habitat quality.
- Habitat monitoring arrangements and reports.

**OBJECTIVE 5:**

**Maintain naturally occurring quantity and quality of water.**

**Indicators:**

- Percentage of forest managed primarily for water protection (e.g. riparian buffers).
- Water data (flow, temperature, turbidity, etc.) and current conditions compared with stream-specific historic information and values.

**OBJECTIVE 6:**

**Maintain forest productivity in areas subject to harvest practices.**

**Indicators:**

- Change in productive forest land base over time.
- Mean annual increment of average forest productivity of the planning region (m<sup>3</sup>/ha/year)
- Amount of harvested area with significant soil compaction, displacement, erosion, loss of organic matter, etc.

**OBJECTIVE 7:**

Establish an information base of the best available scientific, local and traditional knowledge and experience to guide forest management and planning.

**Indicators:**

- An established information base designed and shared by CAFN, Yukon and Parks Canada Agency.
- Information from the information base used in forest operations and development plans.

**OBJECTIVE 8:**

Integrate monitoring with harvesting activities and utilize monitoring to assess the condition of the forest, harvest levels, management activities and their socio-economic and environmental effects.

**Indicators:**

- Reporting from scheduled monitoring activities that include community participation and multi-agency involvement.

**OBJECTIVE 9:**

Implement an explicitly defined adaptive management strategy in response to the results of monitoring programs.

**Indicators:**

- An established adaptive forest management strategy with a clear methodology and consistent procedures that can be replicated over time to provide comparison of results and changes.

*Adaptive management means making management changes, adapting as the impacts of actions in the forest are reviewed, then learning from them and taking corrective actions if necessary.*

**GOAL B – COMMUNITY SUSTAINABILITY AND BENEFITS**

Encourage the development of a forest-based economy that reflects local community needs and values, that fosters the co-existence of diverse forest uses and that maintains or enhances the long-term social and economic well being of forest users and local communities in the region.

Sustainable forestry can contribute to the long-term sustainability of communities within the Champagne and Aishihik Forest Management Planning Region. In order to accomplish this, the region's forest economy must achieve a new level of economic stability, diversity and viability.

Forests are important to people for many reasons. There are many ways to describe the multiple benefits of forests to people living and working in the region: timber and non-timber values, consumptive and non-consumptive values and so on. In this plan these benefits have been organized around the key objectives listed. These objectives are based on past land, resource and park planning processes in the region, public consultations and meetings on forest management issues that have arisen over the last decade, community surveys and the social, economic and cultural values and interests that have been expressed by those who have participated.

This forest management goal shall be accomplished through the following objectives:

**OBJECTIVE 1:**

**Manage forest uses and developments consistent with ecosystem capacity and long-term sustainability.**

**Indicators:**

- Lower level forest management plans that are consistent and compliant with the Strategic Forest Management Plan.
- An established adaptive management strategy with a clear methodology and consistent procedures that can be replicated over time to provide comparison of results and changes.

**OBJECTIVE 2:**  
Enable and encourage forest-based activities that stimulate employment opportunities.

**Indicators:**

- Number of people employed in forest-based activities, broken down by category of forest sector activity (e.g. timber primary production, value-added processing, non-timber sectors such as wilderness tourism, trapping, etc.).
- Investment in training to promote best practices related to sustainable forest management.
- Information about job satisfaction for forest-based workers (surveys).

**OBJECTIVE 3:**  
Optimize the use of the forest land base for commercial timber management where appropriate and desirable. This may involve practicing a full range of forest management activities from “intensive” stand management on specific areas where the focus is on providing for continued timber production, to full integration where multiple values are to be managed equitably, to areas of no-harvest where “other” values and uses restrict forestry operations.

**Indicators:**

- Proportion of area commercially harvested relative to the land base available for timber production.
- Amount and proportion of forest land harvested and regenerated in a manner that meets their assigned values.
- Distribution of commercial harvest patterns relative to the land base available for timber production.
- Volume of merchantable wood left on the site after harvest.
- Total value of value-added forest product manufacturing.
- Information about the effectiveness of silvicultural treatments.

*Commercial timber harvesting includes sawlogs, fuelwood, chips and value-added products.*

**OBJECTIVE 4:**  
Promote a forest industry within the region that is appropriately scaled to resource capacity as guided by forest plans and the socially acceptable level of harvest as defined and recommended by forest management planning processes.

**Indicators:**

- Commercial timber allocations that are consistent with forest management plans.
- High social acceptance of the “woods operation,” measured by the number of complaints per year.

**OBJECTIVE 5:**  
Strengthen local timber harvesting and processing capacity and the benefits to local businesses and entrepreneurs through resource certainty by using tenure options appropriate to the region and allocation criteria based on value added, conversion and utilization rates, local training and hiring, local benefits and best practices.

**Indicators:**

- Number of locally owned operations.
- Number of local people employed.
- Operational assessments of:
  - Value-added
  - Conversion and utilization rates
  - Local training and hire
  - Local benefits
  - Best practices

*Non-timber forest products, services and activities include wilderness tourism, trapping, outfitting, traditional activities, etc.*

**OBJECTIVE 6:**  
Respect the rights and strengthen the traditional use of forest resources by CAFN citizens.

**Indicators:**

- Status of important traditional use areas.
- Level of consumption and use of traditional foods and other products.
- Level of participation in traditional use activities.

**OBJECTIVE 7:**  
Provide for a sustainable domestic harvest of wood, meat, fish, berries and other forest products.

**Indicators:**

- Level of harvest and effort by residents.
- Accessible wood harvest areas for local use.
- Areas designated as primary personal use areas (e.g. community woodlot).
- Level of satisfaction with harvest opportunities (by community surveys).

**OBJECTIVE 8:**  
Respect the rights and interests of trappers and outfitters and, where appropriate, support their revenue generating opportunities throughout the planning region.

**Indicators:**

- Volume of fur harvested.
- Number of active concessions.
- Number of compensation claims
- Number of non-resident hunting licenses issued.
- Number of total client days.
- Fewer use conflicts (by survey).
- Demonstrated consultation requirements and working relationships between operators and trappers and outfitters (e.g. specified consultation requirements during planning phases and as a condition of timber permits).

**OBJECTIVE 9:**  
Support and integrate through forest harvest planning, commercial wilderness tourism values and revenue generating activities and opportunities.

**Indicators:**

- Total revenue generated by tourism lodges and businesses in the region.
- Cumulative access impacts on pristine values.

**OBJECTIVE 10:**  
Where appropriate, increase the amount and diversity of recreational forest-based activities.

**Indicators:**

- Land and resource base available for selected recreational activities (e.g. hunting, fishing, angling, backcountry travel, etc.).
- Level of activity (participation) in selected recreational activities.
- Hunter/angling effort surveys.
- Level of satisfaction with recreational opportunities (by community surveys).
- Sustainability of selected resources or features (e.g. fishing holes).

**OBJECTIVE 11:**  
Protect known cultural and historic sites for current and future generations.

**Indicators:**

- Status of identified cultural and historic sites.

**OBJECTIVE 12:**  
Maintain or enhance visual quality of viewscapes and forest aesthetics within the region.

**Indicators:**

- Number of visual quality objectives established.
- Information from community surveys about viewscapes values and views about how these are being addressed.
- Percentage of valued viewscapes that has been cut or significantly affected by natural disturbances (fire, insects, storms).

## **GOAL C – COOPERATIVE FOREST PLANNING AND MANAGEMENT**

Cooperative forest management planning and management is required to ensure an integrated and complementary approach to the management of all lands, watersheds and natural resources within the Champagne and Aishihik Traditional Territory (CATT).

A cooperative approach to forest planning and management will better ensure certainty of use and respect for the rights and interests of all users of the forest and its resources. It will also enable federal, territorial and CAFN governments to better share their knowledge, experience and resources towards establishing sustainable forest management in the region.

This approach was set out in the CAFN Final Agreement and was secured as a commitment in a letter of understanding (LOU) reached between the CAFN, Yukon, INAC and the ARRC in 1998. It was agreed that the planning region should encompass all crown (federal), public (territorial) and settlement (First Nation) lands in the CATT (excluding those areas that are overlapped by the traditional territories of adjacent Yukon First Nations). The guiding principles of the LOU have been incorporated into the objectives for this goal.

Also, there has been an increasing recognition and expectation in the region and across the Yukon that resource management decisions should be made with the informed and active participation of all affected people and agencies. The Alsek Renewable Resource Council was established, under the CAFN Final Agreement, to facilitate this approach to public involvement and consultation. Experience has shown that the active participation of interested groups, government agencies and people can result in better decisions – decisions that are more durable and with a longer life expectancy – because they are generally accepted by all people. This often requires a more time-consuming process to reach agreement, but the results are greater long-term certainty and stability for those affected.

Resource certainty and stability are desperately needed in the region. The prospects for future forest resources development will rest on the strength of good forest management planning and plans that have a broad measure of support among governments, residents, communities and other organizations.

Comprehensive forest legislation is immediately required in the Yukon to provide a formal legal basis that will give effect to the cooperative approach to forest planning and management provided for in the Yukon Umbrella Final Agreement and the CAFN Final Agreement. When this is accomplished, Yukon forest legislation should provide a legal foundation that accommodates the basic principles and goals established under this plan.

### **OBJECTIVE 1:**

**Ensure fair, equitable and respectful relationships among Canada, Yukon and the CAFN in forest planning and management in the region.**

#### **Indicators:**

- Ongoing assessments by Yukon and CAFN.

### **OBJECTIVE 2:**

**Ensure a cooperative, coordinated and integrated approach to forest planning and management on crown, public and settlement lands throughout the region.**

#### **Indicators:**

- Integrated and consistent forest management plans and activities throughout the CATT.
- Ongoing assessment by Yukon, CAFN and Parks Canada Agency.
- Ongoing assessment by the ARRC and the Kluane Park Management Board.

**OBJECTIVE 3:**

Implement a phased approach to the development of forest management plans according to local priorities and local capacity to address the following: pest and disease control; standards for the use of forest resources; terms, conditions and areas for the harvesting of forest resources; forest fire management plans; inventories of forest resources and key forest values; estimating the supply of timber and other forest resources; determining the annual harvest levels; identifying lands available for timber harvesting and for other forest uses; and establishing the guidelines for roads and trails used to access forest resources.

**Indicators:**

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Annual public report on status of forest management planning (prepared by the ARRC).
- Annual public meeting to identify and review forest planning and research priorities (sponsored by the ARRC).
- Effective consultation with the Kluane Park Management Board.

**OBJECTIVE 4:**

Coordinate financial and human resources as well as information, knowledge and experience among organizations and agencies involved in forest management to facilitate planning and management capacity in the region.

**Indicators:**

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Annual public report on status of forest management planning (prepared by the ARRC).
- Bi-annual monitoring (through survey) by ARRC with CAFN, Yukon and Parks Canada Agency.

**OBJECTIVE 5:**

Coordinate the identification of forest research priorities, the development of forest-related databases and the implementation of forest research and monitoring programs throughout the region.

**Indicators:**

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Annual public report on status of forest management planning (prepared by the ARRC).
- Annual public meeting to identify and review forest planning and research priorities (sponsored by the ARRC).
- Consultation with the Kluane Park Management Board and other appropriate government agencies.

**OBJECTIVE 6:**

Coordinate and integrate forest management planning with the Greater Kluane Regional Land Use Plan and related development guidelines, the Kluane National Park and Reserve of Canada Management Plan, fire suppression plans, wildlife management plans, the Kluane Tourism Plan and other natural resource and cultural resource management plans in the CATT.

**Indicators:**

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Annual public report on status of forest management planning (prepared by the ARRC).
- Annual public meeting to identify and review forest planning and research priorities (sponsored by the ARRC).
- Consultation with the Kluane Park Management Board.

**OBJECTIVE 7:**

Ensure public participation and consultation at each stage and each level of a forest planning process with adequate time for public information, education and response.

**Indicators:**

- Public comments on public participation and consultation processes.
- Public record of meeting proceedings and public comments.
- Input from government agencies (eg. Fisheries and Oceans Canada)

## GOAL D – BUILD LOCAL CAPACITY

Sustainable forest management and a sound forest economy in the region must be based to a great extent on the capabilities and participation of local people, businesses, organizations and governments.

Building community capacity is critical to accomplishing the goals of this plan. Capacity building refers to the efforts aimed at developing human skills and infrastructures within a community or organization. It includes the development of institutional, financial, political and other resources, such as technology. Local participation will require new and continuing opportunities for the general public, forest workers, forest based businesses and forest managers to improve their understanding of forest management issues, practices, policies and plans. Building local capacity through education and training should result in a skilled work force, knowledgeable local residents and technically capable forest managers and planners who can accomplish the other goals of this plan.

Further forest management planning in the CATT should provide opportunities for the CAFN to develop the capacity of its government for forest management in the region. These will require the development of human and financial resources and technological infrastructure. Forest management planning should also provide opportunities for the ARRC, and other interested organizations and individuals to develop their understanding and to contribute their knowledge.

### OBJECTIVE 1:

**Facilitate access to information and educational materials and convene public events and forums that contribute to sustainable management and use of the region's forests, with special consideration to the following:**

- Natural disturbances and post-disturbance management (fire kill, beetle kill, etc.),
- Wilderness landscapes,
- Traditional and recreational uses,
- Kluane National Park management objectives,
- Best industry and management practices and standards, and
- Value-added opportunities.

### Indicators:

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Annual public report on status of forest management planning (prepared by the ARRC).
- Annual public meeting to identify and review forest planning and research priorities (initiated by the ARRC).
- Number of public meetings, workshops, open houses, etc.
- Printed and other media accessible to the public.

### OBJECTIVE 2:

**Facilitate educational and training opportunities for local youth, forest users, workers, the ARRC, the Kluane Park Management Board and resource planners and managers with the CAFN throughout all stages of forest planning in the CATT.**

### Indicators:

- Annual public report on status of forest management planning (prepared by the ARRC).
- Training programs and capacity building programs and opportunities for local youth, workers and operators.
- Educational events and opportunities for schools, local organizations and the general public.

### OBJECTIVE 3:

**Facilitate access to programming and partnerships that will enable the CAFN to build its technological capacity and infrastructure in forest management and planning, especially for resource mapping and other spatial databases.**

### Indicators:

- Ongoing assessment by CAFN, Yukon and Parks Canada Agency.
- Level and number of training programs and capacity building opportunities for CAFN government (e.g. GIS personnel, operating GIS, forest standards and practices, etc.).
- Level of technological resources (GIS resources, data bases, computer-based infrastructure, etc.).

**OBJECTIVE 4:**

**Facilitate the development and application of local, traditional and scientific knowledge in forest management training and education.**

**Indicators:**

- Annual public report on status of forest management planning (prepared by the ARRC)
- Ongoing assessment by CAFN, Yukon, and Parks Canada Agency
- Establishment of courses and development of educational materials

**OBJECTIVE 5:**

**Facilitate access for local businesses and entrepreneurs to opportunities that build their capacity in finance, manufacturing, market research, forest certification and new technologies and technology transfer.**

**Indicators:**

- Participation in courses, workshops, trade missions, etc.
- Use of consultants and other advisory services.
- Uptake on available government and other industry-related programs (e.g. small business loans, infrastructure development, trade missions, Forest Stewardship Council of Canada certification, etc.).



## 6. KEY ISSUES

### 6.1 SPRUCE BARK BEETLE INFESTED FORESTS AND WILDFIRE

The infestation of the mature spruce forests of the CATT by the spruce bark beetle, which have been epidemic to the planning region since 1992, has affected an increasing area from Mush and Bates lakes north to the Kluane Lake area and east to the Moraine and Hutchi lakes. It has contributed to a potential fire hazard for communities, increased the risk of catastrophic loss of property, affected visual landscapes, reduced the value of the forest for timber, recreation and tourism and impacted ecosystems.

Beetle-kill forests represent a significant management issue facing forest planning in the region for the next decade. High levels of public concern over this issue, the limitations of past strategies in addressing it, and the absence of a community consensus on recommended approaches, compel immediate attention and make the spruce bark beetle infestation a forest planning priority.

The strategic directions for forest management and planning related to beetle-infested forests build on past discussions and recommendations through an integrated approach that addresses silviculture, fire hazard and timber harvesting issues.

#### 6.1.1 Significance of the Infestation

The scale of the infestation is extreme. Based on the forest health survey conducted by the Canadian Forest Service and the Forest Management Branch the infestation over the last 10 years has expanded its range and now occupies a total area of more than 220,000 hectares in the region (see Map 3).

The annual rate of change in the amount of forest infested over this decade has been dynamic. However, except for one three-year decline, the overall trend has been an increasing rate of infestation. In some of the 18 planning areas in the region, the infestation has killed 100 per cent of the infested stands.

**Beetle Infestation by Planning Area\***

AREA	PLANNING AREA (HA)	FOREST AREA (HA)	INFESTED AREA (HA)
1	48,883	12,899	0
2	86,167	32,520	95
3	46,129	25,623	19,460
4	45,496	14,794	19,250
5	75,351	12,350	20,400
6	58,237	10,786	16,150
7	58,333	8,901	12,400
** 8	595,237	511	101,400
9	41,841	15,682	18,600
10	118,258	30,456	2,570
11	110,621	15,054	1,470
12	90,037	30,617	1,990
13	94,752	10,177	4,900
14	172,499	18,299	75
15	119,090	5,061	1,190
16	63,642	2,982	0
17	30,243	0	185
18	104,484	25,508	160
<b>Total</b>	<b>1,959,300</b>	<b>272,220</b>	<b>220,295</b>

Notes: \* Data comparisons between forested land base hectares and beetle-infestation hectares for each planning area should be treated cautiously. In some planning areas, data for beetle-killed areas exceed the total forested area. This is due to differences between how data were collected for forest cover mapping and beetle surveys. Forest cover data excludes stands with less than 10 per cent crown closure or smaller than 25 hectares. Beetle activity mapping includes all spruce trees of any height, diameter, size and location at all elevations; it also records all locations 0.5 hectare or greater.  
\*\* Forested area excludes Kluane National Park and Reserve of Canada.

This outbreak – the second known occurrence in the region in the last 100 years – coincides with a massive spruce bark beetle infestation in Alaska’s coastal Kenai Peninsula.

Beetles have attacked forests in the Kenai Peninsula five times in the last 200 years. The outbreak that has occurred there over the last 10 years has killed trees on more than a million hectares of forest. In 1998, federal, state and local governments established the Spruce Bark Beetle Task Force to prepare an action plan to manage the impacts of the spruce beetle infestation and to rehabilitate the infested areas. The task force completed a consensus-based action plan that year to provide a broad strategy for dealing

with spruce bark beetle impact issues. It focused on fire prevention and hazard abatement, timber management, reforestation and public education. That action plan continues to be implemented.

In the CATT Planning Region, public meetings concerning the spruce bark beetle infestation began in 1994. The following year the Spruce Bark Beetle Advisory Committee and the Spruce Bark Beetle Steering Committee were set up to organize public discussion and to make recommendations to manage the spruce bark beetle infestation. The steering committee accepted a recommendation from its technical committee in 1996; this proposed that fuelwood be harvested in severely infested areas and sawlogs in areas of light and moderate infestation that were expected to get worse. Harvest plans were prepared, but were not carried out in the absence of a public consensus on how best to proceed.

#### **Strategic Considerations**

- Forest harvesting for timber and fuelwood products should concentrate in areas of beetle infestation in order to salvage timber before it becomes unusable.
- Forest understory should be protected, recognizing that advanced regeneration and young trees represent the next forest and the continuation of natural processes.
- Techniques for reducing the spread of the beetle infestation should be investigated and incorporated into timber harvest planning.
- Tenures for timber harvesting rights must focus on beetle-kill wood and related salvage.

#### **6.1.2 Community Wildfire Risk and Hazard Abatement**

Recent increased public concern about the risk of wildfire to Yukon communities has grown in the planning region as a result of the spruce bark beetle infestation, increases to fuel loadings and several years of drier conditions. In 2000, the Yukon Community Wildfire Risk and Reduction Assessment was completed and outlined recommendations for wildfire hazard abatement (Ember Research et al 2000).

In 2002, a preliminary fire risk assessment of Kluane National Park and Reserve and Haines Junction was also prepared for Parks Canada Agency and the Kluane Park Management Board.

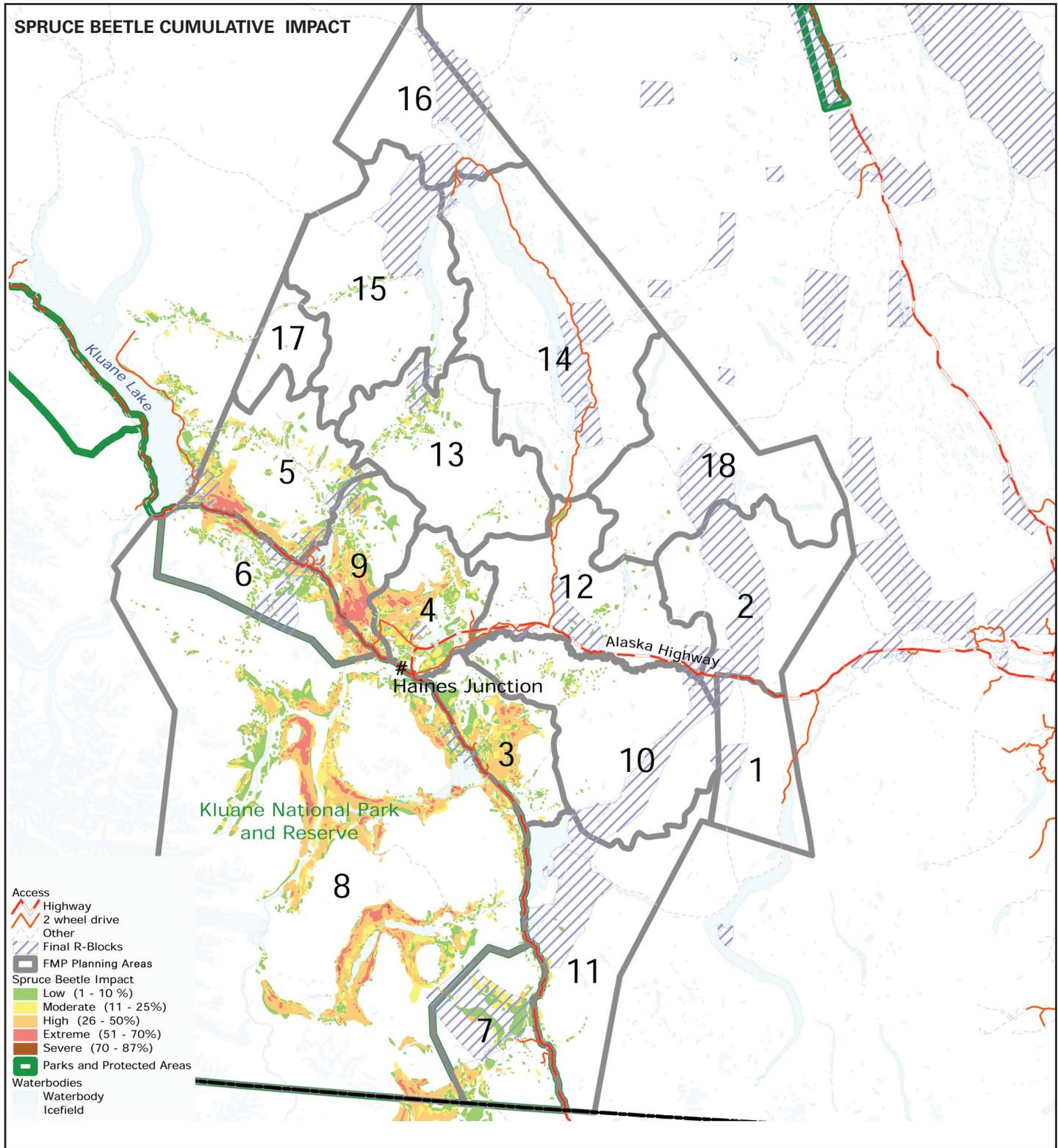
#### **Strategic Directions**

- Public awareness of wildfire risk to Haines Junction must be raised and maintained through multi-agency presentations and continuing pilot projects to demonstrate risk reduction approaches and methods, such as the ongoing MacIntosh Subdivision fuel break.
- Wildfire risk reduction to community values must be an integral part of the agenda for all agencies, including CAFN, Parks Canada Agency, Government of Yukon, Village of Haines Junction and ARRC. In recognition of the fact that some of the methods to achieve landscape level fuel modification are contentious to some sectors of the community, a multi-agency based fire risk reduction strategy will be required for Haines Junction, to be implemented and developed at the community level (Ember Research 2000).
- Fuel treatment should be a priority for risk reduction strategies.

#### **Kluane National Park and Reserve/Community of Haines Junction Preliminary Fire Risk Assessment:**

- Perform a detailed fuel and fire risk assessment along park boundaries at major outlets in the Haines Junction area.
- Create a detailed list of acceptable fire-fighting techniques for specific areas of the Front Ranges that may occur under different fire scenarios.
- At this time, the use of prescribed fire as a tool for fuel and/or vegetation management over large tracts of forested area in Kluane National Park Reserve should not be considered practical.
- Create a detailed wildfire response plan for Haines Junction.
- Continue fuel reduction and fuel modification activities within Haines Junction, on both private and public lands.
- Maintain a naturally occurring deciduous forest matrix around the town site.

# MAP 2 AREA OF BEETLE KILL INFESTATION



NATIONAL TOPOGRAPHIC DATA BASE (NTDB) COMPILED BY NATURAL RESOURCES CANADA AT 1:250,000. REPRODUCED UNDER LICENSE FROM HER MAJESTY THE QUEEN IN RIGHT OF CANADA, WITH PERMISSION OF NATURAL RESOURCES CANADA.

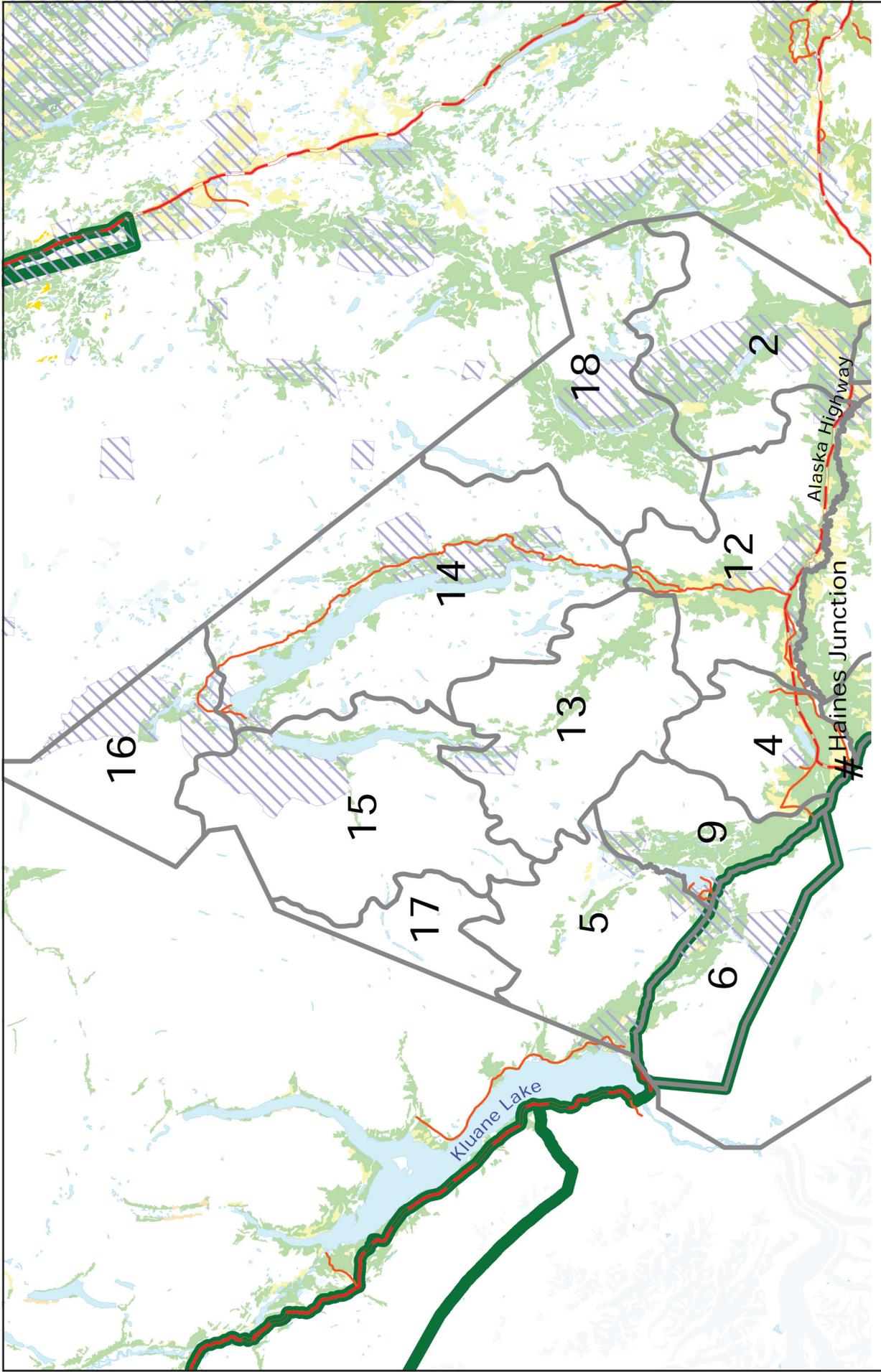
FIRST NATIONS SETTLEMENT LANDS OBTAINED FROM NATURAL RESOURCES CANADA 1:30,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:250,000 NTDB

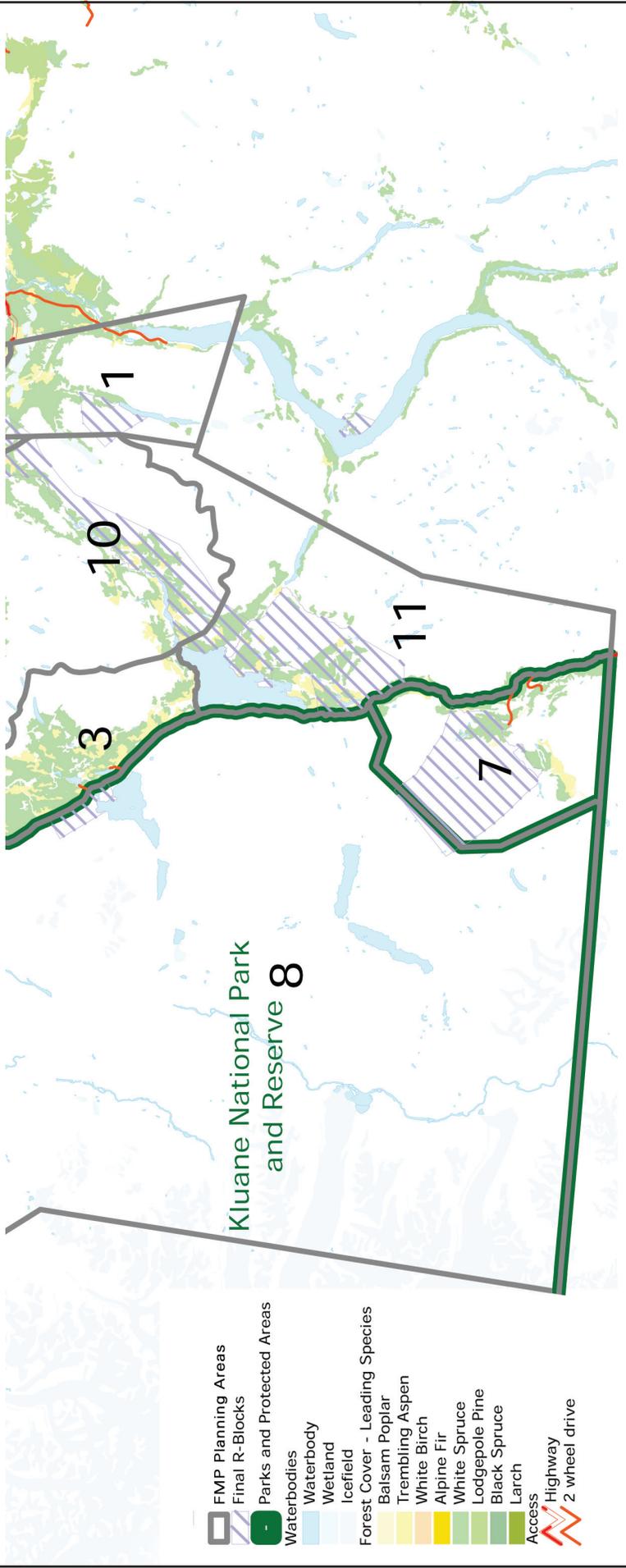
FIRST NATIONS TRADITIONAL TERRITORIES OBTAINED FROM FEDERAL LAND CLAIMS OFFICE, INDIAN AND NORTHERN AFFAIRS CANADA, 1:500,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:1,000,000 DCW.

SPRUCE BARK BEETLE INFESTATION MAPPED AND COMPILED BY FOREST MANAGEMENT BRANCH AND THE CANADIAN FOREST SERVICE FROM 1:250,000 AERIAL DETECTION SURVEYS.

MAP COMPILED BY:  
GIS SECTION, FOREST MANAGEMENT BRANCH  
ENERGY, MINES AND RESOURCES  
GOVERNMENT OF YUKON

MAP 3 FOREST COVER - LEAD SPECIES





NATIONAL TOPOGRAPHIC DATA BASE (NTDB) COMPILED BY NATURAL RESOURCES CANADA AT 1:250,000. REPRODUCED UNDER LICENSE FROM HER MAJESTY THE QUEEN IN RIGHT OF CANADA, WITH PERMISSION OF NATURAL RESOURCES CANADA.

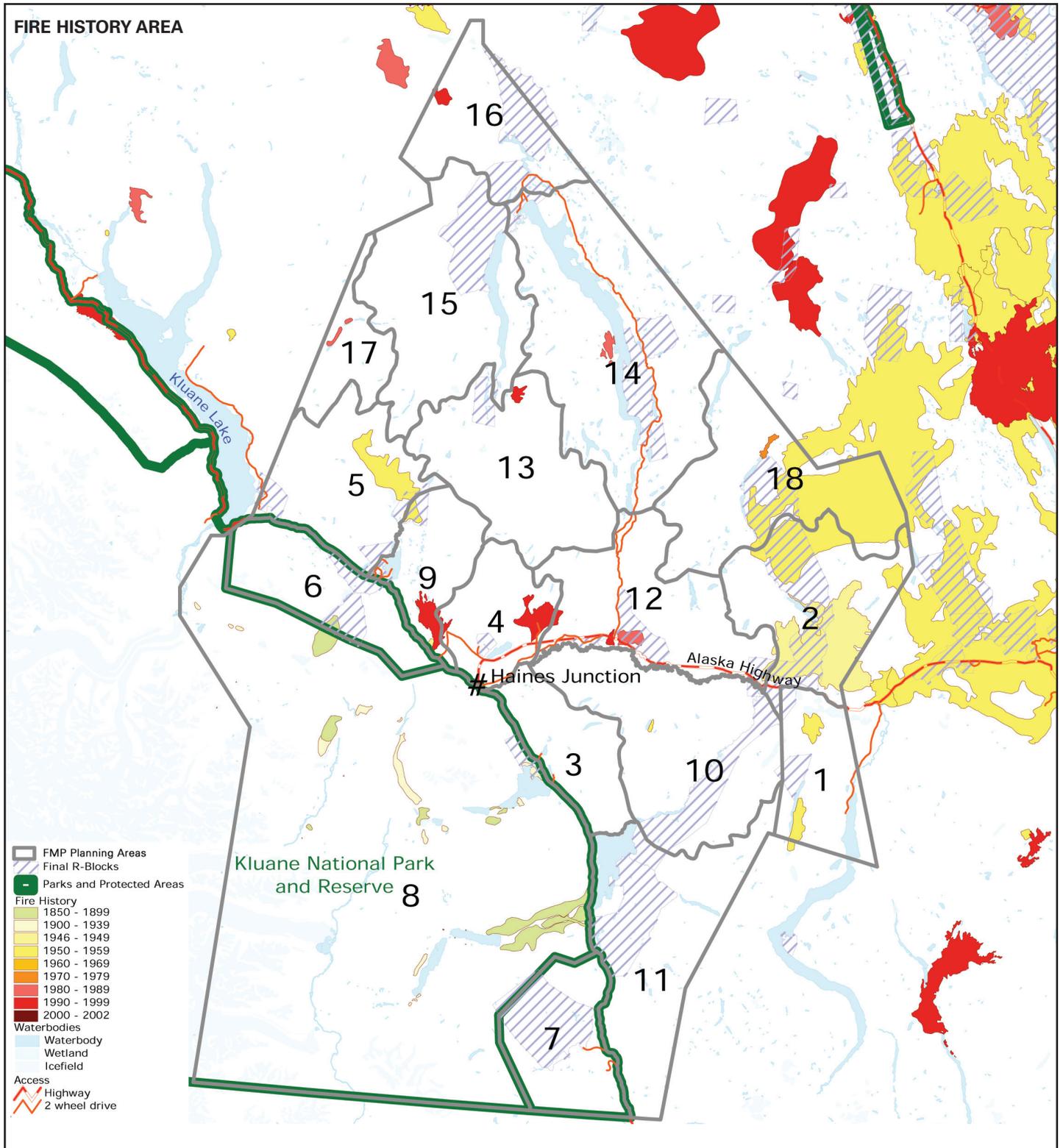
FIRST NATIONS SETTLEMENT LANDS OBTAINED FROM NATURAL RESOURCES CANADA 1:30,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:250,000 NTDB.

FIRST NATIONS TRADITIONAL TERRITORIES OBTAINED FROM FEDERAL LAND CLAIMS OFFICE, INDIAN AND NORTHERN AFFAIRS CANADA, 1:500,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:250,000 NTDB.

FOREST COVER COMPILED BY FOREST MANAGEMENT BRANCH AGAINST 1:50,000 NTDB FROM 1:40,000 BLACK AND WHITE PHOTOGRAPHY.

MAP COMPILED BY:  
GIS SECTION, FOREST MANAGEMENT BRANCH  
ENERGY, MINES AND RESOURCES  
GOVERNMENT OF YUKON

# MAP 4 FIRE HISTORY



NATIONAL TOPOGRAPHIC DATA BASE (NTDB) COMPILED BY NATURAL RESOURCES CANADA AT 1:250,000. REPRODUCED UNDER LICENSE FROM HER MAJESTY THE QUEEN IN RIGHT OF CANADA, WITH PERMISSION OF NATURAL RESOURCES CANADA.



FIRE HISTORY COMPILED BY FOREST RESOURCES, THE CANADIAN FOREST SERVICE AND PARKS CANADA FROM A VARIETY OF SOURCES. FIRE HISTORY REPRESENTS FIRES REPORTED AND MAPPED BY COMMUNITY SERVICES DISTRICT OFFICERS IN SUPPORT OF THE FIRE SUPPRESSION PROGRAM AND NOT TOTAL FIRE OCCURRENCE.

FIRST NATIONS SETTLEMENT LANDS OBTAINED FROM NATURAL RESOURCES CANADA 1:30,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:250,000 NTDB.

FIRST NATIONS TRADITIONAL TERRITORIES OBTAINED FROM FEDERAL LAND CLAIMS OFFICE, INDIAN AND NORTHERN AFFAIRS CANADA, 1:500,000 MAPS; RECOMPILED BY YUKON ENVIRONMENT AGAINST 1:250,000 NTDB

MAP COMPILED BY:  
GIS SECTION, FOREST MANAGEMENT BRANCH  
ENERGY, MINES AND RESOURCES  
GOVERNMENT OF YUKON

- Large-scale fuel modification at great distances from the community should not be considered practical due to the existing fuel mosaic, the relatively low merchantability of timber, visual considerations and land use objectives.

### 6.1.3 An Integrated Approach to Beetle Infested Forests

The spread of the spruce bark beetle through the western portion of the planning region has continued over the last decade, infesting a total area that can be classified as an extreme natural disturbance with significant ecological, social and economic impacts. Reports documenting infestations in Alaska and Yukon suggest that a continuing trend of warmer and drier climatic conditions will contribute to increasing moisture stress and increased beetle populations that could lead to an extended infestation and an increased attack and mortality of spruce forests, including smaller-size classes of trees.

A major factor contributing to the current spruce bark beetle epidemic is the relatively even-aged white spruce stands that dominate the landscape in the area. Sustainable forest management activities include a focus on the maximum sustainable harvest of timber. This is not attainable in the region now due to the high levels of conifer mortality. Achieving sustainable forestry will be an important work-in-progress, if the necessary conditions to support it are to be realized. This will require a carefully considered, soundly planned and action-oriented approach to forest renewal. This should create forests more resilient to disturbances by promoting a mosaic of species across the landscape using an ecologically and socially appropriate design.

#### Strategic Directions

- Adopt and implement an integrated and coordinated spruce bark beetle forest management program with a focus on four core values:
  - Sustainable timber supply
  - Mitigation of wildfire risk for public safety and communities
  - Forest health and timber management
  - Non-timber values
- The spruce bark beetle forest management program shall initiate activities to manage the impacts of

beetle infestations and to rehabilitate infested areas with a focus on three areas:

- Forest health and timber management
- Fire-hazard abatement
- Silviculture treatment

- The spruce bark beetle forest management program and its activities shall further the goals and objectives of the Strategic Forest Management Plan and respect its principles, subject to the constraints of current ecological conditions. This includes principles associated with sustainability and associated ecological, social and economic values. Specifically:
  - Maintain visual quality and natural setting objectives consistent with non-timber values and opportunities, habitat conservation strategies and traditional use requirements.
  - Maintain a natural functioning forest ecosystem.
- Developing a program plan is a priority and includes the following considerations:
  - Landscape application with short and long-term objectives designed to reduce fire hazard, apply silviculture principles to forest rehabilitation and develop harvesting plans to salvage damaged timber.
  - Management objectives for hazard abatement, silviculture treatment and salvage harvesting operations.
  - Assessment of the feasibility of silviculture treatments and enhancement of knowledge with regard to selecting tree species for the region.
  - Public education and participation that considers methods to enhance the understanding of residents and tourists as to the context of the infestation, natural ecological cycles that include disturbances such as beetle infestations and what is being done to address the infestation.
  - Capacity building needs that should be addressed to facilitate and enhance local participation in the program.
- Forest health and timber management strategies should identify a range of opportunities from the harvesting of dead wood in old infestations to the harvesting of greenwood stands where spruce bark beetle populations are increasing or pose potential risk to adjacent forest stands.

- Fire-hazard abatement strategies should be aimed at protecting communities, people, properties and public infrastructure in the region. Suppression activities shall be ranked by the public safety and values at risk.
- Silviculture treatments should consider resource management objectives and values and the forest stand structure required to meet the management objectives. The attributes of the site (e.g. terrain, soil, aspect, elevation, moisture) and the desire to create a forest mosaic of vegetation complexes that will contribute to long-term sustainability will help guide these types of decisions.
- Prescribed fire should be considered, evaluated, and – where feasible, appropriate and acceptable – planned as a management tool for fuel abatement, habitat enhancement and general ecological integrity.
- Collaborate and share information with federal, state, local and First Nations governments in Alaska participating in the Kenai Peninsula’s spruce bark beetle mitigation program and with federal and provincial agencies and First Nations’ governments involved in similar management programs in British Columbia.

## 6.2 ACCESS

The primary highway corridors in the CATT are the Alaska Highway between Whitehorse and Beaver Creek and the Haines Road, which runs south to the Yukon border from Haines Junction. Secondary roads and seasonal roads and trails run throughout the planning area.

New road development will be necessary to access harvesting areas within the CATT. The direct and indirect effects of road construction, maintenance and use could raise significant concerns for the management of other forest values in the traditional territory.

### Strategic Directions

- Where possible and appropriate, existing roads, right-of-ways and trails shall be utilized to provide access into harvesting areas.
- Integrated development with other resource users shall be encouraged to minimize new road development within the CATT and to mitigate potentially significant negative effects on outfitters,

trappers, wilderness tourism operators and other rights holders.

- Plan to avoid (seasonally or year-round) and to maintain remoteness of areas of ecological and cultural significance, which may also include areas set aside for wilderness values.
- New road development, at minimum, shall be consistent with identified best practices for engineering and layout.
- Development plans shall include conditions for access management, including time frames for construction and periods of use, as well as a schedule and standards for decommissioning or rehabilitation.
- Long-term tenure holders of timber harvesting agreements where possible and appropriate shall control and restrict access to the road networks for the effective management of other resource values.
- Governments and land managers should investigate the legal options and develop the appropriate regulatory mechanisms for controlling access.

## 6.3 RIPARIAN ZONES

Riparian zones along waterways and around lakes and wetlands provide many benefits for natural biodiversity across the landscape in beetle-killed and green forests. They offer travel corridors and thermal cover for large land animals; and they provide structural stability for many streams (especially those vulnerable to flooding) by the strength of their roots and by adding large organic debris to the channel. Riparian zones are also important in providing special nesting and rearing habitat for birds and for the maintenance of water quality and fish stocks. They also have visual and aesthetic values for recreational users.

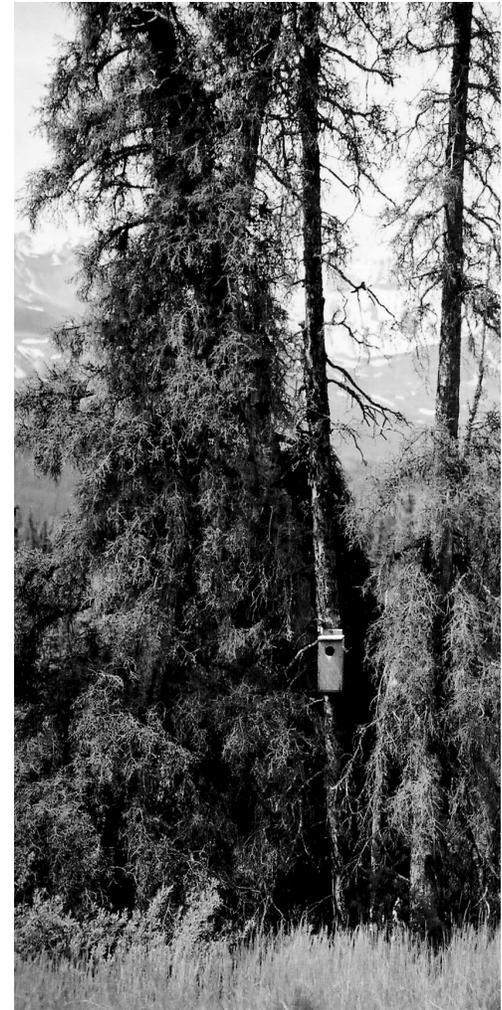
### Strategic Directions

- Development planning for timber harvesting shall incorporate identified resource values related to riparian management in the CATT.
- Until the Yukon Government and Yukon First Nations develop Yukon forest practices guidelines, the Timber Harvest Planning and Operating Guidebook (DIAND) will be used for developing operational plans. Recommendations in the Timber Harvest Planning and Operating Guidebook

(DIAND) are not mandatory requirements, but once a recommended practice is included in a plan, prescription, or contract, it becomes legally enforceable. In general, this guidebook describes procedures, practices and results that are consistent with the legislated requirements of forest legislation. Additional practices may be prescribed where the guidebook may not result in acceptable management strategies at the site or landscape level of planning.

- The Yukon Forest Management Branch, with the participation of CAFN the Department of Fisheries and Oceans, and Department of Environment shall facilitate discussions on forest practices appropriate to the application of riparian buffers that maintain fish and wildlife habitat and/or cultural and recreational values.

*The development of Yukon forest legislation is an opportunity for the Yukon Government and Yukon First Nations to re-examine and develop guidelines for forest practices in cooperation with industry, conservation interests and other stakeholders. A common sense and practical forest practices regime will need to be developed for the Yukon, and components of this regime will need to be incorporated into legislation and regulation and operational guidebooks as appropriate. In the interim the THPOG will be used as a guiding document. Once the new regime is developed and implemented, it will become legally enforceable. CAFN may choose to adopt such a regime or an amended version for CAFN Settlement Land or develop its own.*



## 6.4 FISH AND WILDLIFE MANAGEMENT

There are several important areas considered as critical wildlife habitat in the CATT for the maintenance and enhancement of fish stocks and wildlife populations. Fish and wildlife also play a crucial role in the regional economy: traditional use by the First Nations, trapping and outfitting, tourism and recreation are all sectors of the economy that are heavily dependent on the maintenance of healthy and abundant fish and wildlife.

### Strategic Directions

- Fish and wildlife management plans shall be integrated into forest management planning in each forest planning area in the region.

## 7. FOREST PLANNING AREAS

In 2000, the Forest Management Planning Team subdivided the forest management planning region into 18 forest planning areas loosely based on watersheds. Based on local and traditional knowledge and community input, forest planning areas were assigned a low, medium or high priority for planning purposes. Map based forest cover information was also used (see Map 1).

The ARRC also invited public comment on each of the 18 areas in order to identify, at a very general level, special characteristics or issues that should be considered if and when forest planning proceeds within a particular area. The comments will be maintained in a database by the ARRC that will

continue to develop as future community input is provided. They are not meant to be prescriptive or complete. They may provide a strategic-level reference for forest planners and managers and others who have an interest in forest planning in the region.

The levels of beetle infestation in the planning region were assigned on the basis of data collected in the forest health survey (through 2002) conducted by the Canadian Forest Service and the Yukon Forest Management Branch. For these calculations, a forest stand (consistent with Forest Management Branch forest cover mapping) is defined as having a minimum 10 per cent forest cover and being at least 25 hectares in size.

PLANNING AREA #1 – KUSAWA	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Strategic forest level inventory exists.</li> <li>• Stand-level inventory currently not gathered.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Defer for future review.</li> <li>• Park reserve status.</li> <li>• Park boundaries not yet defined.</li> <li>• Fish and wildlife interests.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Endemic levels.</li> <li>• Beetle present, but no outbreak.</li> <li>• 0 ha reported.</li> </ul>

PLANNING AREA #2 – TAYE LAKE	
Planning	<ul style="list-style-type: none"> <li>• Medium priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Strategic forest level inventory exists.</li> <li>• Stand-level inventory currently not gathered.</li> <li>• Good cabin logs.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing access.</li> <li>• Cultural sites.</li> <li>• Fish and wildlife interests.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Endemic levels.</li> <li>• Beetle present, but no outbreak.</li> <li>• 95 ha reported.</li> </ul>

PLANNING AREA #3 – HAINES ROAD NORTH	
Planning	<ul style="list-style-type: none"> <li>• High priority</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• High priority.</li> <li>• Located east of Haines Road. Value for sawlogs is degrading with spruce beetle kill around Haines Junction and along Haines Highway.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Risk to communities (Embers Report).</li> <li>• Wildfire mitigation concerns; explore full range of fuel modification options.</li> <li>• Risk to communities (Embers Report).</li> <li>• Borders Kluane National Park and Reserve.</li> <li>• Fish and wildlife interests, especially fisheries values, moose wintering areas and grizzly bear travel corridor.</li> <li>• Existing access.</li> <li>• High recreation values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Currently active.</li> <li>• Beetle present since beginning of infestation. Previously exploited valley bottom; moving upslope.</li> <li>• 19,460 ha reported.</li> </ul>

PLANNING AREA #4 – PINE LAKE/MARSHALL CREEK	
Planning	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• High priority.</li> <li>• Significant areas of merchantable timber include Marshall Creek and Pine Lake to Bear Creek.</li> <li>• Extensive existing access to merchantable timber.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing resource report.</li> <li>• Proximity to Haines Junction and cottage lots on lake.</li> <li>• Recreational values.</li> <li>• Significant timber interests.</li> <li>• Contains existing forest reserve (Marshall Creek).</li> <li>• Existing access.</li> <li>• Fish and wildlife interests.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Currently active.</li> <li>• Beetle present since beginning of infestation. Heavy activity between Pine Lake and Dezadeash River; combined activity of valley floor and sub-alpine spruce stands.</li> <li>• 9,250 ha reported.</li> </ul>

<b>PLANNING AREA #5 – KLOO LAKE WEST</b>	
Planning	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Downgraded from high priority due to length of time that has passed since the initial beetle kill.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing access.</li> <li>• Viewscapes.</li> <li>• Significant timber values.</li> <li>• Wildfire assessment (Silver City – Embers Report).</li> <li>• Fish and wildlife interests.</li> <li>• Significant wetland.</li> <li>• Borders existing Wildlife Sanctuary.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Low levels of activity.</li> <li>• Beetle present since beginning of infestation. Majority of mature spruce has been killed. Advanced regeneration of understory; spruce present.</li> <li>• 20,400 ha reported.</li> </ul>

<b>PLANNING AREA #6 – KLUANE WILDLIFE SANCTUARY – NORTH</b>	
Planning	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Strategic forest level inventory exists.</li> <li>• Stand-level inventory currently not gathered.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Legal status as a sanctuary.</li> <li>• Timber values.</li> <li>• Recreational values; viewscapes.</li> <li>• Existing access.</li> <li>• Contains Nygren Subdivision.</li> <li>• Wildlife monitoring program (Kluane Ecological Monitoring Protocol).</li> <li>• Cultural sites.</li> <li>• Placer mining.</li> <li>• Fish and wildlife interests.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Low levels of activity.</li> <li>• Beetle present since beginning of infestation. Majority of mature spruce has been killed.</li> <li>• 16,150 ha reported.</li> </ul>

PLANNING AREA #7 – KLUANE WILDLIFE SANCTUARY – SOUTH	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Extremely low priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Legal status as a sanctuary.</li> <li>• Pockets of timber.</li> <li>• Heritage site designation.</li> <li>• Cultural sites.</li> <li>• Fish and wildlife interests (especially salmon).</li> <li>• Viewscapes.</li> <li>• Recreational values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels.</li> <li>• Low levels of activity.</li> <li>• Beetle present since beginning of infestation. Much of mature spruce has been killed.</li> <li>• 12,400 ha reported.</li> </ul>

PLANNING AREA #8 – KLUANE NATIONAL PARK AND RESERVE OF CANADA	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• No commercial harvest permitted.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• National Park of Canada status.</li> <li>• Must be a planning area consistent with the legal boundaries of the park.</li> <li>• Land cover classification of the park exists.</li> <li>• Removal, or modification of vegetation is possible under certain circumstances.</li> <li>• Fish and wildlife interests.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive, with high mortality in white spruce areas.</li> <li>• History of epidemic levels. Low levels of activity.</li> <li>• Beetle present since beginning of infestation.</li> <li>• 101,400 ha reported.</li> </ul>

PLANNING AREA #9 – KLOO LAKE EAST	
Planning	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Strategic forest level inventory exists.</li> <li>• Stand level inventory currently not gathered.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing access.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Significant wetland.</li> <li>• Large burn area.</li> <li>• High timber values.</li> <li>• Winter recreation.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Low levels of activity.</li> <li>• Beetle present since beginning of infestation. Majority of mature spruce has been killed. Advanced spruce regeneration present.</li> <li>• 18,600 ha reported.</li> </ul>

PLANNING AREA #10 – SIX MILE	
Planning	<ul style="list-style-type: none"> <li>• Medium priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Merchantable timber along Dezadeash River.</li> <li>• High quality in some areas, but poor access.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Timber values.</li> <li>• Limited access considerations.</li> <li>• Large wetlands area.</li> <li>• Map notation along Dezadeash River.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Wildfire mitigation concerns (Canyon, Champagne).</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Moderate.</li> <li>• History of epidemic levels. Presently low levels of activity.</li> <li>• Beetle has progressed into planning area. Limited mortality of mature spruce.</li> <li>• 2,570 ha reported.</li> </ul>

PLANNING AREA #11 – KLUKSHU-DEZADEASH	
Planning	<ul style="list-style-type: none"> <li>• Medium priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> <li>• Limited access off highway.</li> <li>• Potential harvest between Dezadeash and Klukshu as fire mitigation.</li> <li>• Potential harvest along the Haines Highway.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Limited access.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Recreational values.</li> <li>• Viewscape (highway corridor).</li> <li>• Screening buffer.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• History of epidemic levels. Low levels of activity.</li> <li>• Beetle present since beginning of infestation. Much of mature spruce killed in the vicinity of the highway. Little evidence on east side of Dezadeash Lake.</li> <li>• 1,470 ha reported.</li> </ul>

PLANNING AREA #12 – CANYON	
Planning	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Moderate timber values.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Limited access.</li> <li>• Old burn ('80s and '90s).</li> <li>• Timber values.</li> <li>• Local interest.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Wildfire mitigation concerns.</li> <li>• Viewscapes.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Light.</li> <li>• History of endemic levels. Low levels of activity</li> <li>• Beetle has moved into the area. Stands of mature spruce have been killed.</li> <li>• 1,990 ha reported.</li> </ul>

PLANNING AREA #13 – AISHIHIK WEST	
Planning	<ul style="list-style-type: none"> <li>• Medium priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• High priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Limited access.</li> <li>• Timber values.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Recreational values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Moderate.</li> <li>• Shorter history of epidemic levels. Moderate levels of activity.</li> <li>• Beetle has moved into area. Extensive in west region of planning area. Stands of mature spruce have been killed. Light activity in east with little impact.</li> <li>• 4,900 ha reported.</li> </ul>

PLANNING AREA #14 – AISHIHIK LAKE BASIN	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing access.</li> <li>• Hydro dam.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Wildfire mitigation concerns (Aishihik Village).</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Light.</li> <li>• Endemic levels. Beetle present, but no outbreak.</li> <li>• Stand-specific attacks.</li> <li>• 75 ha reported.</li> </ul>

PLANNING AREA #15 – SEKULMUN	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Limited access.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Recreation values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Moderate.</li> <li>• Shorter history of epidemic levels. Moderate levels of activity.</li> <li>• Beetle has moved into area. Extensive in west region of planning area. Stands of mature spruce have been killed. Actively moving towards Sekulumun Lake through pass.</li> <li>• 1,190 ha reported.</li> </ul>

PLANNING AREA #16 – NISLING	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Significant wetlands.</li> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Endemic levels.</li> <li>• Beetle present, but no outbreak.</li> <li>• Little forested area.</li> <li>• 0 ha reported.</li> </ul>

PLANNING AREA #17 – GLADSTONE	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Fish and wildlife interests.</li> <li>• Cultural sites.</li> <li>• Recreational values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Extensive.</li> <li>• Majority of mature stands have been infested.</li> <li>• 185 ha reported.</li> </ul>

PLANNING AREA #18 – NORDENSKIOLD	
Planning	<ul style="list-style-type: none"> <li>• Low priority.</li> </ul>
Merchantable timber	<ul style="list-style-type: none"> <li>• Low priority.</li> <li>• Strategic forest level inventory exists.</li> <li>• Stand-level inventory currently not gathered.</li> </ul>
Management considerations	<ul style="list-style-type: none"> <li>• Existing seasonal access.</li> <li>• Fish and wildlife interests (especially salmon).</li> <li>• Cultural sites.</li> <li>• Recreational values.</li> </ul>
Level of beetle infestation	<ul style="list-style-type: none"> <li>• Endemic levels. Beetle present, but no outbreak.</li> <li>• Stand-specific attacks.</li> <li>• 160 ha reported.</li> </ul>

## 8. PLAN IMPLEMENTATION

The CATT Strategic Forest Management Plan is a government approved plan – approved by the governments of the CAFN and the Yukon in consultation with the Parks Canada Agency.

The plan is a working document that will be implemented by all relevant government departments and agencies through their management and regulatory activities. In the case of Yukon Forest Management Branch and the CAFN, it will also be implemented through integrated landscape level, harvest development and operational plans. Forest resource development plans and permits will take guidance from the forest management principles, goals, objectives and strategic directions described in this plan, as well review by federal and territorial government agencies. The planning priorities identified for planning areas in this plan will also guide future forest management planning and forest resource development.

### 8.1 ROLES AND RESPONSIBILITIES

#### Core Group

The Core Group consists of the representatives of the plan approval bodies (the CAFN, and the Yukon Forest Management Branch), Yukon Department of Environment and the ARRC. The group's responsibilities for carrying out the plan are:

- Coordinate and ensure implementation.
- Review and provide recommendations on proposed amendments.
- Request input and review from federal and territorial agencies and the Planning Team on recommended amendments.
- Establish arrangements for participation by the general public and federal and territorial agencies in future planning.

#### Forest Management Branch and CAFN

The CAFN and the Forest Management Branch are responsible for the following activities:

- Jointly prepare an annual report on plan implementation.
- Review existing, more detailed forest plans (e.g. resource reports) to ensure consistency with this plan.
- Distribute copies of the plan to all licensed resource users, lands and resource management staff, stakeholders and interested public.
- Continue to work together in forest management and forest management planning on a government-to-government basis.

#### Alsek Renewable Resource Council

The ARRC is responsible for the following activities:

- Facilitate an annual public report on the status of forest management planning.
- Facilitate an annual public meeting in at least two communities to identify and review forest planning and research priorities.
- Facilitate effective consultation throughout the planning region.
- Facilitate the development of an effective and practical monitoring program with CAFN, Yukon and Parks Canada Agency.

#### Yukon Public

- It is recognized that the general public, local residents and CAFN citizens, in partnership with ARRC, CAFN and Yukon Energy, Mines and Resources Department, are important contributors to the effective implementation and monitoring of the plan.

## 8.2 DIRECTION FOR PLANNING AREA DEVELOPMENT

This plan establishes what issues and concerns, values and interests must be addressed as forest planning moves forward through subsequent stages to more integrated and detailed planning for forest resource development in the region's planning areas. The next three distinct planning stages narrow the decisions and direction from the general goals and objectives of this plan to focus on priority planning areas and candidate harvest sites.

The next planning stages following from this plan are:

**Stage 2 – Integrated Landscape Planning** that will include the identification of broad areas available or not for forest development and strategies for reducing or eliminating significant negative effects on other resources and values

**Stage 3 – Harvest Development Planning** that designs the general harvest activities consistent with the outcome of landscape planning (e.g. main road location, harvest block location).

**Stage 4 – Operating Planning** that field checks and engineers harvest block boundaries, landings, volumes and exact road locations consistent with the higher level plans (harvest development planning, integrated landscape planning, and the strategic forest management plan).

Plans are to be developed by the appropriate agencies consistent with this plan and will provide an opportunity for public review. Planning stages are closely linked, and each stage will be completed. The resulting plan(s) may, in some instances, consolidate several planning stages.

### Criteria That Apply to All Lower Level Plans and Planning:

All parties with a key interest or stake in the plan must be invited and encouraged to:

- Participate.
- Strive for consensus through an interest-based decision-making process.
- Ensure all lower level plans are consistent with the CATT forest plan.
- Address resource user conflicts.

All subsequent lower level forest management planning in the CATT will include a section that describes the linkages to the CATT Strategic Forest Management Plan. This will include an explanation of how the plan meets the goals and objectives and implements the strategic directions outlined in the SFMP.

### Strategic Directions and Priorities

- 1 In consideration of the planning area profiles (Section 7.0 above), the following forest management planning priorities and activities are generally recommended:
  - Focus forest planning on planning areas 3 (Haines Road North), 4 (Pine Lake/Marshall Creek) and 12 (Canyon) for the next five to 10 years.
  - Ensure consistency of existing resource reports and development plans in planning areas 3 and 4 with the CATT Strategic Forest Management Plan, and apply any necessary adjustment measures to their resource and issue assessments and recommended development plans and activities and to any other related future forest development planning in these areas.
  - Establish a strategy for the implementation of forest plans in areas 3 and 4, consistent with the identified stages for lower level planning, that identifies:

*Integrated resource management values and management strategies to accommodate the values. (This step will, along with upper level strategies and site/stand conditions drive the silvics strategies. Some of the values identified will be zoned into the "no harvest zone." Others will be assigned to the "harvest zone." The acceptable silviculture prescriptions will be those that produce the desired forest/stand condition over appropriate time.)*

*Zonation of harvest and no-harvest areas.*

*Silviculture strategy:*

- Suitable tree species and treatments
- Meet timber and non-timber values
- Long-term resource capacity and future productive use

*Activities: forest practices – values to be incorporated into landscape and site-level*

*treatments (e.g. visual quality, cultural heritage, habitat, recreation and tourism opportunities and regeneration strategies); harvest design and prescription.*

*Maximization of post-harvest benefits/ (e.g. recreation trails, traditional use opportunities, hunting and trapping opportunities, habitat conservation and restoration, etc.)*

- Consult the ARRC on lower level planning priorities and activities.
  - Multi-year forest license and other tenure holders in good standing when the plan is approved and affected by the plan shall be accommodated under the plan for the period covered by their license or tenure.
- 2 In certain circumstances in response to major forest disturbances (extreme levels of spruce beetle infestation), significant episodic events (flooding, wildfire) and elevated levels of public concern, special projects and programs may have priority over direction 1 above. These shall meet the “Criteria That Apply to All Lower Level Plans and Planning” identified above.
  - 3 It is recommended that members of the Core Group pursue with Natural Resources Canada the feasibility of establishing a model forest under Canada’s model forest program in a portion of the planning region as means for implementing the plan’s goals, objectives and strategic directions.



## 9. PLAN MONITORING AND REVIEW

The CATT forest plan is a dynamic document that must be responsive to a changing environment and changing needs and values. It will require monitoring, periodic review and revisions.

### 9.1 MONITORING

- The ARRC shall facilitate the development of a monitoring program with the support of the Core Group and consider input from the appropriate government agencies (e.g. Fisheries and Oceans Canada).
- The ARRC shall facilitate the review of reports from the monitoring program.
- The monitoring report shall indicate how the objectives and strategies outlined in the CATT forest plan are being met through specific forest management activities, subsequent planning processes and forest resource development plans and permits.
- The monitoring report shall review and compile indicator information and assess how well the plan is meeting its objectives.
- The CAFN and the Yukon Forest Management Branch shall be responsible for collecting and compiling indicator information, revising the indicators as necessary and raising issues that need to be addressed. Other organizations and agencies shall be invited to contribute indicator-related information as well assist in the determination of indicators and the means by which monitoring is conducted that may assist in plan monitoring.
- Following the release of the monitoring report, the ARRC shall convene a meeting to review the report and to solicit public comment. The meeting will be an opportunity for the public to raise issues that may require update or amendment of the forest plan.

### 9.2 PLAN AMENDMENT AND PUBLIC REVIEW

- The ARRC shall facilitate a formal comprehensive public review of the plan within eight years of its approval.
- At the time of the comprehensive public review, the ARRC shall consult with the appropriate government agencies, stakeholders and interests groups, such as the forest industry, outfitters, trappers, tourism operators, environmental organizations and other non-government organizations that express an interest in the plan concerning proposed revisions.
- In reviewing the plan, the ARRC shall also consult with interested governments including the CAFN, other Yukon First Nations, the Village of Haines Junction, the Yukon Forest Management Branch, Parks Canada Agency, Fisheries and Oceans Canada and the Canadian Wildlife Service.
- The ARRC shall recommend revisions to the plan to the CAFN and the Yukon Forest Management Branch.
- Unscheduled reviews of the plan may be triggered by unforeseen events (e.g. wildfire, flood), and in such circumstances the consultation provisions associated with the scheduled comprehensive public review shall apply.
- The Core Group (CAFN, Yukon Forest Management Branch, Yukon Department of Environment and the ARRC) shall consider periodic amendments to selected plan objectives and strategies based on changing circumstances, conditions and feedback from subsequent lower levels of land and resource planning affecting forest management, monitoring reports associated with the implementation of the plan and the requirements of adaptive management.
- The Core Group shall consider minor amendments of the plan periodically to ensure its relevance and currency.

## 10. SUMMARY OF STRATEGIC DIRECTIONS

### REGIONAL PLANS AND POLICIES

- Consistent with the general goals and principles of the Greater Kluane Land Use Plan, the principles, goals, objectives and directions of the CATT Strategic Forest Management Plan shall provide the basic guidelines for forest management and forest resources development in the region.
- Management planning and management shall be ecosystem-based and consider trans-boundary effects.
- Planning and management shall build relationships and share information among governments, agencies, interest groups and individuals in the regional ecosystem.
- A balanced approach to forest management shall be consistent with community social, economic and environmental values.
- Forest management strategies shall be guided by the imperative of maintaining a high-quality environment and development strategies that provide benefits to local people.
- Forest management planning shall consider the high priority that is attached to year-round sustainable tourism development in the region.
- Forest management planning shall incorporate the principle of sustainability and the imperative of balancing traditional use and forest development activities.
- Forest management planning shall consider approaches to forest planning, management and development that contribute to the self-reliance of CAFN communities and people.
- Forest development shall contribute to the employment, capacity building and quality of life of CAFN people.
- Forest management planning shall be based on an integrated approach to forest resource uses and development.
- Forest management and planning shall pursue strategies to enhance the traditional use economy in the CATT.
- Forest management planning shall consider the application of First Nations' traditional laws and customs.
- Forest management planning shall include measures to build the capacity of the CAFN government in forest management.
- Forest management planning shall consider approaches and measures to enhance the development of the region's tourism industry and related local benefits.
- Moose management planning and strategies shall be integrated into forest management plans and strategies.
- Bison habitat management strategies shall be integrated into forest management plans as required.
- Where appropriate, consider the forest ecosystem impacts of bison in forest ecosystem monitoring programs.
- Grizzly bear management strategies shall be integrated into forest management plans as appropriate.
- Forest management planning shall take the special measures necessary to maintain or enhance identified species at risk.

### KEY ISSUES

#### Wildfire Risk and Hazard Abatement

- Public awareness of wildfire risk to Haines Junction must be raised and maintained through multi-agency presentations and continuing pilot projects to demonstrate risk reduction approaches and methods, such as the ongoing MacIntosh Subdivision fuel break.
- Wildfire risk reduction to community values must be an integral part of the agenda for all agencies, including CAFN, Parks Canada Agency, Government of Yukon, Village of Haines Junction and ARRC. In recognition of the fact that some of the methods to

achieve landscape level fuel modification are contentious to some sectors of the community, a multi-agency based fire risk reduction strategy will be required for Haines Junction, to be implemented and developed at the community level (Ember Research 2000).

- Fuel treatment should be a priority for risk reduction strategies.
- Perform a detailed fuel and fire risk assessment along park boundaries at major outlets in the Haines Junction area.
- Create a detailed list of acceptable fire-fighting techniques for specific areas of the Front Ranges that may occur under different fire scenarios.
- At this time, the use of prescribed fire as a tool for fuel and/or vegetation management over large tracts of forested area in Kluane National Park Reserve should not be considered practical.
- Create a detailed wildfire response plan for Haines Junction.
- Continue fuel reduction and fuel modification activities within Haines Junction, on both private and public lands.
- Maintain a naturally occurring deciduous forest matrix around the town site.
- Large-scale fuel modification at great distances from the community should not be considered practical due to the existing fuel mosaic, the relatively low merchantability of timber, visual considerations and land use objectives.

#### **Beetle Infested Forests**

- Adopt and implement an integrated and coordinated spruce bark beetle forest management program with a focus on four core values:

*Sustainable timber supply*

*Mitigation of wildfire risk for public safety and communities*

*Forest health and timber management*

*Non-timber values*

- The spruce bark beetle forest management program shall initiate activities to manage the impacts of beetle infestations and to rehabilitate infested areas with a focus on three areas:

*Forest health and timber management*

*Fire-hazard abatement*

#### *Silviculture treatment*

- The spruce bark beetle forest management program and its activities shall further the goals and objectives of the Strategic Forest Management Plan and respect its principles, subject to the constraints of current ecological conditions. This includes principles associated with sustainability and associated ecological, social and economic values. Specifically:

*Maintain visual quality and natural setting objectives consistent with non-timber values and opportunities, habitat conservation strategies and traditional use requirements.*

*Maintain a natural functioning forest ecosystem*

- Developing a program plan is a priority and includes the following considerations:

*Landscape application with short and long-term objectives designed to reduce fire hazard, apply silviculture principles to forest rehabilitation and develop harvesting plans to salvage damaged timber.*

*Management objectives for hazard abatement, silviculture treatment and salvage harvesting operations.*

*Assessment of the feasibility of silviculture treatments and enhancement of knowledge with regard to selecting tree species for the region.*

*Public education and participation that considers methods to enhance the understanding of residents and tourists as to the context of the infestation, natural ecological cycles that include disturbances such as beetle infestations and what is being done to address the infestation.*

*Capacity building needs that should be addressed to facilitate and enhance local participation in the program.*

- Forest health and timber management strategies should identify a range of opportunities from the harvesting of dead wood in old infestations to the harvesting of greenwood stands where spruce bark beetle populations are increasing or pose potential risk to adjacent forest stands.
- Fire-hazard abatement strategies should be aimed at protecting communities, people, properties and public infrastructure in the region. Suppression activities shall be ranked by the public safety and values at risk.

- Silviculture treatments should consider resource management objectives and values and the forest stand structure required to meet the management objectives. The attributes of the site (e.g. terrain, soil, aspect, elevation, moisture) and the desire to create a forest mosaic of vegetation complexes that will contribute to long-term sustainability will help guide these types of decisions.
- Prescribed fire should be considered, evaluated, and – where feasible, appropriate and acceptable – planned as a management tool for fuel abatement, habitat enhancement and general ecological integrity.
- Collaborate and share information with federal, state, local and First Nations governments in Alaska participating in the Kenai Peninsula’s spruce bark beetle mitigation program and with federal and provincial agencies and First Nations’ governments involved in similar management programs in British Columbia.

#### **Access**

- Where possible and appropriate, existing roads, right-of-ways and trails shall be utilized to provide access into harvesting areas.
- Integrated development with other resource users shall be encouraged to minimize new road development within the CATT and to mitigate potentially significant negative effects on outfitters, trappers, wilderness tourism operators and other rights holders.
- Plan to avoid (seasonally or year-round) and to maintain remoteness of areas of ecological and cultural significance, which may also include areas set aside for wilderness values.
- New road development, at minimum, shall be consistent with identified best practices for engineering and layout.
- Development plans shall include conditions for access management, including time frames for construction and periods of use, as well as a schedule and standards for decommissioning or rehabilitation.
- Long-term tenure holders of timber harvesting agreements where possible and appropriate shall control and restrict access to the road networks for the effective management of other resource values.

- Governments and land managers should investigate the legal options and develop the appropriate regulatory mechanisms for controlling access.

#### **Riparian Zones**

- Development planning for timber harvesting shall incorporate identified resource values related to riparian management in the CATT.
- Until the Yukon Government and Yukon First Nations develop Yukon forest practices guidelines, the Timber Harvest Planning and Operating Guidebook (DIAND) will be used for developing operational plans. Recommendations in the Timber Harvest Planning and Operating Guidebook (DIAND) are not mandatory requirements, but once a recommended practice is included in a plan, prescription, or contract, it becomes legally enforceable. In general, this guidebook describes procedures, practices and results that are consistent with the legislated requirements of forest legislation. Additional practices may be prescribed where the guidebook may not result in acceptable management strategies at the site or landscape level of planning.
- The Yukon Forest Management Branch, with the participation of CAFN and the Department of Fisheries and Oceans, shall facilitate discussions on forest practices appropriate to the application of riparian buffers that maintain fish and wildlife habitat and/or cultural and recreational values.

#### **Fish and Wildlife Management**

- Fish and wildlife management plans shall be integrated into forest management planning in each forest planning area in the region.

### **GENERAL DIRECTIONS AND PRIORITIES**

- 1 In consideration of the planning area profiles (Section 7.0 above), the following forest management planning priorities and activities are generally recommended:
  - Focus forest planning on planning areas 3 (Haines Road North), 4 (Pine Lake/Marshall Creek) and 12 (Canyon) for the next five to 10 years.
  - Ensure consistency of existing resource reports and development plans in planning areas 3 and 4 with the CATT Strategic Forest Management Plan and apply any necessary adjustment measures

to their resource and issue assessments and recommended development plans and activities and to any other related future forest development planning in these areas.

- Establish a strategy for the implementation of forest plans in areas 3 and 4, consistent with the identified stages for lower level planning, that identifies:

*Integrated resource management values and management strategies to accommodate the values. (This step will, along with upper level strategies and site/stand conditions drive the silvics strategies. Some of the values identified will be zoned into the “no harvest zone.” Others will be assigned to the “harvest zone.” The acceptable silviculture prescriptions will be those that produce the desired forest/ stand condition over appropriate time.)*

*Zonation of harvest and no-harvest areas*

*Silviculture strategy:*

Suitable tree species and treatments

Meet timber and non-timber values

Long-term resource capacity and future productive use

*Activities: forest practices – values to be incorporated into landscape and site-level treatments (e.g. visual quality, cultural heritage, habitat, recreation and tourism opportunities and regeneration strategies); harvest design and prescription.*

*Maximization of post-harvest benefits (e.g. recreation trails, traditional use opportunities, hunting and trapping opportunities, habitat conservation and restoration, etc.).*

- Consult the ARRC on lower level planning priorities and activities.
- Multi-year forest license and other tenure holders in good standing when the plan is approved and affected by the plan shall be accommodated under the plan for the period covered by their license or tenure.

- 2 In certain circumstances in response to major forest disturbances (extreme levels of spruce beetle infestation), significant episodic events (flooding, wildfire) and elevated levels of public concern, special projects and programs may have priority over direction 1 above. These shall meet the “Criteria That Apply to All Lower Level Plans and Planning” identified above.
- 3 It is recommended that members of the Core Group pursue with Natural Resources Canada the feasibility of establishing a model forest under Canada’s model forest program in a portion of the planning region as means for implementing the plan’s goals, objectives and strategic directions.



# APPENDICES

## APPENDIX 1

### Glossary of Forestry Terms

(source: State of Canada's Forests: 2001 – 2002, selected and modified, unless otherwise noted)

**Access management planning:** Specific to the roading required to access the harvest planning area, and between harvest blocks within the area, and includes maintenance and deactivation.

**Adaptive management:** A dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management practices on a continuing basis to ensure that management objectives are being met.

**Allowable annual cut, or annual allowable cut (AAC):** The amount of timber that is permitted to be cut annually from a particular area. AAC is used as the basis for regulating harvest levels to ensure a sustainable supply of timber.

**Area regenerating:** Includes areas that have been harvested recently (less than 10 years ago), and areas depleted by such natural disturbances as fire, insects and disease, where the stand does not meet stocking standards.

**Available timber:** Timber which is available for harvest after due recognition of constraints to protect the environment and other forest uses. (see operable timber)

**Available volumes:** The portion of total inventory volumes that is available for harvesting after all management constraints on timber harvesting have been considered, including definition of the timber harvesting land base, age of tree merchantability, deferrals and any other priorities or constraints on timber harvesting.

**Basic silviculture:** Harvesting methods and silviculture operations including seed collecting, site preparation, artificial and natural regeneration, brushing, spacing and stand tending, and other operations that are for the purpose of establishing a free growing crop of trees of a commercially valuable species and are required in a regulation, pre-harvest silviculture prescription or silviculture prescription.

**Biodiversity (biological diversity):** The variety, distribution and abundance of different plants, animals and micro-organisms, the ecological functions and processes they perform and the genetic diversity they contain at a local, landscape or regional level of analysis.

**Boreal forest:** The most extensive of the three main forest zones in the world. (Others are tropical and temperate forest zones). The boreal forest is the northern circumpolar forest zone and characterized by winters that always have snow and where summers are short. This coniferous, tundra forest type consists primarily of black and white spruce, balsam fir and larch interspersed with broadleaf trees, usually birch and aspen.

**Clearcutting (clearcut):** A even-aged forest management silviculture method that involves the complete felling and removal of a stand of trees producing a fully exposed micro-climate for the development of a new even-aged stand.

**Climate change:** An alteration in measured quantities (e.g., precipitation, temperature, radiation, wind and cloudiness) within the climate system that departs significantly from previous average conditions and is seen to endure, bringing about corresponding changes in ecosystems and socioeconomic activity.

**Coarse filter approach:** A broad approach to maintaining biodiversity through the conservation of land areas and representative habitats with the assumption that the needs of most of the associated species, communities and ecological processes will be met at the large-scale. (see fine filter approach)

**Coarse woody debris (CWD):** Sound and rotting logs, branches and stumps that provide habitat for plants, animals and insects and a source of nutrients for soil development. The type and size of material designated as CWD varies among classification systems.

**Composition:** The proportion of each tree species in a stand expressed as a percentage of either the total number, crown closure, basal area or volume of all tree species in the stand.

**Commercial forest:** Forest land that is able to grow commercial timber within an acceptable time frame and is designated for such a purpose.

**Critical habitat (from the federal *Species at Risk Act*):** Specific areas within the geographic area occupied by a federally listed species on which physical and biological features are found that are essential to the conservation of the species. In conservation biology – part or all of an ecosystem occupied by wildlife species that is recognized as essential for the maintenance and long-term survival of the population.

**Crown land:** Public land that is managed by the federal government.

**Development plan:** A specific plan outlining harvesting, road construction, protection, and silviculture activities over the short term (often five years) in accordance with the approved forest management plan.

**Ecodistrict:** A part of an ecoregion characterized by distinctive geologic, soil, water, fauna and land use.

**Ecological land classification:** A process of delineating and classifying ecologically distinctive areas based on geologic, landform, soil, vegetative, climatic, wildlife, water and human factors. This holistic approach to land classification can be applied incrementally, from site-specific ecosystems to very broad ecosystems. This system provides for seven levels of generalization: ecozones, ecoprovinces, ecoregions, ecodistricts, ecosections, ecosites and ecoelements.

**Ecoregion:** A part of an ecozone characterized by distinctive regional ecological factors, including climate, physical geography, vegetation, soil, water, fauna and land use.

**Ecosystem:** A dynamic system of plants, animals and other organisms, together with the non-living components of the environment, functioning as an interdependent unit.

**Ecosystem integrity:** The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes sustain the function, composition and structure of the system.

**Ecosystem management:** The use of an ecological approach to achieve productive resource management by blending social, physical, economic and biological needs and values to provide healthy ecosystems.

**Ecotourism:** A type of tourism that focuses on nature-related experiences (e.g., backcountry travel).

**Ecozone:** An area of the Earth's surface that is representative of a broad-scale ecological unit characterized by particular abiotic (non-living) and biotic (living) factors.

**Edge habitat:** A loosely defined type of habitat that occurs at the boundary between two different habitat types. Typically, edge habitats share characteristics with both adjacent habitat types and have particular transitional characteristics that are important to wildlife.

**Endangered species:** Any species of plant or animal defined through the *Species at Risk Act* as being in danger of extinction throughout all or a significant portion of its range in the Federal registry.

**Fine filter approach:** An approach to maintaining biodiversity that is directed toward particular habitats or individual species that might fall through the coarse filter. These habitats may be critical in some way, and the species threatened or endangered.

**Forest:** An ecosystem characterized by a more or less dense and continuous tree cover, often consisting of stands varying in composition, structure, age class and associated processes, and commonly including meadows, streams fish and wildlife.

**Forest cover:** Forest stands or cover types consisting of a plant community made up of trees and other woody vegetation, growing more or less closely together.

**Forest cover map:** A map showing relatively homogeneous forest stands or cover types, produced from the interpretation of aerial photos and information collected in field surveys. Commonly includes information on species, age class, height class, site and stocking level.

**Forest development plan:** An operational plan guided by the principles of integrated resource management (the consideration of timber and non-timber values), which details the logistics of timber development over a period of usually five years. Methods, schedules and responsibilities for accessing, harvesting, renewing and protecting the resource are set out to enable site-specific operations to proceed.

**Forest ecology:** The relationships between forest organisms and their environment.

**Forest Ecosystem Network (FEN):** A planned landscape zone that serves to maintain or restore the natural connectivity within a landscape unit.

**Forest land:** Land primarily intended for growing, or currently supporting, forest. It includes land not now forested (e.g. clear-cut lands and northern lands that are forested but not intended for any commercial forestry use) and plantations.

**Forest management:** The practical application of scientific, economic and social principles to the administration and working of a forest for specified objectives. Particularly, that branch of forestry concerned with the overall administrative, economic, legal and social aspects and with the essentially scientific and technical aspects, especially silviculture, protection and forest regulation.

**Forestry practices:** Any activity that is carried out on forest land to facilitate the use of forest resources, including, but not limited to, timber harvesting, road construction, silviculture, grazing, recreation, pest control and wildfire suppression.

**Forest regions classification:** A process of delineating large geographic areas according to landform and climate, associated with broad variations in overall forest composition.

**Forest type:** A group of forest areas or stands whose similar composition (species, age, height and density) differentiates it from other such groups.

**Fuelwood:** Trees used for the production of firewood logs or other wood fuel.

**Fragmentation:** The process of transforming large continuous forest patches into one or more smaller patches surrounded by disturbed areas. This occurs naturally through such agents as fire, landslides, wind-throw and insect attack. In managed forests, timber harvesting and related activities have been the dominant disturbance agents.

**Indicator species:** Species of plants used to predict site quality and characteristics.

**Geographic Information System (GIS):**

An organized collection of computer hardware, software and geographic data designed for capturing, storing, updating, manipulating, analyzing and displaying all forms of geographically referenced information.

**Global warming:** The rise in temperature of the Earth's atmosphere due to the greenhouse effect (the retention of the sun's energy by the atmosphere due to the build-up of CO<sub>2</sub> and other gases that are the bi-product of industrial activities).

**Green tree retention:** Harvesting that retains live trees of a specific species and size on the area to be cut to achieve a site-specific objective.

**Habitat:** The environment in which a population or individual lives; includes not only the place where a species is found, but also the particular characteristics of the place (e.g., climate or the availability of suitable food and shelter) that make it especially well suited to meet the life-cycle needs of that species.

**Habitat management:** Management of the forest to create environments that provide habitats (food, shelter) to meet the needs of particular organisms.

**Harvesting:** The practice of felling and removing trees or the removal of dead or damaged trees from an area.

**Harvesting method:** The mix of felling, bucking and yarding (skidding) systems used in logging a stand of timber.

**Harvest mitigation:** In areas where logging can occur, the harvest mitigation provides direction on where and how the logging should be carried out, based on the identified values. Values can range from landscape to site-specific interests, such as private lands.

**Harvest pattern:** The spatial distribution of cutblocks and reserve areas across the forested landscape.

**Harvesting prescription:** Detailed plan on how, when and where timber will be harvested from an area.

**Harvest schedule:** A document listing the stands to be harvested by year or period, usually showing types and intensities of harvests for each stand, as well as a timetable for regenerating currently non-productive areas.

**Harvesting system:** The mix of felling, bucking and yarding systems used in logging a stand of timber.

**Healthy ecosystem:** An ecosystem in which structure and functions allow the maintenance of biodiversity, biotic integrity and ecological processes over time.

**Home range size:** An individual species' requirement for space. Both the size of an organism and its lifestyle determine its space requirements.

**Integrated resource management:** A holistic approach to resource management that entails the management of two or more resources (e.g. water, soil, timber, pasture, wildlife and recreation) and that integrates the values of the community into the design of policies or projects to use and sustain these resources in perpetuity.

**Inventory (forest):** A survey of a forest area to determine such data as area, condition, timber, volume and species for a specific purpose, such as planning, purchasing, evaluating, managing or harvesting.

**Key species:** Forage species that must, because of their high degree of use, be considered in the management program.

**Keystone species:** A species that plays an important ecological role in determining the overall structure and dynamic relationships within a biotic community. A keystone species presence is essential to the integrity and stability of a particular ecosystem.

**Landscape:** Areas of land that are distinguished by differences in landforms, vegetation, land use and aesthetic characteristics.

**Management ignited prescribed fire:** A means of controlling forest diseases, insects and excessive buildup of trees, and managing vegetation and habitat through the scheduling of burns around weather, fuel loads, season and ability to control fire.

**Management plan:** A detailed plan for a forested area. It contains inventory and other resource data. (see forest management)

**Merchantable timber:** A tree or stand that has attained sufficient size, quality and/or volume to make it suitable for harvesting.

**Model forest:** A forest or designated area including forests and woodland for which an integrated management plan is created and implemented to achieve multiple objectives.

**Multiple forest use:** A system of resource use where the forest resources in a given land unit serve more than one user.

**Natural disturbance:** Natural events that cause tree or forest renewal, i.e. due to fire, flooding, insect or disease attack. Natural disturbance regimes are a description of the dominant natural disturbance agents occurring in a large area such as a watershed or ecoregion.

**Natural disturbance regimes:** The historic patterns (frequency and extent) of fire, insects, wind, landslides and other natural processes in an area.

**Natural regeneration:** The renewal of a forest stand by natural seeding, sprouting, suckering or layering seeds may be deposited by wind, birds or mammals.

**Net down:** A zoning of the harvest planning area that helps to describe where logging can and cannot occur.

**Non-commercial tree species:** A tree species for which there is currently no market.

**Non-forest land:** Land not primarily intended for growing or supporting a forest.

**Non-timber resource value:** A value within the forest other than timber that includes, but is not limited to, biological diversity, fisheries, wildlife, minerals, water quality and quantity, recreation and tourism, cultural and heritage values and wilderness and aesthetic values.

**Non-timber resources:** Resources other than timber, such as recreation, aesthetics, wildlife, fish, forage, range, water and soils.

**Old-growth forest:** Old growth is a forest that contains live and dead trees of various sizes, species, composition, and age class structure. Old-growth forests, as part of a slowly changing but dynamic ecosystem, include climax forests but not sub-climax or mid-seral forests. The age and structure of old growth varies significantly by forest type and from one biogeoclimatic zone to another.

**Operability:** The ease of operations determined by the complexity and sensitivity of the site conditions (slope, soil, timber, volumes, harvesting equipment, etc.) and the degree of disturbance expected.

**Operable forest:** That portion of the production forest that, under current market conditions, can be harvested at a profit.

**Operable land:** All lands that are not considered inoperable lands.

**Operable timber:** Available timber that can be economically logged with present harvesting methods after consideration of access, timber quality and market price.

**Over-mature:** Tree or stand that has passed the age of maturity where the rate of growth has diminished and the trees are weakened.

**Patch cutting:** The removal of all of the trees in a stand. The same as clearcutting, except that the area involved is smaller.

**Partial cutting:** Tree removal other than in a clearcut silviculture system; includes seed tree, variable retention, shelterwood and selection systems.

**Pest:** An organism capable of causing material damage. Forest pests include insects, tree diseases and noxious fungi.

**Protected area:** An area protected by legislation, regulation or land use policy to control the level of human occupancy or activities. Categories of protected areas include protected landscapes, national parks, multiple use management areas and nature (wildlife) reserves.

**Protection forests:** Proposed name for forests protected from harvesting by policy. These forests usually protect sensitive sites, such as watersheds and steep slopes.

**Public land:** Public land that is managed by the territorial government.

**Reforestation:** The re-establishment of trees on denuded forest land by natural or artificial means, such as planting and seeding.

**Regeneration:** The continuous renewal of a forest stand. Natural regeneration occurs gradually with seeds from adjacent stands or with seeds brought in by wind, birds or animals. Artificial regeneration involves direct seeding or planting.

**Retention harvesting:** A silvicultural system designed to retain individual trees or groups of trees to maintain structural diversity over the area of the cut block.

**Riparian forest:** At a large scale, it is the band of forest that has a significant influence on a stream ecosystem or is significantly affected by the stream. At a smaller scale, it is the forest at the immediate water's edge, where some specialized plants and animals form a distinct community.

**Riparian zone / Buffer zone / Buffer strip:** A strip of land maintained along a stream, lake, road, recreation site or different vegetative zone to mitigate the impacts of actions on adjacent lands, to enhance aesthetic values or as a best management practice.

**Rotation:** The planned number of years between the formation or regeneration of a crop or stand and its final cutting at a specified stage or maturity.

**Selection cutting:** Annual or periodic cutting of trees in a stand in which the trees vary markedly in age. The objective is to recover the yield and maintain an uneven-aged stand structure, while creating the conditions necessary for tree growth and seedling establishment. Differs from selective cutting, in which the most valuable trees are harvested without regard for the condition of the residual stand.

**Shelterwood cutting:** A method of harvesting that involves two cuts: the first cut leaves trees at intervals to provide the canopy and species required for natural regeneration; the second cut harvests the resulting new crop of trees (which are fairly even-aged).

**Shelterwood systems:** A method of harvesting that involves two cuts: the first cut leaves trees at intervals to provide the canopy and species required for natural regeneration; the second cut harvests the resulting new crop of trees (which are fairly even-aged).

**Silviculture:** The theory and practice of controlling the establishment, composition, growth and quality of forest stands. Can include basic silviculture (e.g. planting and seeding) and intensive silviculture (e.g. site rehabilitation, spacing and fertilization).

**Single tree selection:** The selection of individual trees for harvesting.

**Silvicultural prescription:** Provides direction on block size and harvesting methods within the planning area. The prescription also identifies site limitations and reforestation planning.

**Stand:** A community of trees possessing sufficient uniformity in composition, age, arrangement or condition to be distinguishable from the forest or other growth on adjoining areas, thus forming a silvicultural or management entity.

**Stand:** A community of trees sufficiently uniform in species, age, arrangement or condition so as to be distinguishable as a group in the forest.

**Even-aged stands:** Stands in which the ages of most trees are within 20 years of each other or is comprised of no more than two age classes.

**Mixed-wood stands:** Stands containing both deciduous and coniferous species.

**Uneven-aged stands:** Stands in which the most of the trees differ by more than 20 years or is comprised of more than two age classes.

**Stand height:** Tree height is estimated for the leading tree species in the canopy based upon an average of dominant and co-dominant tree heights.

**Stand age:** Stand age is the average age of the dominant and co-dominant trees for the leading species.

**Stand structure:** Stand structure is the physical arrangement or pattern of organization within the forest stand.

**Single-storied:** An even-aged stand that exhibits a more or less uniform canopy height.

**Two-storied:** A stand with two distinct, homogeneous layers, each with at least 10 per cent crown closure, between which there is a height difference of at least 10 metres.

**Complex:** A stand characterized by trees of many ages or sizes occurring singly or in groups. Tree species are usually shade tolerant.

**Sustainable (forest) development:** The development of forests to meet current needs without prejudice to their future productivity, ecological diversity or capacity for regeneration.

**Sustainable forest management:** An evolving forest management concept that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things, while providing environmental, economic, social and cultural opportunities for present and future generations.

**Sustained-yield forestry:** The yield of defined forest products of specific quality and in projected quantity that a forest can provide continuously at a given intensity of management.

**Thinning:** A forest practice involving a range of mechanized harvesting methods to control disease, insects and excessive buildup of trees.

**Threatened species:** A species that is likely to become endangered if certain pressures are not reversed.

**Understory:** Trees growing under the main forest canopy.

**Value-added product / Value-added production:** Adding value to a product by further processing it. Examples of value-added wood products include joinery stock, windows, doors, kitchen cabinets,

flooring and mouldings. Value-added pulp and paper products include such items as packaging, diapers, coated papers, tissue, business papers and stationery and other consumer paper products.

**Vulnerable species:** A species that is considered at risk because it exists in low numbers or in restricted ranges, due to loss of habitat or other factors.

**Watershed:** An area of land that collects and discharges water into a single main stream through a series of smaller tributaries.

**Wetland:** An area where the soils are water-saturated for a sufficient length of time that excess water and resulting low oxygen levels are principle determinants of vegetation and soil development. A wetland is a swamp, marsh, bog or similar area that supports natural vegetation that is distinct for adjacent areas. Wetlands may or may not be treed. Shrub scars are included as wetlands. Shrub scars occur primarily in broad depressions and low-lying areas where forest development is limited by cold, periodically saturated soils.



## APPENDIX 2

### Supplementary Information

#### A. LAND BASE AND FOREST CLASSIFICATION SUMMARY

**Forest Type Summary for CATT Forest Management Plan Region**  
(Kluane National Park and Reserve of Canada excluded)

FOREST TYPE	AREA (HA)
Alpine	575,000
Cultivated	111
Forested	272,220
Lake	66,000
Non-Productive	393,100
Not Sufficiently Regenerated	25,000
Rivers	5,200
Urban	2,469
Wetland	25,000
TOTAL	1,364,100

#### B. NATURAL DISTURBANCES

The Yukon includes at least five types of natural disturbance zones. All are characterized by a dominant forest ecosystem, landscape position, terrain conditions, physical environment, disturbance type and frequency and typical forest function, structure and composition. The five natural disturbance regime areas are:

##### **Natural Disturbance Zone 1: Riverine**

Areas actively influenced by water on flood plain rivers (greater than seven metres width).

##### **Natural Disturbance Zone 2:**

###### **Lowland and Transitional**

Areas with increased available summer moisture, forests tend to acquire uneven age-stand tendencies due to extended periods without fire.

##### **Natural Disturbance Zone 3:**

###### **Simple (Homogenous) Upland**

Lack of prominent terrain features and dry conditions encourage large, regular fires.

##### **Natural Disturbance Zone 4:**

###### **Complex (Heterogeneous) Upland**

Prominent terrain features and dry conditions result in complex fire patterns.

##### **Natural Disturbance Zone 5: Sub-alpine**

Higher elevation areas, defined by the presence of sub-alpine fir, indicating lengthened fire rotations and uneven stand tendencies.

In the planning region, the 1998 Marshall Creek and MacIntosh fires were both human-caused fires. However, the pattern and intensity of the fires were consistent with the definition for natural disturbance zone 3: moderately frequent, stand-replacing wildfires that range in size from small spot fires to large events that may consume up to 100,000 hectares. Average fire size in this zone is about 300 hectares, with significant variation around this figure.



#### C. SPRUCE BARK BEETLE

Indigenous to North America and found from coast to coast, this bark borer is one of the larger bark beetles found in spruce. This beetle will attack all species of spruce and sometimes shore pine when the latter grows with other spruces. Initial attack occurs at the base of the tree, and the formation of adult and larval galleries in the wood results in a loosening of the bark and the stoppage of sap flow. Consequently, the foliage wilts, turns brown and falls. Severe attacks can kill the tree. Additional damage may result from the transmission of blue-stain fungi by the beetles.

Capable of attacking standing timber, this insect generally attacks large diameter trees after fires or

windstorms or in waste left at felling sites. It is considered to be more of a threat in western Canada, as it is not abundant in the east.

**Points of interest:**

- Life cycle can be one to three years depending on climate; the warmer the climate, the shorter the cycle.
- Normally over-winters in the adult stage, sometimes in the larval stage for longer cycles.
- First reported in 1923 in Canada.
- Average of mature larval or full-grown length is 6 millimetres.

**D. SPECIAL PLACES**

**Kluane Wildlife Sanctuary**

In 1943, Canada set aside 25,000 square kilometres of land to establish the Kluane Wildlife Sanctuary. Most of this (22,000 square kilometres) was removed from the sanctuary in 1972 for the purpose of creating a national park – an area that was proclaimed Kluane National Park Reserve in 1976, with formal park designation pending the settlement of the CAFN and Kluane First Nation land claim agreements.

What remains outside of the national park is today referred to as the Kluane Wildlife Sanctuary. This includes two areas within the Forest Management Planning Region: the Jarvis River area just northwest of Haines Junction and the Tatshenshini River area to the south. A third area includes the Klutlan Glacier and Burwash Uplands area to the north. No sport hunting is allowed in the sanctuary, but mineral exploration and development are permitted.

**Kluane National Park and Reserve of Canada**

The *Yukon First Nations Land Claims Settlement Act*, proclaimed in February 1995, established approximately 7,655 km<sup>2</sup>, or one third, of the original Kluane National Park Reserve as a national park. Kluane National Park is an area south and east of the Slims River, which flows into the south end of Kluane Lake. Approximately 7%, or 1,570 sq. km of the entire KNPR, is montane.

The Champagne and Aishihik First Nations and the Kluane First Nation have negotiated Final Agreements related to Kluane.

The northwest portion of the park reserve lies within Kluane First Nation's Traditional Territory and outside of the CATT forest management planning region. With the signing of the Kluane First Nation Final Agreement in 2003, these lands will be removed from the park reserve, the *National Parks Act* will be amended and this area will be included in Kluane National Park.

*Milestones:*

**1943** – Kluane Game Sanctuary (>25,000 sq.km), established for eventual park establishment.

**1972** – 22,000 sq. km of the Kluane Game Sanctuary was set aside as national park. Officially proclaimed Kluane National Park Reserve in 1976, pending settlement of land claims.

**1993** – 5,900 sq.km of the south eastern portion of the national park reserve established pursuant to the CAFN Final Agreement.

**1995** – CAFN Final Agreement signed and establishment of Park Management Board.

**2003** – Kluane First Nation Final Agreement signed.

**Shāwshe (Dalton Post) Historic Site**

The CAFN Final Agreement established Shāwshe (Dalton Post) Historic Site. This site is an important location on the Tatshenshini River because it is at the only road access to the river and is steeped in history. First Nations have traveled to the site to fish, trade and meet for centuries. Jack Dalton built a trading post and staging point here for overland travel to the Yukon interior during the Klondike Gold Rush. The North West Mounted Police established a regional headquarters here. Today, sport salmon fishers, miners, commercial whitewater rafters and adventure tourists all use the area together with First Nation people.

A heritage resources management plan has been prepared for the site. The plan organizes and accommodates a wide range of activities, while preserving the heritage resources and values of the area.

**Alsek River – Heritage River**

Designated as a heritage river in 1986, the 300-kilometre Alsek flows through Kluane National Park. Kluane is bordered by Wrangell-St. Elias National

Park in Alaska, the Tatshenshini-Alsek Provincial Park in northern British Columbia, and the Asi Keyi Special Management Area to the north, and forms a key part of the largest contiguous protected area in the world. The Alsek flows through the highest mountains in Canada, fed by the world's largest mountain glaciers. Its upper reaches provide prime habitat for grizzly bear, Dall sheep and other wildlife.

#### **Tatshenshini River (Yukon Section) – Heritage River Nomination**

The Tatshenshini River is an internationally renowned river that cuts through the spectacular coastal mountains on its way from the Yukon through British Columbia to the Alaska coast. Its nomination as a heritage river was approved by the responsible ministers for Yukon and Canada in 1998.

The river supports an unusually large population of grizzly bears. Other big game includes Dall sheep, woodland caribou and moose. Peregrine falcons, bald and golden eagles and goshawks are common to the area. The Tatshenshini is also an important salmon-spawning river, supporting the traditional harvest of the CAFN people.

Today, the Tatshenshini is considered to be one of the top river trips in the world for rafters and kayakers.

#### **Marshall Creek Special Forest Reserve:**

In 1987, INAC established a special forest reserve of about 3,800 hectares around Marshall Creek to maintain an area accessible to Haines Junction residents to get house logs, sawlogs and other timber products. Following discussions at a community workshop convened by the ARRC, it was generally agreed that the values for the burned area of this reserve had changed as a result of the burn. It was recommended that the areas of the operating units identified in 1998 for harvesting should be removed from the reserve. Because of the existing uncertainty surrounding the management of the reserve, it was agreed that its future status should be addressed by regional forest management planning processes.

#### **E. GREATER KLUANE LAND USE PLAN (1992)**

The following recommendations were made in the regional land use plan for forestry:

- Forest harvesting should be carried out on a sustainable basis with priority given to meeting the fuelwood and small-scale sawlog needs of the regional and greater Yukon markets.
- Protection of wildlife and wilderness values should be given priority over large-scale harvesting based on export markets.
- Forest management plans should be required prior to any significant increase in harvesting. Plans should address the need for silviculture, soil and water conservation and forest fire management and should ensure adequate protection of fish and wildlife habitats and maintain scenic and wilderness resource values.
- When future demand for fuelwood requires special management, community woodlots should be established to ensure accessible supplies for local residents.
- Single use applications for land within highly and moderately productive areas should be reviewed for their impacts on the forest resource base.
- Government should develop a fire management plan for the Kluane Region in close cooperation with First Nations and other residents of the region. The plan should give consideration to the use of controlled burns for habitat enhancement.

#### **F. CAFN TRADITIONAL ACTIVITIES PROTECTION ACT**

Selected purposes of the act:

- Ensure comprehensive and integrated decision making respecting the use and management of settlement land and resources, including the full consideration of environmental, cultural, historic and socio-economic factors in that decision making.
- Protect the culture, traditions, health and lifestyle of Champagne and Aishihik people and to ensure that information pertaining to these things is used respectfully and wisely in decisions made by the First Nations.

## G. CAFN FISH AND WILDLIFE ACT

Selected purposes of the act:

- Preserve and enhance the renewable resource economy of the First Nations.
- Integrate all aspects of renewable resource use and management.
- Develop responsibility for renewable resource management by the First Nations.
- Honour fish and wildlife harvesting customs of the First Nations.

## H. YUKON FISH AND WILDLIFE SPECIES STATUS ASSESSMENTS

### Committee on the Status of Endangered Species in Canada (COSEWIC)

COSEWIC is a national committee that evaluates the status of all wildlife species in Canada and identifies those most at risk. COSEWIC places species at risk in the following categories:

#### **Endangered**

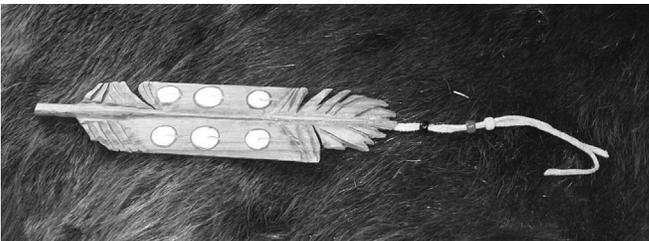
A species facing imminent extirpation or extinction.

#### **Threatened**

A species likely to become endangered if limiting factors are not reversed.

#### **Special Concern**

A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.



In this system, COSEWIC lists the following Yukon wildlife species at one of the three levels of risk:

#### **Endangered**

Bowhead whale

#### **Threatened**

Wood bison (also specially protected by the *Yukon Wildlife Act*)

Peregrine falcon

#### **Special Concern**

Grizzly bear (also identified by CITES; see below)

Polar bear

Wolverine

Short-eared owl

Peregrine falcon

Tundra race (also specially protected by the *Yukon Wildlife Act*)

Squanga whitefish

### Convention on the International Trade in Endangered Species (CITES)

CITES governs the cross-border movement of animal parts from species of international concern. Yukon populations of these species are not at risk today, but they must be monitored closely to avoid the problems that have occurred elsewhere.

#### **Yukon Wildlife at Risk Elsewhere But Not in Yukon (CITES Identification):**

Wolf, black bear, lynx, river otter, gyrfalcon, all birds of prey

Recent world-wide declines in amphibian populations have led to concerns about the status of amphibians in Canada. There are four amphibians occurring in the Yukon: boreal toad, northern wood frog, boreal chorus frog and Columbian spotted frog.

#### **Yukon Wildlife Act**

The *Yukon Wildlife Act* lists seven species as “specially protected:” elk, musk ox, deer, cougar, gyrfalcon, peregrine falcon and trumpeter swan.

#### **Wildlife Species at Risk in Yukon But Not Elsewhere (Yukon Listing)**

Mule deer, musk ox, elk, cougar

## I. CANADIAN MODEL FOREST PROGRAM (NATURAL RESOURCES CANADA)

### Objectives of the Program

- to increase the development and adoption of sustainable forest management systems and tools within and beyond model forest boundaries;
- to disseminate the results and knowledge gained through Canada's Model Forest Program at local, regional, and national levels;
- to strengthen model forest network activities in support of Canada's sustainable forest management priorities; and
- to increase opportunities for local-level participation in sustainable forest management.



### What is a Model Forest?

- a diverse partnership of stakeholders and rights holders
- a large-scale working model of sustainable forest management
- a site for developing and applying new knowledge and technologies
- a focus for promoting ecologically sound forest management practices
- a consensus-driven partnership working with shared decision-making to achieve social, environmental, and economic sustainability in forest management
- a creator of on-the-ground solutions addressing local needs and global concerns
- a place where communities and traditional knowledge play a role in forest management
- a link in a network to facilitate an exchange of ideas and approaches to sustainable forest management

### Why were Model Forests Created?

Canada's forests are a key contributor to Canada's natural wealth, providing clean air and water, habitat for wildlife, recreational opportunities, and wilderness areas. At the same time, the economies of many communities are reliant on forest-based industries and businesses and many Canadians depends directly on the forests for employment.

Natural Resources Canada, through the Canadian Forest Service, launched Canada's Model Forest Program to address the challenge of balancing the extensive range of demands we place on our forests today and the needs of tomorrow's generations. The principle behind the program is simple. Each model forest serves as a demonstration of partners with a diversity of forest values working together to achieve sustainable forest management. (SFM)

## APPENDIX 3

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## APPENDIX 4

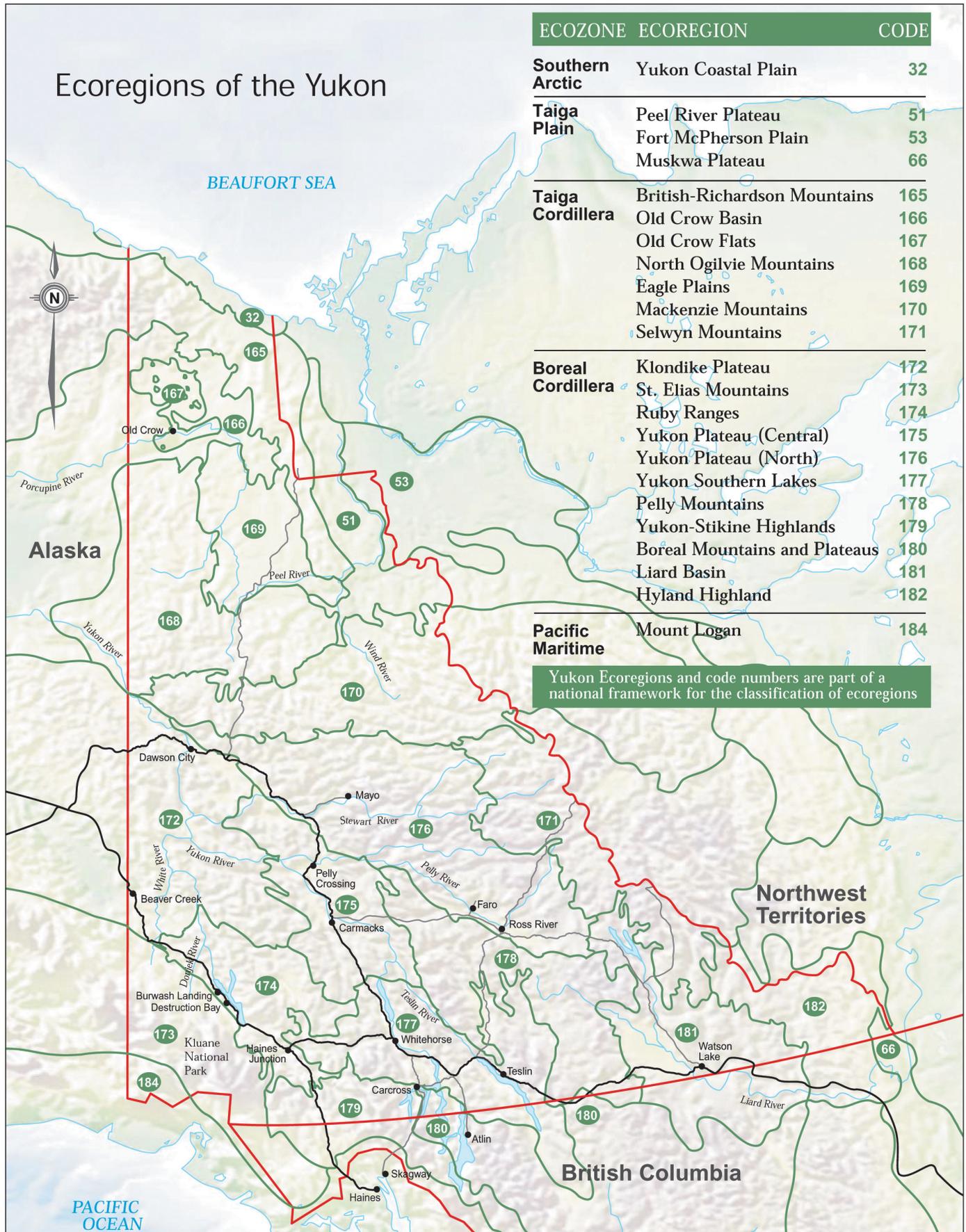
### List of Acronyms

<b>ARRC</b> Alsek Renewable Resource Council	<b>FMB</b> Forest Management Branch, YG
<b>CAFN</b> Champagne and Aishihik First Nations	<b>FMP</b> Forest Management Plan
<b>CATT</b> Champagne and Aishihik Traditional Territory	<b>GIS</b> Geographic Information System
<b>CCFM</b> Canadian Council of Forest Ministers	<b>GKLUP</b> Greater Kluane Land Use Plan
<b>CFS</b> Canadian Forest Service	<b>INAC</b> Indian and Northern Affairs Canada
<b>CITES</b> Convention on the International Trade in Endangered Species	<b>KNPR</b> Kluane National Park and Reserve
<b>COSEWIC</b> Committee on the Status of Endangered Wildlife in Canada	<b>LOU</b> Letter of Understanding
<b>DFO</b> Department of Fisheries and Oceans, Canada	<b>NRCAN</b> Natural Resources Canada
<b>DIAND</b> Department of Indian Affairs and Northern Development, Canada	<b>SFM</b> Sustainable Forest Management
<b>DOE</b> Department of Environment, YG	<b>THPOG</b> Timber Harvest Planning Operational Guidebook
	<b>YTG</b> Yukon Territorial Government

Photos courtesy of YTG, CAFN, ARRC.



# MAP 5 YUKON ECOREGIONS



## CONTACT INFORMATION

If you would like more information regarding the *Champagne and Aishihik Traditional Territory Strategic Forest Management Plan*, please contact

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