MORICE DEFINED FOREST AREA
SUSTAINABLE FOREST MANAGEMENT PLAN

December 2017

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SIGNATORIES

The following have committed to implement and maintain on a continuous improvement basis, the Morice Sustainable Forest Management Plan.

Greg Yeomans, R.P.F. Planning Coordinator — Date

Canadian Forest Products Ltd. Forest Management Group.

Carl Vandermark, RPF. Operations Manager — Date

Canadian Forest Products Ltd. Forest Management Group

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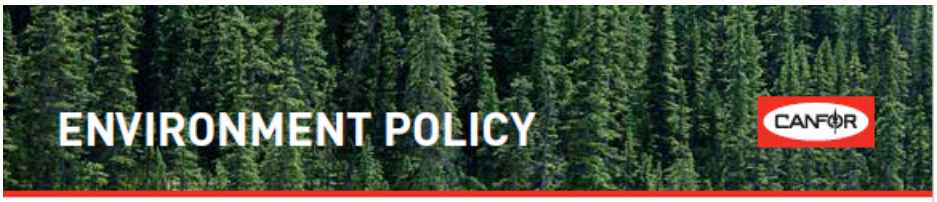
COMMITMENTS TO SUSTAINABLE FOREST MANAGEMENT

Canadian Forest Products Ltd. (Canfor) believes in conducting its business in a manner that protects the environment and ensures sustainable forest development. The following Environmental Policy and Sustainable Forest Management Commitments will detail the commitments to Sustainable Forest Management (SFM) for the Morice Defined Forest Area (DFA). These commitments are available and communicated publicly.



ENVIRONMENT POLICY

WE ARE COMMITTED TO RESPONSIBLE STEWARDSHIP OF THE ENVIRONMENT THROUGHOUT OUR OPERATIONS.

WE WILL:

- Comply with or exceed legal requirements.
- Comply with other environmental requirements to which the company is committed.
- Achieve and maintain sustainable forest management.
- Set and review objectives and targets to prevent pollution and to continually improve our sustainable forest management and environmental performance.
- Provide opportunities for interested parties to have input into our sustainable forest management planning activities.
- Promote environmental awareness throughout our operations.
- Conduct regular audits of our forest and environmental management systems.
- Communicate our sustainable forest management and environmental performance to our Board of Directors, shareholders, employees, customers and other interested parties.

JUNE 2016

DON KAYNE
President and Chief Executive Officer

MICHAEL KORENBERG
Chairman

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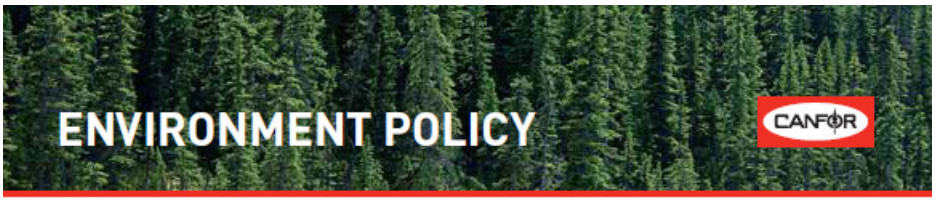

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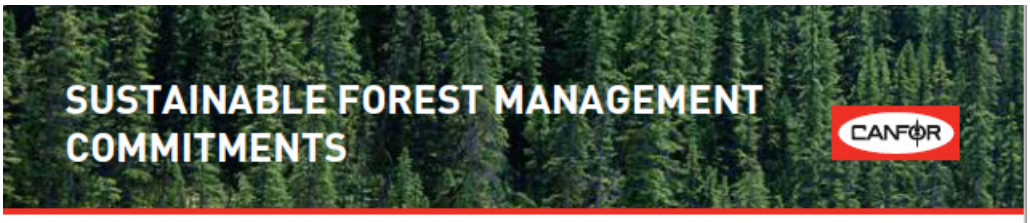

SUSTAINABLE FOREST MANAGEMENT

WE WILL MANAGE FORESTS TO MAINTAIN AND ENHANCE THE LONG-TERM HEALTH OF FOREST ECOSYSTEMS, WHILE PROVIDING ECOLOGICAL, ECONOMIC, SOCIAL AND CULTURAL OPPORTUNITIES FOR THE BENEFIT OF CURRENT AND FUTURE GENERATIONS. IN THE MANAGEMENT OF FORESTS, WE WILL HONOUR RELEVANT INTERNATIONAL AGREEMENTS AND CONVENTIONS TO WHICH CANADA IS A SIGNATORY.

ACCOUNTABILITY
We will be accountable to the public for managing forests to achieve current and future values. One way we will demonstrate this is by certifying our forestry operations to internationally recognized, third-party verified sustainable forest management certification standards.

ADAPTIVE MANAGEMENT
We will use adaptive management to continually improve sustainable forest management by identifying values, setting objectives and targets for the objectives, and monitoring results. We will modify management practices as necessary to achieve the desired results.

SCIENCE
We will utilize science to improve our knowledge of forests and sustainable forest management and will monitor and incorporate advances in sustainable forest management science and technology where applicable.

MULTIPLE VALUE MANAGEMENT
We will manage forests for a multitude of values, including biodiversity, timber, water, soil, wildlife, fish/riparian, visual quality, recreation, resource features and cultural heritage resources.

HEALTH AND SAFETY
We will conduct our operations in a manner which will provide a safe environment for employees, contractors, and others who use roads and forest areas we manage.

ABORIGINAL PEOPLES
We recognize and will respect Aboriginal rights, title and treaty rights when planning and undertaking forest management activities.

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SUSTAINABLE FOREST MANAGEMENT COMMITMENTS

OPPORTUNITIES FOR PARTICIPATION

We will provide opportunities for the public, communities, Aboriginal Peoples and other stakeholders and with rights and interests in sustainable forest management to participate in the development and monitoring of our Sustainable Forest Management Plans.

SCALE

We will define objectives over a variety of time intervals (temporal scales) and at spatial scales of stand, landscape and forest. This produces ecological diversity and allows for the management of a range of conditions, from early successional to old growth.

TIMBER RESOURCE

We will advocate for a continuous supply of affordable timber from legal sources in order to carry out our business of harvesting, manufacturing and marketing forest products for the sustained economic benefit of our employees, the public, communities and shareholders, today and for future generations.

FOREST LAND BASE

We will advocate for the maintenance of the forest land base as an asset for current and future generations.

JUNE 2016

DON KAYNE
President and Chief Executive Officer

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Acknowledgements

The development of this Sustainable Forest Management Plan could not happen without the dedicated efforts and hard work of the people and organizations listed below

Members of the Morice Public Advisory Group

Naomi Himech – Tourism

Frank McDonald - Recreation

Andy Meints – Contract Logging

Bill Miller – Director Regional District of Bulkley Nechako

Russ Skillen - Trapper

Steven Wright – Forestry consulting, Woodlots

Jerry Veillette - Dungate Community Forest

Sonny Perkinson – Guiding/Outfitting

Jonathan Van Barneveld – District of Houston

Kel Knutson – General Public

Rick Barden – Contract Logging

Shane Brienen – District of Houston

Russell Tiljoe – Wet'suwet'en First Nation?

Elsie Tiljoe – Wet'suwet'en First Nation?

Garth O'Meara – Provincial Government?

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Facilitator& Support

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Anna Monetta, RPF – Note Taker

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EXECUTIVE SUMMARY

Between 2000 and 2005 forest tenure holders ("licensees") along with a group of public and First Nations' representatives (the Sustainable Forest Management (SFM) Public Advisory Group), developed a Sustainable Forest Management Plan (SFMP)[1] for the Morice Defined Forest Area (DFA).

Members of the SFM Public Advisory Group (PAG) represented a cross-section of local interests including recreation, tourism, ranching, forestry, conservation, water, community and First Nations.

The SFMP includes a set of values, objectives, indicators and targets that address environmental, economic and social aspects of forest management in the Morice DFA. The plan is based on the Canadian Standards Association (CSA) Sustainable Forest Management; Requirements and Guidance, which is one of the primary certification systems currently being used in British Columbia. A SFMP developed according to the CSA standard sets performance objectives and targets over a defined forest area (DFA) to reflect local and regional interests. Consistent with most certifications, and as a minimum starting point, the CSA standard requires compliance with existing forest policies, laws and regulations. Working with the PAG, this SFMP has undergone substantive revisions in 2011 to reflect the requirements of the newest CSA standard's requirements (CSA Z809-16) and once again in 2017.

Irrespective of changes occurring to the CSA SFM standard, the SFMP is an evolving document that is reviewed and revised annually with the PAG to address changes in forest conditions and local community values. Each year the PAG reviews an annual report prepared by Canfor to assess achievement of indicators and targets. This monitoring process provides Canfor, the public and First Nations an opportunity to bring forward new information and to provide input concerning new or changing public values that can be incorporated into future updates of the SFMP.

Following completion of the SFMP and the development of an environmental management system, a licensee may apply for registration of its operating area under the CSA standard and will be audited to the standards of CSA Z809.

[1] This SFMP was developed using the Kamloops – Thompson SFMP (January 2010) as a template for structure and generic content.

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1.0 INTRODUCTION & OVERVIEW

In recent years there has been an increasing demand worldwide for certified wood products. This has led to the development of a number of certification systems to provide assurance to consumers that timber has been produced using environmentally and socially responsible forest practices.

The Canadian Standards Association (CSA) Sustainable Forest Management Standard is one of a number of certification systems currently being used in British Columbia. A Sustainable Forest Management Plan (SFMP) developed according to the CSA standard, defines values, objectives, indicators and targets over a defined forest area (DFA) to reflect local and regional interests. This standard requires that SFMP development, maintenance and improvement include significant public involvement. Public Advisory Groups (PAGs) such as the PAG, composed of a cross-section of local interests, including commercial and non-commercial recreation, tourism, ranching, forest contactors, conservation, mining, communities, small business, and First Nations, fulfill this role.

Canfor in the Morice DFA, working with the PAG, has developed, maintained and improved, the Morice DFA SFMP based on the CSA Z809 standard.[2]

Version 1.0 of the Morice Timber Supply Area (TSA) SFM Plan completed in October 2002 through Tweedsmuir Forest Ltd., a subsidiary company of licensees engaged in the Morice and Lakes Timber Supply Areas Innovative Forest Practices Agreement (M&L IFPA). The provincial IFPA program was designed to enable licensees to explore new forest management ideas in an operational setting to enhance timber supplies, community stability and social and environmental values. The M&L IFPA was awarded in 1999 and is a partnership between six regional forest licensees (Babine Forest Products, Canadian Forest Products, Decker Lake Forest Products, Fraser Lake Sawmills, Houston Forest Products, and L&M Lumber) and BC Timber Sales in both the Morice and Lakes Timber Supply Areas. The SFM Plan was developed using innovative approaches in public involvement, forest productivity and ecosystem-based management, and is the vehicle by which achievement of IFPA goals is enabled.

This most recent SFMP revision reflects updates for Canfor's new operating area, removal of BCTS from the plan and updates to the forecasting in this plan. The new operating area reflects a trade in operating areas with West Fraser where Canfor gave up their licenses in Quesnel for a cut of 324,500 m^3 in the Morice TSA. The operating area trade provides protection against an expected fall down in harvest rates due to Mountain Pine Beetle.

The SFMP serves as a "roadmap" to current and long-term management in the DFA, setting performance targets and management strategies that are reflective of the ecological, social, and economic values of the DFA. The plan is consistent with other strategic plans such as the Morice Land and Resource Management Plan (LRMP) and the Forest Stewardship Plan (FSP).

It is the intent that the values, objectives, indicators, targets and guiding principles described in this plan will continue to be adhered to by the licensees in the DFA, supporting sustainable forest management in the DFA. The SFMP is continuously evolving. It is reviewed and revised on an annual basis, with the PAG, to reflect changes in forest condition and local community values.

More information about the DFA certification process, Sustainable Forest Management Planning, meeting summaries, annual reporting and maps can be obtained at the Canfor website: http://www.canfor.com/responsibility/environmental/certification

[2] http://www.shopcsa.ca/onlinestore/GetCatalogItemDetails.asp?mat=2419617

2.0 THE DEFINED FOREST AREA

2.1 Area Description[3]

2.1.1 Overview

The Morice DFA is contained wholly within the licencee's operating areas within the Morice TSA (Figure 1). The Canfor DFA area is 693,669 ha.

The Morice TSA is situated on the edge of British Columbia's Interior Plateau. The area is bounded by the eastern slopes of the Coast Mountains to the west, Tweedsmuir Park and the head waters of the Nechako Reservoir to the south and a large portion of Babine Lake to the northwest. The Bulkley River valley winds its way through the centre of the TSA, providing an access corridor linking Prince George to the northwest coast. The TSA is approximately 1.5 million hectares, the majority of which is Crown land. The Morice TSA forms the western part of the Nadina Forest District.

2.1.2 Communities

The plan area supported an estimated population of 4,511 residents in 2011[4]. The focal point for much of the economic activity in the Morice is the largest community of Houston (population 3,147 in 2011). Other communities include the Village of Granisle (population 303 in 2011), and the Regional District of Bulkley- Nechako electoral area G (population 975 in 2011) which contains the rural settlements of Topley, Buck Flats, Perow. and Tachet Reserve (population 81 in 2011) Farms and ranches are dispersed across the plan area, especially along Highway 16 and from Owen Lake to Francois Lake. The population for the plan area has declined by about 4.0% from the 2006 census (4701- 4511 = 190)

The main First Nations overlaps with traditional territory within the Morice TSA are the Lake Babine Nation and the Wet'suwet'en people. The Wet'suwet'en people are represented by Moricetown Band, Wet'suwet'en First Nation Band, Skin Tyee Band and the Nee Tahi Bunn Bands. They are also represented by the Office of the Wet'suwet'en which is an organization operates with a basis on the hereditary system of governance. Other bands with less overlap include the Cheslatta Carrier First Nation, Yekooche First Nation and Takla Landing Band. There are 17 Indian Reserves scattered throughout the TSA area but only Fort Babine and Tachet (both are part of the Lake Babine Nation) have established year-round communities.

There are one tribal councils affiliated with First Nations in the Morice TSA area.

The Carrier-Sekani Tribal Council is based out of Prince George and is an over-arching organization of elected First Nation chiefs of the Carrier-Sekani.

[3] Description is primarily excerpts from "Morice Land and Resource Management Plan, February, 2007"

[4] Reference: 2011 Census

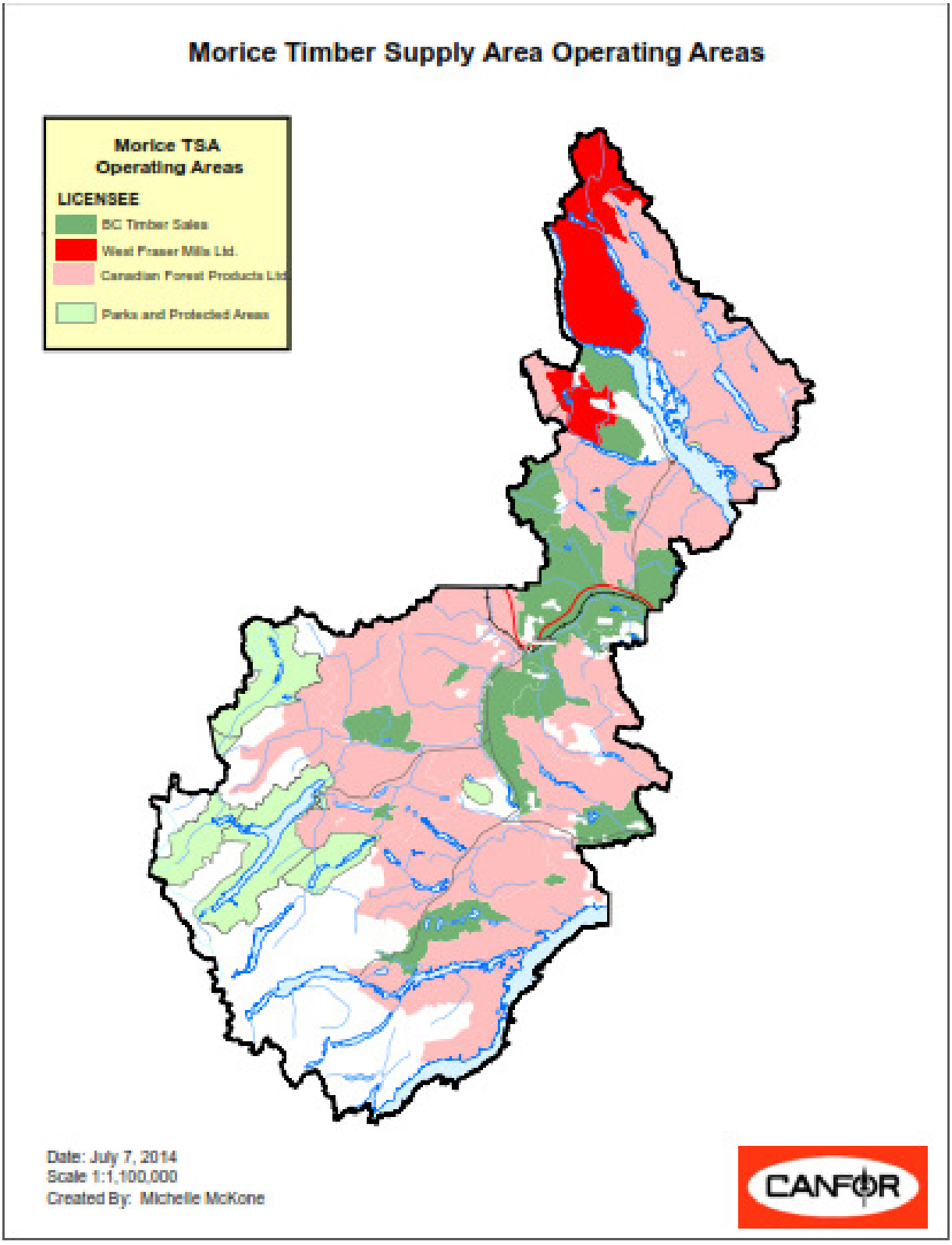


Figure 1: Map of the Morice Timber Supply Area and the Operating Areas within it.

2.1.3 Area Economy

The economy of the Morice area is mainly forestry dependant. Direct employment in the area results from woodlands (e.g. harvesting, silviculture) and processing while additional employment occurs as a result of forest sector purchases of services and products to carry out business. The majority of the volume harvested within the TSA is processed locally at the Canfor mill and the West Fraser mill in Smithers and several remanufacturing facilities, small sawmills and the Houston Pellet Plant. The smaller facilities generally rely on dry and waste wood purchased from the large mills or acquired through BC Timber Sales, community salvage or woodlot harvest. Forestry activities within the area support employment throughout northern British Columbia. Wood chips and sawdust, produced as a by-product of the lumber manufacturing process and from timber unsuitable for lumber, are used for pulp, paper, panel board and pellet production in several facilities within and outside the area. The majority of those employed by the forest sector reside within the plan area.

Other major sectors in the area are mining, agriculture, tourism, and recreation.

The only active large-scale mine, Huckleberry Mine, which began operations in 1997 shut down in 2016. Approximately two-thirds of the area is identified as having high or extreme metallic mineral potential and mining has the potential to play a larger economic role in the area in the future.

Agricultural activity contributes to the economy of the area and is primarily related to forage and beef production. Other activities include food production of lamb, pork, dairy and eggs, and crop production of hay, haylage, grain, vegetables, small fruits and bedding plants. Several local producers process a portion of their poultry and livestock for sale locally, supplementing this with wild game processing for local residents and visiting hunters.

Tourism is playing an increasing role in the economic well-being of the area. Efforts to promote tourism have included the marketing of Houston as the "Steelhead Capital," as well as support for infrastructure development and tourism-related businesses.

The Houston area was recently awarded top sled town in BC. Exceptional mountain views, snow and trails contributed to this award. The Morice Mountain Nordic Ski club has a steadily growing membership of over 200 people. The trails are gaining a reputation for top quality skiing with very good views, snow and grooming.

With an increasing number of visitors being drawn to the area's fishing and outdoor recreation opportunities, numerous new businesses have emerged within the retail trade and hospitality industries.

2.1.4 Environment

The topography of the area is rolling and gentle in the north and east, becoming more mountainous in the southwest. The climate reflects the geography and is transitional between the coast (southwest) and the interior (north and east). Summers are cool and winters are cold; the average July high temperature in Houston is 21.4° Celsius, and the average January temperature is –7.4° Celsius. The average annual rainfall is near 300 millimetres and total annual snowfall is near 180 centimetres.

Six major watersheds drain the area and contribute to both the Skeena and Fraser river systems. Major rivers include the Bulkley, Morice and Nadina. Numerous lakes of varying sizes are scattered across the plan area. Babine Lake, which bisects the northern part of the plan area, is the longest natural freshwater lake in British Columbia. The Ootsa Lake complex in the south, formed as part of the Nechako reservoir, is the second largest fresh water body in the plan area.

There is a diversity of ecosystem types across the area as a result of the range of geographic and climatic conditions, ranging from rolling hills to mountains and coastal to interior conditions. Five biogeoclimatic zones and nine variants have been described and mapped within the Morice. Vegetation communities range from lower elevation deciduous and mixed forests through to conifer dominated pine, spruce and balsam forests at mid to upper elevations. Lodgepole-pine-leading forests cover more than half of the forested landbase with spruce stands on richer, moister sites at lower and mid-elevations. Shrub and forb dominated wetland complexes are characteristic of the interior plateau terrain. Non-forested alpine tundra is found in high elevation areas, particularly in the southwestern corner of the area. Forest ecosystems are particularly productive in the coastal southwest due to a warmer and moister climate relative to other parts of the area.

2.1.5 Species at Risk

A list of species at risk has been developed for the DFA and can be found in Appendix 3. This list is a combination of legally and non-legally declared at-risk species. A species at risk can be brought into force by the government through an order. Examples, in the Morice are goat, bull trout and the Telkwa caribou. The list in appendix includes species from Schedule 1 of the Federal Species at Risk Act (SARA), COSEWIC, from Schedule 1 of the provincial Identified Wildlife Management Strategy under the Forest and Range Practices Act (FRPA), and Blue and Red listed species listed with the BC Conservation Data Center. This list is complete for the DFA, but includes areas that are not forested and are little impacted by forest management activities. The species that are considered impacted by forest management activities are called "Species of Management Concern"

Mountain Caribou

Under British Columbia's risk classification system, caribou in the Morice DFA are blue listed, which means that the population is a conservation concern but is not under immediate threat. Under COSEWIC, caribou in the DFA are threatened and are designated under SARA to have a recovery strategy developed. Caribou populations have low reproductive rates; extra mortality can readily cause population declines.

Three caribou herds use habitats within the DFA: the Takla, Tweedsmuir and Telkwa herds. The Takla caribou herd includes approximately 100 animals that live mostly north of the DFA. In 2001 the 25,000-hectare Mount Blanchet Provincial Park just north of the plan area was established largely to protect habitat of this herd. The Takla herd primarily uses habitats at 1200m elevations or higher all year round. Most winter food appears to be arboreal lichens in high elevation forest, and terrestrial lichens in the alpine. This herd does not appear to use terrestrial lichens in low elevation forested habitats, due to the lack of this habitat in the area.

The Tweedsmuir-Entiako caribou herd currently includes less than 300 animals; the population appears to be declining. Only the northernmost 10% of the habitat used by this herd lies inside the DFA. This herd is migratory and winters to the south of the DFA in the vicinity of Entiako Lake, east of Tweedsmuir Park. In late winter and spring, the herd migrates west and north to widely scattered habitats, both forested and alpine. Some caribou migrate into the DFA for the summer by crossing Ootsa Lake in the vicinity of Whitesail Reach. Some remain near Ootsa Lake the whole summer, and others continue on to habitats further west and north. The plan area contains important calving habitat on islands in Whitesail Reach, in highlands surrounding Troitsa Lake and in the eastern portion of the Sibola Range, north of Tahtsa Lake. Spring and summer foods in the LRMP area include grass, forbs and sedges, as well as terrestrial and arboreal lichen.

The Telkwa herd currently includes about 18 animals, and has declined since the herd was supplemented by moving 32 animals into the area in 1997-98. Prior to the introduction of new animals, the herd had been declining for several decades. Roughly half of the range of the Telkwa herd lies inside the DFA. The herd is generally not migratory, but habits vary between years and

among animals. Generally, most animals remain in the alpine or subalpine forest all year round. Winter food for the Telkwa herd probably consists of mostly arboreal lichens in high elevation forests, and terrestrial lichens in alpine or sub-alpine locations. Spring, summer and fall foods probably include grass, forbs and sedges, as well as substantial amounts of terrestrial lichen.

2.1.6 Forest Use

The forests of the Morice DFA provide a wide range of forest land resources, including forest products (timber and non-timber, such as botanical forest products), recreation and tourism amenities, within significant wildlife habitat.

Early seral and open mature forests, especially in the drier subzones, are used for seasonal grazing of livestock. Ranching continues to play an important role in the DFA.

Parks, recreation areas and other Crown lands provide the setting for a host of activities. The Morice TSA land base provides ample opportunity for hunting and fishing pursuits. The watersheds that characterize the Morice TSA are world renowned for the combination of variety of species, large size of fish, fly-fishing opportunities, and pristine wilderness situations.

The Morice TSA has abundant supplies of high quality surface water in rivers, streams, wetlands and lakes. Groundwater supplies are also generally of high quality.

There are many elements, which contribute to the biological diversity and the variety and abundance of wildlife in the Morice TSA. The geographic proximity of coastal and interior climate factors has shaped the natural diversity of the flora and fauna within the various ecosystems.

2.1.7 Forest Landbase

The Morice TSA covers about 1.5 million hectares in total, of which approximately 63 percent—929,291 hectares—is crown forest management land base (FMLB). About 256,057 hectares of the Forest Management Land Base (FMLB) area in the Morice TSA are in reserves for old growth, wildlife tree patches or riparian areas, in areas of environmental sensitivity or low productivity, support non-merchantable forest types, or for other reasons are unavailable for timber harvesting. About 46 percent of the total TSA area is included in the current timber harvesting land base of 674,902 hectares. A detailed area net down for Canfor's DFA in the Morice TSA is found in Table 1.

Table 1: Area Summary for Canfor DFA[5]

Morice Netdown Version (16May2014)				
Land classification	Total area	Canfor	Other licensee	Comfor
Total area (including parks)	1,477,439	661,339	800,527	15,573
Land not managed by BCFS	61,824	10,421	51,399	4
Non-productive areas (including water)	477,668	79,775	396,374	1,519
Existing Roads	8,656	6,408	2,107	141
Total Crown forest land base	929,291	564,735	350,647	13,909
Parks and protected areas	54,339	2,285	52,023	31
Fulton River protected area	0		0	
Northern Caribou Calving Range	1,648	1,648		
Preservation VQO Areas	4,030	2,183	1,847	
Northern Caribou (Telkwa) Core Area	1,780	1	1,779	
Goats UWR Core Area	18,561	8,927	9,634	
Environmentally Sensitive Area	35,873	18,847	16,488	538
Unstable Terrain	3,804	2,500	1,304	
Physically Inoperable Areas	17,020	10,730	5,141	1,149
Low Site Areas	65,011	34,415	30,596	
Problem Forest Types (deciduous, hemlock)	36,369	14,992	20,541	836
	0			
Partial Reductions	0			
Steep slopes	58	29	20	9
Riparian reserve zones	17,564	11,485	5,691	388
Current Timber harvesting land base	674,902	456,697	205,583	12,622

Note the Comfor community forest is not part of the Morice Timber Supply area, but it is part of this Defined Forest Area.

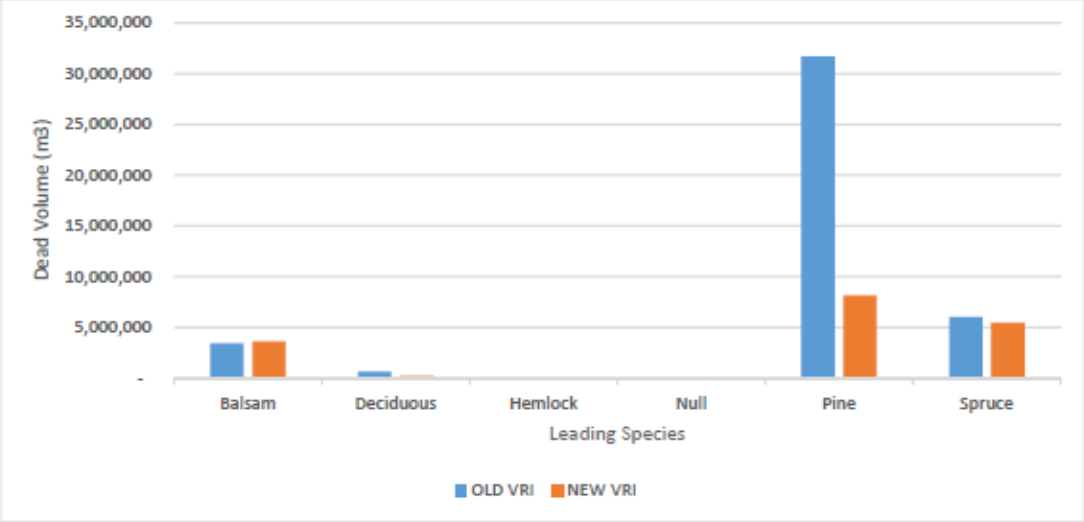
[5] Reference: Data for table provided from Ecora timber supply shadow analysis July 2014.

2.2 Forest Health

2.2.1 Mountain pine beetle

Mountain pine beetle has severely impacted mature lodgepole pine (Pl) stands in the Morice DFA. Although a current inventory update has put the issue in better perspective, the accelerated harvest levels and the non-recoverable losses from un-salvaged dead trees will have a significant impact to timber supply. Figure 2 illustrates that dead pine went from 31,660,400 m3 down to 8,141,400 m3 of dead volume. The dead pine issue that was thought to be 75% of the dead volume is less than half of the dead volume for the TSA. The extensive salvage efforts in the last 12 or 13 years have also played a huge fact in the recovery of dead pine.

Figure 2: New inventory update to percent dead by species



Full credit to the Chief Forester in the TSR 4 determination in the Morice in 2014. Despite all the data saying there is an over whelming amount of dead pine on the landscape there was heated debate about the accuracy of the data. All the data pointed to the license group not doing an adequate job of addressing the issue. A chain reaction of government assigning non-replaceable forestry licenses. The Chief Forester in the TSR 2 determination warned about not transferring cut from the lakes to the Morice. That's exactly what started occurring with reallocation of NRFL's from the lake TSA to the Morice. It wasn't just the NRFL's. Licensees from both the Lakes TSA's and the Morice TSA participated in an Innovative Forest Practices Agreement that provide an up lift in cut. All this uplift for licensees of both TSAs was applied to just the Morice.

The Chief Forester (TSR 4) conducted an extensive flight and heard feedback from foresters struggling to achieve a pine partition. The licensees also sampled 13,000 ha's using the new 2013 high resolution photos and presented a compelling argument the actual levels of dead pine where far less than thought. Taking all this into consideration the determination had no more pine partition. The green harvest level was determined to be 1.6 million m3 and a 300,000 m3 dead partition was added. This was down from 2.165 million in the previous determination.

I expect the Chief Forester also had key support from ministry staff that lead to a determination that reflected a determination that went against the information the inventory was providing and was counter the public

perception at the time. It should provide confidence to the public that there is a balance and fairness in the management of our publicly held resource.

2.2.2 Spruce beetle

Licensees are reporting a significant increase in spruce beetle activity through 2017. Trap decks had high levels of infestation and standing timber adjacent these decks have become infested as well. This is a clear indication that the level of spruce beetle population was underestimated. A more aggressive trap tree program and salvage program is being initiated. This increased level of activity is also reflected in recent ministry overview forest health flights.

Spruce beetle is very different from mountain pine beetle in their preference for downed trees. Given a trap tree can hold about 15 times the beetle of a live tree this is a huge advantage to control efforts.

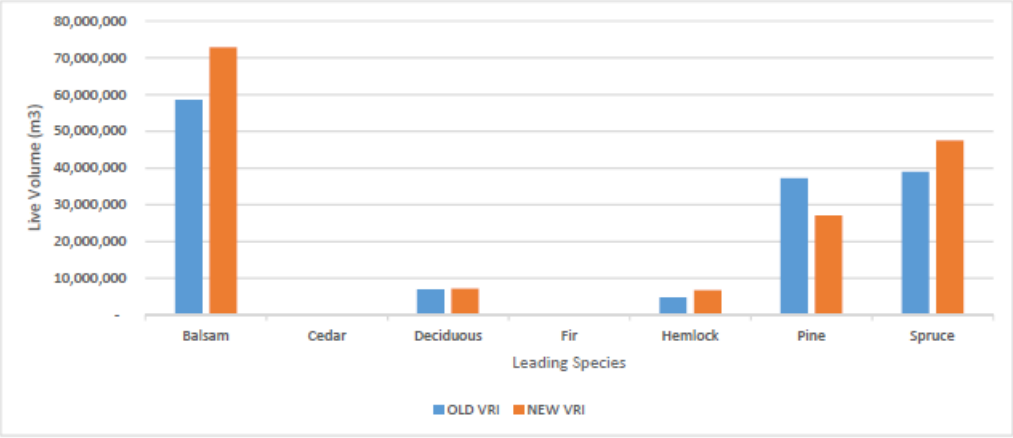
2.2.3 Balsam beetle

Figure 2 illustrates an increase in balsam mortality. Cruises over time also show increases in dead percentages in balsam stands. Rather that the rapid increases in beetle populations witnessed in spruce and pine the balsam beetle seems to be slow and progressive. Scattered red balsam in the magnitude of 1% often show up in flights, reconnaissance and cruise results. This slow progressive nature of infestations does not typically get attention or attract salvage efforts. Supporting this assertion is the increase in dead balsam inventory in figure 2 over the old inventory.

Another indication of new inventory is an adjustment in the species percentages. The live pine inventory is down (despite massively less dead pine in the inventory) while both balsam and spruce show significant increases in live inventory. Balsam makes up a huge 45% of the overall mature inventory. Some cruises have as high as 30% balsam mortality that is significantly impacting the economics of some stands.

Putting it in context dead balsam still lags behind dead pine and spruce on the landscape, but it is growing in importance for management consideration. The progressive TSR 4 partition provides for the flexibility to manage for the salvage of dead regardless of species.

Figure 3: Species breakdown in the New Inventory versus old.



2.2.4 Strategy & Response

The Nadina District Forest Health Strategy has been developed to provide guidance for salvage of lodgepole pine (Pl) stands, but also the salvage or addressing of other forest health factors. This document is updated periodically.

An example of its application is well illustrated in the spruce beetle response plan. Licensee where sent flight points and asked to address in terms harvest, hold or salvage. This provides for the assurance of a coordinated licensee response and identifying where some other type of response might be warranted.

2.2.5 Fire

Both fire and insects have historically played an important role in the natural disturbance and replacement of stands in much of the province's interior. The fires in the summer of 2017 burnt a record 1.2 million hectares in BC. This served as a reminder of the power of this natural cycle. Historic fire prevention may serve as a deferral to the influence of fire on the landscape it will not remove it. Increasing fuel loading as stand age and progressively die. Add a major mountain pine beetle infestation that cannot possibly all be salvaged leaves large areas venerable to large fires.

A "Historic Disturbance Regimes of the Morice and Lakes Timber Supply areas" by JD Steveton in 2002 provides helpful insight into historic disturbance levels. For example, disturbance levels through 1825 to about 1880 show a greatly elevated frequency of stand level disturbance. The high levels of mature forests we had 20 years ago are likely unprecedented.

Add increasing temperature through climate change and a correction to this balance is to be expected. Modern society has a key role to play in these natural cycles. The balance of patch size across the landscape will over time serves to balance the host for insects and the fuel loading for fires. The closer we get to natural patterns over time the more this disturbance provides the opportunity to reduce natural adjustments. These processes require decades to develop.

2.3 Other Major Factors at Play in the DFA

Morice Land and Resource Management Plan (LRMP) [6]

The Government of British Columbia announced the Morice Land and Resource Management Plan (LRMP) on July 18, 2007. The LRMP addresses the long-term balance of environment and economy in the region. It provides access to timber for the local forest industry, certainty for the mining, ranching and tourism industries while also establishing conservation and recreation objectives for many natural values in the Morice TSA. The stability and security provided by the plan provides economic and social stability and increased opportunities for growth and investment throughout the region. The overall timber supply impact was agreed to be about 7.4% from objectives of the plan.

Morice Biodiversity Order[7]

This order was signed on September 29, 2016. There are seven objectives in this order that address seral targets for immature (<40 years), mature plus old (>100 years) and old (>140 years), High biodiversity

[6] Reference: https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/land-use/land-use-plans-objectives/skeena-region

[7] Reference: 2016. Ministerial Order, Land Use Objectives: Morice Land and Resource Management Plan Area September 12, 2016)

emphasis units, Area Specific Management Zones, Old growth management, wildlife tree retention and no harvest areas. This order covers off most or biodiversity objectives outlined in the LRMP.

The Values, Objectives, Indicators and Targets (VOITs) in this SFMP, have been developed consistent to this order.

Bull Trout Wildlife Habitat Areas (WHA)

A Government Action Regulation (GAR) order establishing bull trout WHA's and associated general wildlife measures (GWM) was put into effect on July 30th, 2009. Due to the relatively small areas these measures are not expected to impact this SFMP. Bull trout would be considered a species of management concern and appropriate strategies will be documented in site plans if forest activities are planned within the areas.

Telkwa Caribou WHA

This GAR order was signed on November 30th, 2015. This order provides for no harvest areas, seral retention targets, road deactivation timelines, retention expectations and an area that requires a caribou management plan to be approved. The Thautil Caribou Management plan was approved November 23, 2017. Caribou would be considered a species of management concern and appropriate strategies will be documented in site plans if forest activities are planned within the areas.

Goat Ungulate Winter Range (UWR).

A GAR order establishing UWR associated GWM's for Mountain Goats in the Morice TSA was established August 14, 2013. The order provides a 1 km buffer around the habitat areas where primary forest activities are seasonally restricted. These areas would be considered sites of biological significance and appropriate strategies will be documented in site plans if forest activities are planned within the areas.

Nadina Temperature Sensitive Streams (TSS)

An order establishing a Nadina as a TSS in currently in draft and is supported by licensees in the DFA. This order proposes increasing buffering and retention on small streams. A 20m reserve is expected to be a standard under this order.

Fisheries Sensitive Watersheds (FSW)

A GAR order establishing FSW's and associated objectives in the Morice TSA is being considered by government. The objectives relate to the maximum allowable hydrologically disturbed area, managing fine sediment production, maximum allowable stream crossing densities, maintain the recruitment of large woody debris, and maintaining channel widths at stream crossings.

This new plan incorporates a more global assessment of watershed sensitivity. Fisheries values area one of the main considerations that contribute to sensitivity.

Timber Supply Implications

The currently TSR 4 prescribes a green wood harvest level of 1.6 million m^3. This factors in some portions of the LRMP including goat and some addition of protected areas. The addition, of the Morice Biodiversity Order, three caribou orders and the Nadina temperature sensitive streams produces and impact of about 12 or 13% dropping a project AAC to 1.4 million. Factoring in the Goat order and protected areas in addition makes it clear that the impact is well over the intended impact (7.4%) of the LRMP. This impact creates a dilemma for the government in approving additional orders that could have a timber supply impact and may cause a need for an adjustment of approved orders or a re-opening of land use planning.

2.4 Licensee Operating Areas

Canfor, West Fraser and BCTS have well respected operating areas. There is a bit of give and take on administrative boundaries, but this is well communicated. With recent expiry of many Nonreplaceable

Forest license and IFPA uplift tenures there are is a reduced risk of external harvesting sources. There is currently a 50,000 m^3 overlapping opportunity license. This represents about 4% of the DFA harvest volume and presents a low risk.

Other licensees are responsible for hiring competent and skilled employees and are responsible for the direction, supervision, training and control of their employees. The performance of other licensees is subject to the review and inspection of British Columbia government compliance and enforcement officers and must fully comply with the applicable laws and regulations while operating on the DFA. Canfor does not have the right to direct or control other licensees and their employees and will not be responsible for their activities in the DFA under this SFM plan.

3.0 THE PLANNING PROCESS

3.1 The CSA Certification Process

The CSA Sustainable Forest Management (SFM) Standard, initially developed in 1996 and subsequently revised and improved in 2002, 2009 and again in 2016 is Canada's national certification standard. The standard is a voluntary tool that provides independent third-party assurance that an organization is practicing sustainable forest management. Consistent with most certifications, the CSA standard expects compliance with existing forest policies, laws and regulations.

Participants under the CSA certification system must address the following two components:

- Participants must develop and achieve performance measures for on-the-ground forest management, monitored through an annual public review with the input of the public and First Nations (Sec 3.1.1 following).
- Participants who choose to be registered to the CSA standard must incorporate CSA defined systems components into an internal environmental management system (EMS) (Sec 3.1.2 following).

For a licensee seeking certification to the CSA SFM standard, the DFA SFMP or a licensee-specific plan, complimentary to the DFA SFMP, is developed. The licensee-specific plans may contain additional information such as their defined forest area and internal means to monitor and measure the DFA SFMP components.

Applicants seeking registration to the CSA standard require an accredited and independent third-party auditor to verify that these components have been adequately addressed. Following registration, annual surveillance audits are conducted to confirm that the standard is being maintained. A detailed description of these two components and a summary of the CSA registration process are as follows.

3.1.1 Public/First Nations Involvement: Performance Requirements & Indicators

The CSA standards include performance requirements for assessing sustainable forest management practices that influence on-the-ground forestry operations. The performance requirements are founded upon seven sustainable forest management criteria:

1. Biological diversity,
2. Ecosystem condition and productivity,
3. Soil and water,
4. Role in global ecological cycles,
5. Economic and social benefits,
6. Society's responsibility, and
7. Aboriginal relations

Each criterion has a number of "elements" that further define the intent. The criteria and associated elements are all defined under the CSA standards and must be addressed during development of the SFM Plan. The criteria are endorsed by the Canadian Council of Forest Ministers and are aligned with international criteria.

For each set of criteria and elements, forest managers, and the advisory group must identify local values and objectives. Indicators and targets are assigned to the values and objectives to measure performance.

Discussion Items identified in the CSA Z809 Standard for each of the seven SFM criteria have been reviewed and discussed as needed by the public advisory group in conjunction with the development of this SFM Plan. Detailed information on the topics discussed can be found in the meeting summaries and reference material associated with the development of this Plan.

Values identify the key aspects of the elements. For example, one of the values associated with "species diversity" might be "sustainable populations of native flora and fauna."

Objectives describe the desired future condition, given an identified value. For example, the objective to meet the value of sustainable populations of native flora and fauna might be "to maintain a variety of habitats for naturally occurring species."

Indicators are measures to assess progress toward an objective. Indicators are intended to provide a practical, cost-effective, scientifically sound basis for monitoring and assessing implementation of the SFMP. There must be at least one indicator for each element and associated value. Core indicators have been included in the CSA standard for nearly all elements. Additionally, local indicators can be added to the SFMP.

Targets are a specific statement describing a desired future state or condition of an indicator. Targets provide a clear specific statement of expected results, usually stated as some level of achievement of the associated indicator. For example, if the indicator is "minimize loss to the timber harvesting land base," one target might be "to have less than 'x' percent of harvested areas in roads and landings."

Values, objectives, indicators, and targets apply to social, economic and ecological criteria and may address process as well as on-the-ground forest management activities.

As part of the process of developing values, objectives, indicators and targets, the SFM Advisory Group also assisted in the development of forecasts of predicted results for indicators and targets. This information and interrelationship is further described in Section 5. Forecasts are a prediction of the expected future condition of an indicator. These have been incorporated into the SFM Plan targets as predicted results or outcomes for each objective. Forecasting is further described in Section 5

3.1.2 Public Review of Annual Reports & Third Party Audits

Each year, Canfor compiles a report that summarizes results for each of the indicators in the SFMP. This annual report is provided to the PAG for review and comment. Annual monitoring of achievements against indicators and targets, and comparing the actual results to forecasts, enables the SFMP to be continually improved. Continuous improvement is mandated by the CSA standard.

For a licensee registered to the CSA standard, conformance with the standard is assessed annually through surveillance audits carried out by a registered third-party auditor. The audit confirms that the registrant has successfully implemented the SFMP and continues to meet the CSA Standard. Audit summaries are available to the public.

3.1.3 Internal Infrastructure: Systems Components

The CSA SFM standard mandates a number of process or systems-related requirements called "systems components." These systems components must be incorporated in a registrant's internal environmental management system (EMS).

Systems components include:

- **Commitment:** A demonstrated commitment to developing and implementing the SFMP.

- **Public and First Nations participation:** The CSA standard requires informed, inclusive and fair consultation with First Nations and members of the public during the development and implementation of the SFMP.
- **CSA-aligned management system:** The management system is an integral part of implementation of the SFMP and is designed to meet CSA standards. The management system has four basic elements: Planning, Implementing, Checking and Monitoring, and Review and Improvement. The management system, includes the following base components:

    1) Identify environmental risks.
    2) Identify standard operating procedures or develop performance measures to address significant risks.
    3) Develop emergency procedures in the event of an incident causing environmental impacts.
    4) Review all laws and regulations.
    5) Establish procedures for training. Providing updated information and training ensures that forestry staff and contractors stay current with evolving forest management information and are trained to address environmental issues during forestry activities.
    6) If an incident does occur, conduct an investigation or incident review and develop an action plan to take corrective action, based on the preparation undertaken in steps 1 to 5.

- **Continual improvement:** As part of a licensee's management system, the effectiveness of the SFMP is continually improved by monitoring and reviewing the system and its components. This includes a review of ongoing planning, public process and First Nations liaison to ensure that the management system is being implemented as effectively as possible.

3.1.4 CSA Registration

Following completion of a sustainable forest management plan, and the development of an environmental management system in accordance with the CSA standard, a licensee may apply for registration of its DFA. The determination of whether all the components of an SFM system applied to a DFA are in place and functional involves an on-the-ground audit of the DFA including field inspections of forest sites. The intent of the registration audit is to provide assurance that the objectives of sustainable forest management on the DFA are being achieved. The registration of a licensee's DFA follows a successful registration audit by an eligible independent third-party auditor who has assessed and determined:

- an SFMP, that meets the CSA Standard, has been developed and implemented, including confirmation that quantified targets for meeting sustainable forest management criteria have been established through a public participation process;
- an SFM Environmental Management System has been developed and is being used to manage and direct achievement of the SFMP indicators and targets; and
- progress toward achieving the targets is being monitored, and monitoring results are being used for continual improvement of the SFMP and Environmental Management System.

A typical registration audit may include:

- meeting with the advisory group facilitator to review the public advisory process;
- interviews with public advisory group members;
- a review of monitoring and reporting responsibilities related to CSA indicators and targets;
- meetings with government officials to discuss licensee performance and government involvement in development of the SFMP;
- field reviews visiting harvest and road construction operations;

- interviews with staff and/or contractors to review their understanding of the environmental management system requirements; and
- meetings with management to assess the level of commitment to environmental performance and sustainability.

In addition to the registration audit, regular surveillance audits are conducted to examine performance against all aspects of the SFM System, including the requirement that regulatory standards and policy requirements are met or exceeded.

3.2 The Morice SFM Planning Process

The SFMP was developed by Canfor based on advice and recommendations provided by the PAG. The plan was developed to be in compliance with all existing legislation and policy and consistent with the strategic direction of higher level plans such as the Morice Land and Resource Management Plan (LRMP). The plan is continually updated and improved to incorporate new information, changing values, recommendations from monitoring activities and new circumstances.

3.2.1 Licensee Participation

The licensees who hold replaceable Forest Licenses, through the IFPA, worked with the PAG to develop initial performance measures (values, objectives, indicators and targets) for the SFMP that would meet the CSA Z809-02 standard. Originally Canfor, BCTS, and West Fraser were certified to the CSA standard for the Morice SFMP. West Fraser and BCTS have since dropped their CSA certification and therefore are not signatories to this plan. On publicly owned land, the responsibility and accountability is ultimately with the Ministry of Forests, Lands and Natural Resource Operations. However, Canfor, the sole signatory to this plan, is held responsible for forest management under legislative and contractual agreement through the tenure agreements. Note that Canfor manages the Dungate Community Forest and Lowell Johnsons NRFL A90555. These licenses area also managed to the current CSA standard.

The MFLNRO has participated in the SFM planning process in a number of roles including:

- Participation in the development of the original suite of SFM values, objectives, indicators and targets.
- Participation as an observer at Public Advisory Group meetings.
- Providing technical support to the planning process.

Canfor makes efforts to communicate periodically with Non-Replaceable Forest Licence (NRFL) holders to assess their impact on indicators in the SFM Plan.

To address the impact of that other licensees may potentially have on achieving the targets Canfor has developed a risk ranking matrix (Appendix 5) to display the estimated impact on these operations, and provide confidence that the reporting is consistent with the reality of operations on the DFA.

3.2.2 Public Participation

The PAG was formed to assist Canfor in developing the SFMP by identifying local values, objectives, indicators and targets and evaluating the effectiveness of the plan.

Members of the PAG represented a cross-section of local interests including environmental organizations, First Nations, Métis, resource-based interests and research specialists. An open and inclusive process was used to formulate the public advisory group. Local First Nations were formally invited to participate. Various government ministries provided technical support to the SFM planning process, including information on resources and policy issues. The group developed, and was guided by, the Terms of Reference (TOR). The TOR was consistent with the CSA standard, and also specified that the process for developing the SFMP would be open and transparent. As part of the updating of the SFMP to meet the

requirements of the revised 2016 CSA standard (Z809-16), considerable discussion occurred on specific topics related to the six Criteria.

The PAG reviews the annual report prepared by Canfor to assess achievement of indicators and targets. This monitoring process provides Canfor, the public and First Nations with an opportunity to bring forward new information and to provide input concerning new or changing public values that can be incorporated into future updates of the SFMP.

4.0 STRATEGY GUIDING THE SFMP

4.1 SFMP Strategy for the DFA

A set of strategies has been developed to progress toward achievement of targets for the indicators in the SFMP. These strategies document the relevance of the indicator to the SFMP and sustainability, and summarize actions required to meet the targets.

The SFMP, utilizes indicators and targets that:

- reflect values and objectives from the LRMP Fisheries Sensitive Watersheds, Forest Health, Mid-Term Timber Supply, etc.;
- are guided by the Canadian Council of Forest Ministers' Criteria and Elements; and
- are within the ability of the forest industry to influence and manage.

Applicable strategies are documented in the detail sheets for each indicator in Section 5.7 of the SFMP.

4.2 Additional Guidance

Canfor is also guided by the regulations, laws and policies established by the federal, provincial and municipal governments.

The direction set forth in legislation as well as additional policies provided by the District Managers guides strategies to manage forest operations and to provide high quality fibre for Canfor operations over the long term. At the same time, Canfor will make efforts to manage and balance the landscape for biological diversity, global cycles, soil, water and social responsibility.

5.0 INDICATORS & INDICATOR MATRICES

The PAG has identified local values and objectives for each of the CSA defined elements. These values and objectives are summarized in this section.

Core Indicators (included in the CSA standard) as well as local indicators and their respective targets have been developed to meet these local values and objectives. SFMP indicators (core and local) and their targets are described in Section 7. A summary table showing all criteria and elements and associated local values, objectives, indicators and targets is provided in Appendix 2.

In an SFMP it is the indicators and targets that provide the performance measures that are to be met through on-the-ground forest management activities. This section provides a detailed description of each of the indicators and targets in the SFMP for the Morice DFA. Core indicators prescribed within the latest CSA standard (Z809-16) have been integrated into the plan using the numbering system found within the standard. Indicator statements have been developed for each core indicator, and some core indicators incorporate more than one statement. These serve to put the target into context against the core indicator and make the target easily measurable. Many of the previous plan indicators were very close to the set of core indicators, thus the targets used to measure these core indicators are familiar to the SFMP. Full conformance is required for many targets (i.e., there is no variance). Where full conformance may not be achievable, an acceptable level of variance is indicated for the target.

Canfor monitors the achievement of targets annually. Monitoring procedures for each target in the SFMP are described below. Management strategies provide further direction to the performance measures (indicators and targets) and serve as a guide for Canfor in their annual monitoring activities.

5.1 Objectives, Indicators & Targets

The Morice SFMP process has served to further refine the information and concerns of the local public. Incorporating these concerns and ideas into individual licensee operations through the established indicators and targets and ongoing monitoring ensures long-term sustainability of the forest resource. Any indicators established in this SFMP that are conducive to long term projections are as noted below.

Section 6.2 describes the plans, policies and management strategies that support the achievement of the targets in the SFMP.

5.2 Base Line for Indicators

The primary source of base line information for indicators is the initial monitoring report subsequent to adoption of the indicator. Where existing indicators and targets were used to satisfy a core indicator, the baseline will be identified as that from the previous SFMP. In some instances, particularly in the case of newly developed indicators, a baseline might be difficult to establish and thus be absent in the plan. In those situations, baseline information will become available through subsequent monitoring reports.

5.3 Current Status of Indicators

Current status of each indicator is as reported and updated in annual SFMP performance reporting. To obtain current information please refer to the most recent monitoring report on the Morice SFMP website: http://www.canfor.com/responsibility/forest-management/plans.

5.4 Forecasting

Forecasts are the long-term projection of expected future indicator levels. These have been incorporated into the SFMP targets as predicted results or outcomes for each target.

Often, the target for the indicator is in itself the predicted result or outcome. The target is the predicted outcome or forecast for most of the SFMP indicators. Generally, the target is being achieved for SFMP indicators, and it is expected these targets will continue to be met. Indicator forecasts also provide predictions of future state relative to Elements, Values or Objectives.

5.5 Regional Forecasting Related to the SFMP

Morice TSR #4

The Morice Timber Supply Area Rationale for AAC Determination, March 15, 2015[8], included a number of sensitivity analysis scenarios around wildlife, Morice Biodiversity order, minimum volume stands and marginal stands. The analysis was conducted using information related to the timber harvesting landbase, timber volumes, and management strategies to indicate future state projected out for a period of 200 years. The new inventory was not available at the time of the determination. Prior to the Chief Forester making his determination, the public was invited to review and comment on the Timber Supply Review (TSR). Additional information on the opportunities that were provided for public input can be found in the TSR discussion paper (April 2015)[9]. Further information pertaining to assumptions and analysis can be found within the Chief Foresters Rationale for AAC Determination for the Morice TSA (March 15, 2015).

Canfor and other companies conducted a shadow analysis to help us better understand the future timber supply and implications of pending orders. This analysis was done by Ecora using Patchworks. This data set has been updated and maintained with new orders, harvesting and inventory. This tool provides a powerful tool for forecasting potential new orders or changes in management direction.

Ecosystem Representation Analysis

Canfor completed an Ecosystem Representation Analysis across their operations in BC. This analysis was used to determine the relative abundance of ecosystem groups and highlight rare or uncommon groupings that may need special management. This analysis supports the indicator and target for 1.1.1 Percent representation of ecosystem groups across the DFA. For more details on the analysis please refer to the indicator detail sheet for 1.1.1. in Section 5.7.

5.6 Legal Requirements

Awareness of legal requirements is essential when considering suitable Objectives for an Element and determining appropriate Indicators and Targets. Canfor ensures that specific legislation related to Objectives, Indicators and Targets is known and complied with by staying current with legal requirements. Subscribing to commercial services, reliance on in-house staff or industry associations, and participating in joint legislative review committees are just some of the methods used by Canfor to remain current with legislation.

[8] Reference: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/forest-analysis-inventory/tsr-annual-allowable-cut/morice_tsa_rationale.pdf

[9] Reference: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/forest-analysis-inventory/tsr-annual-allowable-cut/morice_tsa_public_discussion.pdf

5.7 Indicators in the SFMP

5.7.1 1.1.1 Ecosystem by type

Indicator	**1.1.1 Ecosystem area by type**
Indicator Statement(s)	1.1.1. Total hectares logged in rare and uncommon ecosystems
Element(s)	**1.1 — Ecosystem diversity** Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects.
Value(s) and Objective(s)	Value 1.1: The range of functions, interactions and processes that occur naturally within and between ecosystems on the DFA Objective 1.1: Functions, interactions and processes that occur naturally within and between ecosystems on the DFA will fluctuate within a (naturally, socially) acceptable range of variation over time
Strategy	
Background & **Description**	Maintaining representation of a full range of ecosystem types is a widely accepted strategy to conserve biodiversity. Ecosystem conservation represents a coarse-filter approach to biodiversity conservation. It assumes that by maintaining the structure and diversity of ecosystems, the habitat needs of various species will be provided. For many species, if the habitat is suitable, populations will be maintained. Ecosystem area by type can be influenced by managers, and many foresters/ecologists prefer to characterize the forest in terms of ecosystem types (according to forest ecosystem classifications such as Biogeoclimatic Ecosystem Classification – BEC or Predictive Ecosystem Mapping – PEM) rather than by age and type of structures as derived from classic forest inventories. Most ecosystem classification systems use an integrated hierarchical classification scheme that combines climate, vegetation and site classifications. This mapping is used in such applications as: a. Seed zones b. Protected area planning c. Land management planning d. Forest pest risk e. Natural disturbance types f. Wildlife habitat management Rare ecosystems are frequently identified as focal points for conservation concern. Provincially, ecosystems are listed based largely on frequency of occurrence or rarity. There are at least three broad reasons for creating local lists: • to help assess the status of an ecosystem throughout a planning area; • to focus attention and tracking on ecosystems that merit conservation concern; and • to help rank allocation of resources to conservation efforts, such as parks, Wildlife Habitat Areas, Old Growth Management Areas (OGMA's) or Wildlife Tree Patches (WTPs). An analysis of ecosystem representation across all Canfor and BCTS operations was conducted in 2011[10]. This analysis determined the abundance and representation of

[10] *Ecosystem Representation Analysis Final Report January 18th , 2012* Forest Ecosystem Solutions Ltd.

ecosystem groups within four distinct regions and 13 management units. The following steps were carried out for this analysis:

- Identifying the non-harvesting landbase
- Classifying the forested landbase into ecosystem groups
- Evaluating the amount and how the ecosystem groups are distributed in the harvesting and non-harvesting landbase.

The Morice DFA is within the West- Central and North-East Mountains regions and comprises 52 unique forested ecosystem groups. The key to the analysis is that it is much broader than the DFA and truly reflects the rare ecosystems on a larger scale.

Rare or uncommon ecosystem groups were identified by mapping at the BEC variant level or PEM site series level.

The following criteria was used to select the site series that would be considered rare or uncommon

- The ecosystem group is present on the DFA. (area >0%).
- The forested area is <= 10,000 ha. in the West-central region.
- The representation class is:
  - Low <20% of the area is in the NHLB.
  - Rare/uncommon abundance is <0.1% of the forest area
- < 100% of the area of the ecosystem group is in the NHLB.

Site series in these ecosystem groups are considered rare and should not be harvested. During field layout if these site series are encountered they will be reserved from harvest by excluding them from the harvest area or reserving them in WTP's (see indicator 1.1.4a) or other designated reserve areas.

Strategy to Implement

Nine ecosystem (10 site series) groups within the DFA were identified as Rare. All sites within the group are to be protected from harvesting.

Current Status, Predicted Results or Outcome

There was one ecosystem group within the DFA identified as rare/uncommon. All sites within this group are to be protected from harvesting. The following table lists the site series groups/associations considered rare or uncommon (2012 Baseline data):

Final region	Final Ecogroup Number	Final Group Name	Site Series	Moisture-Nutrient regime	Site Association
NE Mtns	63	hygric ESSFmc	ESSF mc-09	Hygric-subhydric; very poor-poor	Bl - Horsetail - Glow moss
			ESSF mc-09|10		
West-central	4	xeric SBSdk	SBS dk-02	Xeric; very poor-poor	Pl - Juniper - Ricegrass
West-central	49	subhygric-hygric SBSmc2	SBS mc2-07	Subhygric-hygric; very poor-poor	Sxw - Scrub birch - Feathermoss
West-central	58	hygric SBSdk	SBS dk-09	hygric	Sb - Snowberry - Sphagnum
West-central	60	hygric SBSdk (Act)	SBS dk-08	hygric	Act - Dogwood - Prickly rose
West-central	77	mesic ESSFmc	ESSF mc-05	Mesic; rich-very rich	Bl - Huckleberry - Thimbleberry

	<table><tr><td>West-central</td><td>79</td><td>subhygric-hygric medium ESSFmc</td><td>ESSF mc-08</td><td>Subhygric-hygric; medium-rich</td><td>Bl - Valerian - Sickle moss</td></tr><tr><td>West-central</td><td>81</td><td>hygric-subhygric ESSFmk</td><td>ESSF mk-06</td><td>hygric - subhydric</td><td>Bl - Horsetail - Leafy moss</td></tr><tr><td>West-central</td><td>85</td><td>subhygric-hygric ESSFmc</td><td>ESSF mc-07</td><td>Subhygric-hygric; rich-very rich</td><td>Bl - Devil's club - Lady fern</td></tr></table> 2016/17 Results= no harvesting in any of the units above.
Forecast	Qualitative forecast: By implementing the above strategy, it is forecast that rare and uncommon ecosystems that are ≥ 2.0 ha and are not a part of site complexes will be conserved from harvest and, therefore, will continue at present levels into the future. The current conditions for this indicator were established via the Ecosystem Representation Analysis (Jan. 2012). The methodology and assumptions are clearly outlined in the report. *Methods and Assumptions* – a target of zero hectares logged in rare and uncommon ecosystems. Past performance has shown it is reasonable to forecast this result into the foreseeable future.
Target	Rare ecosystems groups as identified in the previous table will not be harvested, subject to the variance.
Basis for the Target	Proactive measure to identify and conserve rare and uncommon ecosystems.
Monitoring & Measurement Periodic	Identification of rare and uncommon ecosystems to occur with inventory updates that occur in conjunction with Timber Supply Review (generally every 5 years). In the case of the Morice the Timber Supply is occurring before and update in the inventory. The inventory is has been partially updated and is scheduled to be completed in 2018. Timing will be worked out with other division to select the optimum time for updating the analysis.
Annual	Report any incidents of harvesting that occurred in ecosystem groups defined as rare/uncommon. Also report the number of hectares where harvesting occurred within uncommon ecosystem groups and the number of these hectares where specific management strategies to retain the characteristics of unmanaged forests were implemented.
Variance	Harvesting may occur in rare ecosystems for access, forest health, or safety issues as rationalized and documented by a qualified professional.

5.7.2 1.1.2 Forest area by type or species composition

Indicator	1.1.2 Forest area by type or species composition
Indicator Statement(s)	1.1.2. Percent distribution of forest type (treed conifer, treed broad leaf, treed mixed) >20 years old across the DFA
Element(s)	**1.1 — Ecosystem diversity** Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects. **4.2 Forest Land Conversion** Protect forest lands from deforestation. Encourage afforestation where ecologically appropriate.
Value(s) and Objective(s)	Value 1.1: Abundance and distribution of common and rare habitats within a range of variability over time to conserve species in the DFA. Objective 1.1: A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.
Strategy(s) Description	Forest area by type is a refinement of the previous indicator – ecosystem area. Tree species composition, stand age, and stand structure are important variables that affect the biological diversity of a forest ecosystem - providing structure and habitat for other organisms. Ensuring a diversity of tree species within their natural range of variation, improves ecosystem resilience and productivity and positively influences forest health. Reporting on this indicator provides high level overview information on area covered by broad forest type, forest succession and management practices that might alter species composition. Ensuring a diversity of tree species is maintained improves ecosystem resilience and productivity and positively influences forest health. Forests in Canada are classified according to an Ecosystem Classification System, which identifies the tree species that are most suited ecologically for regeneration in any particular site. This guides forest managers in maintaining the natural forest composition in an area and lends itself to long term forest health and productive forests that uptake carbon. The BC government FREP report #14 on Tree Species Composition and Diversity in British Columbia (BCMOFR 2008) concluded that the amount of deciduous mixed stands at free growing in the Northern Forest Interior Region has increased significantly, from 2,811 hectares before harvest to 55,614 hectares at free growing. This is expected to continue in the short term in both BC and Alberta as recently harvested areas regenerate naturally with ingress from early successional broadleaf species. While adding to the overall diversity of the DFA, many of these forests will revert back to coniferous mixed forests over time. To remove some of this short-term variation in the reporting of the indicator, forests less than 20 years of age will not be included in the reporting structure. Treed conifer forests are those where conifers dominate the species mix (at least 75% of trees are conifer), treed broad leaf forests are those where mostly deciduous trees dominate the species mix (at least 75% of trees are broad leaf) and mixed forests are those that fall within the middle range where neither conifer or broad leaf trees dominate the species mix.
Strategy to Implement	The plan is to avoid deciduous stands and mixed stands during harvest and retain deciduous in wild life tree patches or as wildlife trees. Current stocking standards do not provide the flexibility to allow any amount of deciduous outside the free growing guidelines.

<table>
<tr><td>Current Status</td><td>The table below is updated for new DFA areas as of May 2017.
<table>
<tr><td colspan="3">Percent distribution of forest type (coniferous, broadleaf, mixed) >20 years old across the DFA</td></tr>
<tr><td>Report Year</td><td>Forest type</td><td>Canfor</td></tr>
<tr><td rowspan="3">2017</td><td>Coniferous</td><td>94.0%</td></tr>
<tr><td>Broadleaf</td><td>2.3%</td></tr>
<tr><td>Mixed</td><td>3.7%</td></tr>
</table>
The new operating area brought into the plan had less deciduous stands but forest types still remain with targets.</td></tr>
<tr><td>Forecast</td><td>Qualitative forecast: by implementing the above strategy, it is forecast that forest composition will be within the target ranges. Current state analysis show that composition is consistent with target ranges.

Quantitative: Using Patchworks and the timber supply analysis data package we are able to forecast this indicator overtime. The model indicates these targets for forest types can be maintained over time.</td></tr>
<tr><td>Target</td><td>The following table shows the target percentages for Canfor for the distribution of forest types (coniferous, broadleaf, mixed) > 20 years old across the DFA
<table>
<tr><td>Forest type</td><td>Canfor</td></tr>
<tr><td>Coniferous</td><td>85-95%</td></tr>
<tr><td>Broadleaf</td><td>2.0-5.0%</td></tr>
<tr><td>Mixed</td><td>2.5-7.5%</td></tr>
</table></td></tr>
<tr><td>Basis for the Target</td><td>Target is based on current status and most current inventory update from the spring in 2017. A further update to the inventory is anticipated in the spring of 2018. These updates do change results as high-resolution images will yield more accurate results. A small variation around the forest type is appropriate since these stands are not targeted. However, these targets should be reviewed in 2018 to ensure they are still appropriate for the new inventory.</td></tr>
<tr><td>Monitoring & Measurement
Annual</td><td>Report the area (total hectares and percent) of treed conifer, treed broad leaf, treed mixed forest types as updated for the most current inventory for the DFA. Reporting to occur annually.</td></tr>
<tr><td>Variance</td><td>None.</td></tr>
</table>

5.7.3 1.1.3 Forest area by seral stage or age class

Indicator	**1.1.3 Forest area by seral stage or age class**
Indicator Statement(s)	1.1.3. Maintain early, mature and mature plus old seral targets as per the Morice Biodiversity order. 4.1.1. Maintain the retention of existing (or replacement of) old forest retention area.
Element(s)	**1.1 — Ecosystem diversity** Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects. **4.1 Carbon Uptake and Storage** Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.
Value(s) and Objective(s)	Value 1.1: The range of functions, interactions and processes that occur naturally within and between ecosystems on the DFA Objective 1.1: Functions, interactions and processes that occur naturally within and between ecosystems on the DFA will fluctuate within a (naturally, socially) acceptable range of variation over time. Value 4.1: Storage of carbon in forest ecosystems and products Objective 4.1: Forest ecosystems are net carbon sinks over time.
Description	The northern interior forest ecosystems have been historically influenced by the presence or absence of fire as a dominant form of natural disturbance. The similarities in fire return intervals, and disturbance sizes and patterns form the basis for categorizing each of the ecosystems into natural disturbance types (NDT), which in turn is used to provide guidance for maintaining biodiversity. Biodiversity can be affected by the disruption of natural processes. Future maintenance of biodiversity is in part dependent upon the maintenance of representative habitats and seral stages at the landscape and watershed level. Forests in their late seral stage offer unique habitat to certain plant and animal communities. Maintenance of a component of late seral stage forests – within a natural range of variation will contribute to an appropriate balance of forest age classes. Forests have great potential to sequester and store carbon from the atmosphere. Given this, managers should recognize the imperative of keeping forest lands in vigorous tree growth at all times. This often means understanding any age class imbalances and strategies for correction. It also includes ensuring prompt tree regeneration following disturbances such as timber harvests and converting the smallest possible amount of forest land to non-forest land during forest operations (e.g., minimizing roads and landings). Forest carbon has recently become a key SFM value, especially in light of Canada's international commitment to lower its net carbon outputs to the atmosphere. Models for calculating a forest carbon budget (e.g., the Canadian Forest Service's Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3)) are becoming available for use by practitioners particularly where they can be linked to forest inventory and timber supply models. Their use in forest planning can indicate whether a specific forest is expected to be a net carbon source or sink over the period normally used for wood-supply forecasts. In their 2009 summary of carbon management in BC's forests[11] Mike Greig and Gary Bull report

[11] Carbon Management in British Columbia's Forests: Opportunities and Challenges. Forrex Series 24. 2009

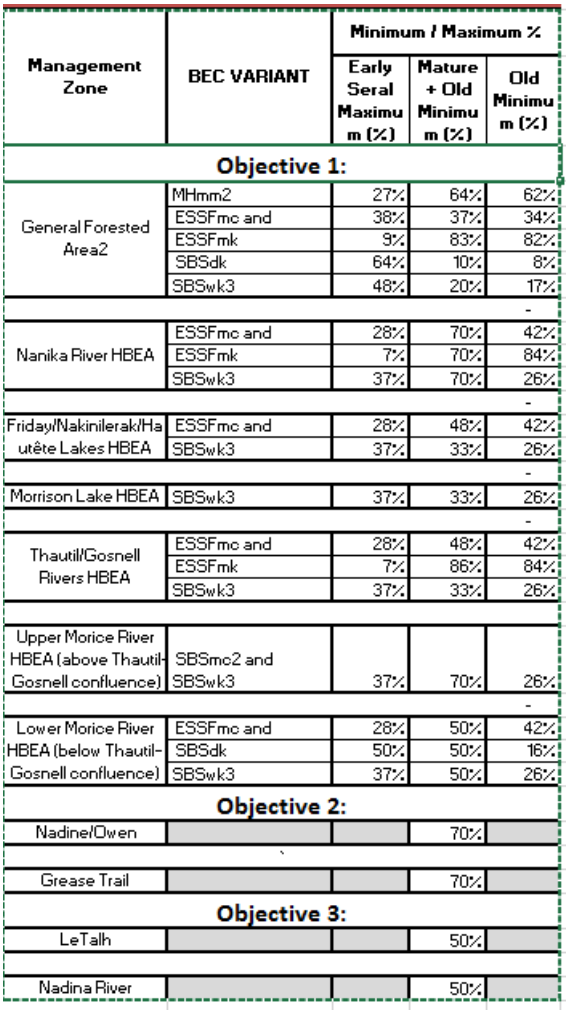
	a need for additional guidance for forest managers and practitioners. "The interest in managing British Columbia's forests for climate control and CO2 offsetting projects has built to the point where forest managers are seeking guidance. Equally important is the public's desire to understand the potential of provincial forests in mitigating climate change and to have this clearly communicated. Some work has taken place in assembling carbon yield curves, researching local carbon storage, and undertaking carbon accounting projects. However, no published handbooks or policies exist to guide forest managers, practitioners, or the public. The level of carbon budget analysis in Canada relies largely on the forest inventory (species and growth rates) and underlying assumptions the forest management regime and what makes up the timber harvesting land base. Because of some of the uncertainty surrounding the data inputs, it can be difficult to tease out changes in carbon sequestration modeling that are strictly as a result of changes to a particular management regime. This creates difficulties for forest managers who are trying to understand the carbon balance implications of various management regimes. Recent timber supply reviews in the province have included carbon sequestration in the analysis such as that for the Lillooet TSA (May 2009). This trend is expected to continue. In his rationale for the Allowable Annual Cut determination for the Lillooet TSA, the Chief Forester reported "as government and society address the important considerations related to carbon management and climate change mitigation, and reach decisions on how all of the potential uses of forest land should be balanced with carbon management, those decisions will be reflected in future AAC determinations." Also in his rationale, the Chief Forester recognizes the need for government to take an active role in understanding carbon budgets: "No doubt governments will be called on to analyse and prioritise the many alternative potential uses of the forest, from which to derive and provide a range of socially acceptable management objectives. Analysis of the carbon implications of forest management alternatives will be important information for consideration in the making of such decisions on society's behalf by our elected representatives." In the interim, until government has finalized assumptions for carbon budget modelling, Canfor's carbon strategy will be: • Maintain some old growth on the land base for carbon storage. • Prompt reforestation for carbon uptake. • Minimize permanent access structures to maintain forest productivity for carbon uptake. • "Canfor" utilizing non-saw fibre that is economically viable (close to the mill) and residual wood waste for pellet production and co-generation energy. • Canfor has also engaged in sourcing new markets for non-merchantable dry balsam. Canfor will continue to report on the target for this indicator (retention of old forest) as well as related indicators and targets for forest land conversion and reforestation success. Collectively, these indicator statements and targets demonstrate the commitment to positively influence carbon balance within the management units. Retention of old forest (such as Old Growth Management Areas or OGMA's) throughout the DFA will assist in locking up the carbon already sequestered in these older forests. Canfor will continue to monitor developments in carbon sequestration modeling both at the provincial and regional level and may utilize this information within the SFM Plan. At the very least, Canfor will rely upon forest carbon analysis conducted in conjunction with the next Timber Supply Review.

Strategy to Implement	Canfor's commitment in the Forest Stewardship plan is not to submit any cutting permits if there is any shortage of mature or mature plus old.
Current Status	The amount of surplus (green) or shortage (red) of early serial, mature late plus old and old by seral (old) age class by management zone and BEC variant is summarized below.

Management Zone	BEC VARIANT	Shortage / Excess (ha)		
		Early	M+O	Old
Objective 1:				
General Forested Area2	MHmm2	4,435	5,574	4,913
	ESSFmc and	59,061	83,580	57,723
	ESSFmk	6,724	2,715	(6,251)
	SBSdk	21,379	13,384	5,532
	SBSwk3	80,682	160,935	92,725
				-
Nanika River HBEA	ESSFmc and	(2)	(2)	3
	ESSFmk	(2)	(1)	(2)
	SBSwk3	47	(59)	586
				-
Friday/Nakinilerak/Hautête Lakes HBEA	ESSFmc and	13	13	16
	SBSwk3	2,403	2,356	452
				-
Morrison Lake HBEA	SBSwk3	985	1,101	1,020
				-
Thautil/Gosnell Rivers HBEA	ESSFmc and	2,070	4,929	4,725
	ESSFmk	6	86	109
	SBSwk3	801	6,354	4,624
Upper Morice River HBEA (above Thautil-Gosnell confluence)	SBSmc2 and SBSwk3	73	(126)	866
				-
Lower Morice River HBEA (below Thautil-Gosnell confluence)	ESSFmc and	0	1	1
	SBSdk	1,790	623	2,555
	SBSwk3	271	408	1,519
Objective 2:				
Nadine/Owen			947	
Grease Trail			(56)	
Objective 3:				
LeTalh			1,373	
Nadina River			(282)	

Note there are units that are in deficit or very close now. This means there can be no permits submitted that impact any of these deficits. Some of these just reflect a natural shortage of old on the landscape. For example, in the General Forest Area (GFA) the ESSFmk2 is mainly in parks, OGMA's and no harvest areas. However, with a target of 82% being old these high levels are not even occurring naturally.

This status will also change with inventory updates as significant changes to age are normal in re-inventory.

Forecast	Quantitative forecast: It is assumed that this forecast (Morice TSA level) is applicable to the DFA as Canfor is such a large presence in the TSA. It is also a legal standard at the TSA level so what we do at a DFA level must be consistent. Modelling with patchworks (Ecora) ensures targets can be maintained over time, but does create a timber supply impact that will be incorporated into future TSR reviews. The only thing that cannot be forecast is the impact of inventory updates. This current status and modelling includes significant inventory updates from 2017. More updates are expected in 2018.
Target	Percent early, mature and mature plus old as per Morice Biodiversity order. 

Management Zone	BEC VARIANT	Minimum / Maximum %		
		Early Seral Maximum (%)	Mature + Old Minimum (%)	Old Minimum (%)
Objective 1:				
General Forested Area2	MHmm2	27%	64%	62%
	ESSFmc and	38%	37%	34%
	ESSFmk	9%	83%	82%
	SBSdk	64%	10%	8%
	SBSwk3	48%	20%	17%
				-
Nanika River HBEA	ESSFmc and	28%	70%	42%
	ESSFmk	7%	70%	84%
	SBSwk3	37%	70%	26%
				-
Friday/Nakinilerak/Hautête Lakes HBEA	ESSFmc and	28%	48%	42%
	SBSwk3	37%	33%	26%
				-
Morrison Lake HBEA	SBSwk3	37%	33%	26%
				-
Thautil/Gosnell Rivers HBEA	ESSFmc and	28%	48%	42%
	ESSFmk	7%	86%	84%
	SBSwk3	37%	33%	26%
Upper Morice River HBEA (above Thautil-Gosnell confluence)	SBSmc2 and SBSwk3	37%	70%	26%
				-
Lower Morice River HBEA (below Thautil-Gosnell confluence)	ESSFmc and	28%	50%	42%
	SBSdk	50%	50%	16%
	SBSwk3	37%	50%	26%
Objective 2:				
Nadine/Owen			70%	
Grease Trail			70%	
Objective 3:				
LeTalh			50%	
Nadina River			50%	

Basis for the Target	The following documents were used as a basis for the targets: • The Morice LRMP, • The Morice Biodiversity Order, • Canfor Biodiversity Strategy. This indicator is designed to control and modify harvesting activities based on the best information at the time.
Monitoring & Measurement Periodic	Major inventory updates normally conducted with Timber supply review will trigger the need to update the analysis.
Annual	This current status will be run annually to help direct developments.
Variance	None based on current harvesting on known information.

5.7.4 1.1.4. Degree of within-stand structural retention

Indicator	**1.1.4 Degree of within-stand structural retention**
Indicator Statement(s)	1.1.4(a). Percent of stand structure retained across the DFA in harvested areas 1.1.4(b). Percent of blocks meeting dispersed retention levels as prescribed in the site plan/logging plan
Element(s)	**Element 1.1 — Ecosystem diversity** Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish forest plantations only in afforestation projects. **4.1 Carbon Uptake and Storage** Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems
Value(s) and Objective(s)	Value 1.1: The range of functions, interactions and processes that occur naturally within and between ecosystems on the DFA Objective 1.1: Functions, interactions and processes that occur naturally within and between ecosystems on the DFA will fluctuate within a (naturally, socially) acceptable range of variation over time.
Description	Complexity of stand structure is a key component of an operational strategy to sustain biodiversity in forested ecosystems (Bunnell et al 1999). Structural complexity helps to mitigate the potential deleterious effects of large scale stand and landscape simplification associated with intensive short-rotation forest management. It can be provided by the adoption of retention silvicultural systems, a practice broadly applied in interior BC (Lindenmayer and Franklin 2002, Bunnell et al. 1999). Wildlife tree retention areas (WTRAs) are a retention tool recommended for use in stand and landscape planning to help sustain biodiversity and ecological processes. They are used to provide protection for known wildlife habitat features (including standing dead and dying trees), to provide attributes important to key ecological processes (including woody debris, tree species diversity, and understory vegetation diversity), to protect smal, local sites of special biological significance (i.e. unclassified riparian or wetlands, rock outcrops or rare plants or ecosystems), or to provide stand level complexity (vertical and horizontal) to harvest areas under even-aged, short rotation management. At the landscape level WTPs can be used with other protected areas such as riparian reserves, old gowth areas and provincial parks to provide landscape structure to help keep landscape complexity more consistent with natural disturbance regimes. All of the above values should be considered when considering where to locate (anchor) WTRAs. By maintaining WTRAs, that are close to their natural distribution it is expected that landscape level ecological processes such as habitat connectivity and genetic diversity will be maintained within an acceptable proportion of the range of natural variability. This indicator in conjunction with other landscape level indicators such as seral stage distribution and species composition will provide important information on ecosystem health. Operationally, harvest plans often include retention of dispersed trees such as snags, large live trees, deciduous trees, stub trees and understory trees. Dispersed retention provides stand level complexity and long term recruitment of coarse woody debris. Harvest value and ecological value can be optimized by selecting the variety of tree types (e.g., species, size, live and dead, etc.) that have high ecological value and low economic value, and through the number of trees retained. Riparian management areas, provide opportunities for connectivity of forested cover along waterways, which are generally areas with high value for wildlife habitat and movement.

<table>
<tr><td></td><td>Operational plans influenced by riparian areas contain site specific commitments that range from 100% protection to 100% removal of merchantable trees, generally with efforts to mange existing understory trees and shrubs.</td></tr>
<tr><td>Strategy to Implement</td><td>Canfor will achieve the targets through allocation of retention patches and dispersed retention (individual trees and stubs) during cutblock development. Where applicable, plans will also contain riparian area comitments. Company plans and practices support riparian management, group retention and protection of designated wildlife trees/stubs. Operational plans include a commitments that, at the landscape level, will achieve a target level of 7% retention.</td></tr>
<tr><td>Current Status</td><td>1.1.4(a). The following table displays the baseline landscape level retention levels by licensee.
<table>
<tr><th>Licensee</th><th>2016/17 Status</th><th>Target</th></tr>
<tr><td>Canfor</td><td>13.6%</td><td>7%</td></tr>
</table>
1.1.4(b). 100 percent of blocks for Canfor meet dispersed retention levels (13/13) as prescribed in the site plan/logging plan areas (2016/17 baseline data).
Note just about all blocks have some dispersed retention. This indicator relates to the prescription requirement in the site plan.</td></tr>
<tr><td>Forecast</td><td>Qualitative forecast: by implementing the above strategy, it is forecast that the percent of stand structure across the DFA will continue to meet the minimum targe of 7% across the DFA. Current status described in of the Annual Report shows that more than the minumum stand structure is being retained across the DFA currently. This forecast trend is expected to continue with the identified strategy.</td></tr>
<tr><td>Target</td><td>1.1.4(a) Landscape level of target 7%.
1.1.4(b) 100%</td></tr>
<tr><td>Basis for the Target</td><td>Legal requirement in the Morice Biodiversity Order consistent with FPPR section 66.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
<tr><td>Annual</td><td>1.1.4(a). For areas harvested during the annual reporting period, report the (weighted average) percent of area retained.
1.1.4(b). For areas harvested during the annual reporting period report the percent of blocks meeting dispersed retention levels as prescribed in the site plan/logging plan.</td></tr>
<tr><td>Variance</td><td>None.</td></tr>
</table>

5.7.5 1.2.1. Degree of habitat protection for selected focal species, including species at risk; 1.2.2. Degree of suitable habitat in the long-term for selected focal species, including species at risk

Indicator(s)	**1.2.1 Degree of habitat protection for selected focal species, including species at risk** **1.2.2 Degree of suitable habitat in the long term for selected focal species, including species at risk**
Indicator Statement(s)	1.2.1. Percent of forest management activities consistent with management strategies for Species of Management Concern.
Element(s)	**Element 1.2 — Species diversity** Conserve species diversity by ensuring that habitats and forest conditions for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.
Value(s) and Objective(s)	Value 1.2: Abundance and distribution of common and rare habitats within a range of variability over time to conserve species on the DFA. Objective 1.2: A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.
Strategy(s) Description	While ecosystem conservation is the coarse-filter approach to biodiversity management, species diversity is the fine-filter approach. For most species, forest managers can influence habitat only, not species populations. To account for the degree of habitat protection for selected focal species, including at risk species, this indicator looks at the proper execution of operational plans where those plans contain conservation measures for Species or Sites of Mangement Concern. Maintenance of wildlife habitat over the long-term is critical to meeting the genetic diversity requirements of sustainable forest management. Each of the selected focal species have specific habitat attribute requirements (i.e. snags, closed canopy forests, limited road access, etc.) that need to be maintained for optimal habitat value. Canfor includes commitments in site/logging plans or other operatinal plans to manage the habitat of the DFA's Species of Management Concern. These species will include at risk species and other focal species and are identified in Appendix 3 of this SFM Plan. Canfor participates in higher level and strategic planning that has delineated a series of protected areas (i.e. parks, ecological reserves), no-harvest areas and old growth management areas within the DFA. This achieved the geographic and ecological goals of provincial Protected Areas Strategies (PAS), providing representation of the cross-section of ecosystems and of old forest attributes. Ecosystems of special biological significance have generally been given a high priority for inclusion in the protected area strategy. Timber harvesting, mining and hydroelectric development are usually not permitted within protected areas and other resource development activities such as grazing and commercial tourism development, are permitted only in specified areas and under strict guidelines. At the stand level, protected areas include wildlife habitat areas (retention patches), wildlife tree features (such as a nest tree or mineral lick) and other resource features (such as a permanent sample plot or range improvement). Unique areas of biological significance are identified in the field during the planning phase and are managed through avoidance (either by relocating the road and/or harvest area or by protecting it with a wildlife tree patch) or using an appropriate conservation management strategy.

<table>
<tr><td>Strategy Implementation</td><td>Implementation of landscape level and stand level management. Canfor includes commitments in site/logging plans or other operational plans to ensure activities do not comprimise these protected areas.</td></tr>
<tr><td>Means of Achieving Objective & Target</td><td>Government’s policy and legally established framework for the protection of biodiversity values and species at risk under provincial and federal legislation includes the establishment of parks and protected areas, the protection of biodiversity, riparian and aquatic habitats, old-growth forests, ungulate winter range, specific wildlife features and the habitat for listed species at risk.

For some of these species, specific habitat conservation targets have been established that identify the amount, distribution and attributes of desireable habitat. For the remaining species, desirable habitat conditions have been identified for each species. Canfor manages spatial information that identifies the broad habitat types and locations for each of the Species of Management Concern. Where applicable, this information is brought forward into operational plans to manage for the desired habitat conditions. Plans are properly executed providing desired results. Post harvest evaluations and other applicable post activity forms (i.e. road construction or site preparation) assess plan conformance.

Canfor manages spatial information that identifies the location of these larger scale and stand level protected areas. Where applicable, this information is brought forward into operational plans to ensure roads harvest activities do not comprimise protected areas. Management strategies might include plans for road deactiviation or rehabilitation, additional dispersed retention or a uniqure siliviculture regime. Operational plans are then properly executed, providing desired results. Post harvest evaluations and other applicable post activity forms (i.e. road construction or site preparation) assess plan conformance.</td></tr>
<tr><td>Current Status</td><td>The following table displays the % conformance with management strategies
<table><tr><td>Licensee</td><td>2016/17 Status</td></tr><tr><td>Canfor</td><td>100%</td></tr></table>See Appendix 3 for the complete list of Species of Management Concern within the DFA.</td></tr>
<tr><td>Forecast</td><td>By implementing landscape and stand level strategies and documenting commitments in the site plan the forecast is expected to stay at 100%.</td></tr>
<tr><td>Target</td><td>1.2.1. 100% conformance with management strategies</td></tr>
<tr><td>Basis for the Target</td><td>Legal obligations, use of best available information, and habitat supply modeling done at the provincial/regional level for specific focal species.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
<tr><td>Annual</td><td>For areas where forest activities occurred during the annual reporting period that contained operation plan commitments to mange for Species or Sites of Management Concern, report the number of non conformances to plans occurring during the reporting year as compared to the total number areas having operational plan commitments.</td></tr>
<tr><td>Variance</td><td>1.2.1. None.</td></tr>
</table>

5.7.6 1.4.1. Protection of sites of special significance.

<table>
<tr><td>Indicator(s)</td><td>1.4.1 Proportion of identified Sites with Implemented Management Strategies</td></tr>
<tr><td>Indicator Statement(s)</td><td>1.4.1. Percent of forest management activities consistent with management strategies for protected areas, sites of biological, geological significance or cultural significance.
Also see 7.2.2 Proportion of identified sites with implemented management strategies</td></tr>
<tr><td>Element(s)</td><td>1.4: Protected areas and sites of special biological, geological, heritage, or cultural significance
Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological or cultural significance.</td></tr>
<tr><td>Value(s) and Objective(s)</td><td><u>Value 1.4:</u> Protected areas and sites of special biological, geological, heritage, or cultural significance
<u>Objective 1.4:</u> To maintain representative areas of naturally occurring and important ecosystems, rare physical environments and sites of cultural, biological or geological significance</td></tr>
<tr><td>Strategy(s)
Description</td><td>There are many landscape levels of protection including protected areas, no harvest areas, high biodiversity emphasis areas and old growth managements areas (often overlap other high value areas). Stand level protection in terms of retention or identification and impelmentation of specific measures to protect are all part of a larger strategy for protection of sites of special significance. Note sometimes sites area kept confidential and just excluded from the harvest area. It is recognized that summaries will therefore under estimate protection commitments.</td></tr>
<tr><td>Strategy Implementation</td><td>Implementation of landscape level and stand level management. Canfor includes commitments in site/logging plans or other operational plans to ensure activities do not comprimise these protected areas.</td></tr>
<tr><td>Means of Achieving Objective & Target</td><td>Communication with stakeholders and first nations in addition to conducting ground work to determine site of special significance.</td></tr>
<tr><td>Current Status</td><td>The following table displays the % conformance with management strategies.
<table>
<tr><td>Licensee</td><td>2016/17 Status</td></tr>
<tr><td>Canfor</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forecast</td><td>By implementing landscape and stand level strategies and documenting commitments in the site plan the forecast is expected to stay at 100%.</td></tr>
<tr><td>Target</td><td>1.4.1. 100% conformance with management strategies</td></tr>
<tr><td>Basis for the Target</td><td></td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
<tr><td>Annual</td><td>For areas where forest activities occurred during the annual reporting period that contained operation plan commitments to mange for Sites of Management Concern (biological, geological, heritage or cultural) report the number of non conformances to plans occurring during the reporting year as compared to the total number areas having operational plan commitments.</td></tr>
</table>

Variance	1.4.1, 1.4.2 None.

5.7.7 2.1.1. Reforestation Success

Indicator	**2.1.1 Reforestation success**
Indicator Statement(s)	2.1.1. Average Regeneration delay for stands established annually
Element(s)	**2.1 Forest ecosystem condition and productivity** Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site. **4.1 Carbon Uptake and Storage** Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.
Value(s) and Objective(s)	Value 2.1: Healthy, productive forests that support ecosystem conditions and process. Objective 2.1: Forest ecosystem resilient to disturbances and stresses. Value 4.1: Storage of carbon in forest ecosystems and products. Objective 4.1: Forest ecosystems are net carbon sinks over time on the DFA.
Strategy(s) Description	Prompt reforestation of harvested areas is a major component of sustainable forest management. Ensuring that a diversity of tree species is maintained improves ecosystem resilience and productivity and positively influences forest health. Prompt reforestation ensures that the productive capacity of forest land base to grow trees is maintained. Forests in Canada are classified according to an Ecosystem Classification System, which identifies the tree species that are most suited ecologically for regeneration in any particular site. Prompt reforestation also lends itself to long term forest health and productive forests that uptake and store carbon. Young plantations are typically healthy and rapidly growing so they sequester more CO_2 though photosynthesis than they release through decay. By reducing atmospheric greenhouse gases such as CO_2, regenerating cutblocks can contribute to reducing climate change. The sooner cutblocks are regenerated after completion of harvest the sooner this process can begin. In the interim, until government has finalized assumptions for carbon budget modelling, Canfor's carbon strategy will be: • Maintain some old growth on the land base for carbon storage • Prompt reforestation for carbon uptake. • Minimize permanent access structures to maintain forest productivity for carbon uptake. Canfor will continue to report on the target within this indicator (Average Regeneration delay for stands established annually) as well as related indicators and targets for forest land conversion and retention of old forest. Collectively, these indicator statements and targets demonstrate commitment to positively influence carbon balance within the management unit. Canfor will continue to monitor developments in carbon sequestration modeling both at the provincial and regional level and will utilize this information within the SFM Plan. At the very latest, Canfor will rely upon forest carbon analysis conducted in conjunction with the next Timber Supply Review.

<table>
<tr><td>Strategy Implementation</td><td>Canfor sows seedlings based on harvesting history and trends, combined with a review of planned harvesting plans. Canfor sows A class seed (orchard) when ever possible because of the greater flexibility of range of use.</td></tr>
<tr><td>Means of Achieving Objective & Target</td><td>Licensees are legally required to declare the Net Area to be Reforested (NAR) of a cutblock regenerated by a date specified in the Site Plan. The NAR is the area of a cutblock that must be reforested, and does not include permanent access structures, wildlife tree patches, and natural non-productive area (i.e. rock, wetlands). Participating licensees will also specify in Site Plans tree species that are ecologically suited to the site. Silviculture treatment regimes and forward plans schedule activities consistent with established key dates contained within plans.</td></tr>
<tr><td>Current Status</td><td>The following table summarizes Canfor’s performance to date specific to regeneration delay. The data represents the yearly area weighted average regeneration delay performance.
<table>
<tr><th colspan="7">Planting Year Average Weighted Regeneration Delay</th><th>Average Regen Delay</th></tr>
<tr><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2017</th><th></th></tr>
<tr><td>2.43</td><td>1.93</td><td>2.10</td><td>1.80</td><td>2.05</td><td>2.18</td><td>1.96</td><td>2.06</td></tr>
</table>
</td></tr>
<tr><td>Forecast</td><td>By following the above implementation strategy Canfor is able to keep regeneration delay times to much less than legal requirements. Based on the strategy and past results the indicator is forecast to be consistently met.</td></tr>
<tr><td>Target</td><td>Regeneration delay achieved in:
CFP: ≤ 2.5 years from harvest commencement</td></tr>
<tr><td>Basis for the Target</td><td>This target promotes prompt reforestation and meets or exceeds legal requirements outlined in legislation. Early establishment of a viable crop of trees reduces the need for subsequent interventions (i.e. planting, brushing) and positively contributes to carbon sequestration.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td>Periodic monitoring will require tracking harvesting commencement dates for blocks as well as the date that regeneration delay was declared. Tracking of this data will allow for yearly reporting of the area weighted average regeneration delay for all blocks reforested within a given reporting period.</td></tr>
<tr><td>Annual</td><td>Annually report the average time (weighted by area) for regeneration establishment on areas where regeneration delay was declared during the reporting period. For the purposes of this indicator, commencement of the regeneration delay period is based on the harvesting commencement date.</td></tr>
<tr><td>Variance</td><td>CFP: + 0.5 years</td></tr>
</table>

5.7.8 2.1.2. Proportion of regeneration comprised of native species

Indicator(s)	**2.1.2 Proportion of regeneration comprised of native species**
Indicator Statement(s)	Regeneration will be consistent with provincial regulations and standards for seed and vegetative material use
Element(s)	**2.1 Forest ecosystem condition and productivity** Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.
Value(s) and Objective(s)	Value: Healthy, productive forests that support ecosystem conditions and process. Objective: Forest ecosystem resilient to disturbances and stresses. .
Strategy(s) Description	One of the primary management objectives for sustainability is to conserve the diversity and abundance of native species and their habitats. Silviculture practices that promote regeneration of native species, either through planting or other natural programs assist in meeting these objectives. The well-being and productivity of future forests are dependent upon the structure and dynamics of their genetic foundation. Seed used in Crown land reforestation that is consistent with provincial regulations and standards ensure regenerated stands are genetically diverse, adapted, healthy and productive, now and in the future. Suitable seed and vegetative lots must also be of a high quality and available in sufficient quantities to meet the specific stocking and forest health needs of a given planting site. Tree seed used for growing seedlings to meet reforestation requirements on public lands in BC and Alberta must be registered by the province. The provinces have strict procedures pertainaing to the collection, transport, testing, storage and use of registered seed. Tree seed having uniformity of species, source, quality and year of collection are referred to as a seedlot. Administrative seed zones identify what seedlot is ecologically suited for a given area. By choosing a seedlot that was suitable to the site it was to be planted in, the resulting plantation would be adapted to its site, local climate, and endemic forest health problems.
Strategy Implementation	By utilizing the ordering and tracking system (SPAR) for seedling ordering and tracking in Plant Wizard (or other tracking system) provides all the tools for managing this indicator.
Means of Achieving Objective & Target	Canfor's plans will contain site information and reforestation prescriptions that ensure regeneration will be consistent with provincial regulations and standards. Planted trees will be of acceptable species and originate from seedlots that are ecologically suited to the site. Planting reports will be used to confirm proper execution of plans.
Current Status	100% of regeneration was consistent with provincial regulations and standards for seed and vegetative material use.
Forecast	By following the strategy above this indicator can be met consistently in the future.
Target	100% conformance with Chief Forester's Standards for seed use.
Basis for the Target	Legal obligations and use of best available information.

Monitoring & Measurement Periodic	Seedzones or transfer guidelines seem to be under frequent review to address climate change. Annual monitoring will have to adjust to incorporate changes periodically.
Annual	Participating licensees will report the number of seedlings planted with species and seedlots appropriate to the site as compared to the total number of seedlings planted.
Variance	None due the fact that the chief Foresters guidelines already have a 5% tolerance built in.

5.7.9 2.2.1 Additions and deletions to the forest area

Indicator	**2.2.1 Additions and deletions to the forest area**
Indicator Statement(s)	2.2.1. Percent of gross forested landbase in the DFA converted to non-forest land use through forest management activities
Element(s)	**2.1 Forest ecosystem condition and productivity** Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site. **4.2 Forest Land Conversion** Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.
Value(s) and Objective(s)	Value 2.1: Healthy, productive forests that support ecosystem conditions and process Objective 2.1: Forest ecosystem resilient to disturbances and stresses.
Strategy(s) Description	Given the crown forest land ownership and associated forest tenure situation in Canada forest companies generally have little influence over additions to or deletions from the forest area, which generally are a result of government land use objectives. Where companies can have an influence is through their practices, particularly as it pertains to permanent access structures within the DFA. A permanent access structure is defined as "a structure, including roads, bridges, landings, gravel pits or other similar structures that provides access for timber harvesting". The amount of area permanently lost to permanent access structures varies depending on the harvest system, season of harvest, topography and road building standards. Unless rehabilitated, these access structures occupy otherwise productive land suitable for forest establishment resulting in reductions to the gross forest area over time and productive area suitable for the growth of trees. The target for this indicator is focused on those activities where forest companies have direct control (i.e. excludes other permanent losses resulting from other industries sharing the overall forest estate). Actual reporting against the specified targets is anticipated to increase over time until timber harvesting landbase is fully roaded. As such a periodic review of the associated targets will be necessary over time. In the interim, until government has finalized assumptions for carbon budget modelling, Canfor's carbon strategy will be: • Maintain some old growth on the land base for carbon storage • Prompt reforestation for carbon uptake. • Minimize permanent access structures to maintain forest productivity for carbon uptake. Canfor will continue to report on the target within this indicator (Percent of gross forested landbase in the DFA converted to non-forest land use through forest management activities) as well as related indicators and targets for regeneration delay and retention of old forest. Collectively, these indicator statements and targets demonstrate commitment to positively influence carbon balance within the management unit. Canfor will continue to monitor developments in carbon sequestration modeling both at the provincial and regional level and will utilize this information within the SFM Plan. At the very latest, Canfor will rely upon forest carbon analysis conducted in conjunction with the next Timber Supply Review. .

Strategy Implementation	Reductions to the gross forest area due to permanent access structures resulting from forest management activities can be minimized by • Careful total-chance access-planning to minimize the amount of permanent access structures. • Use of proper road construction, maintenance, deactivation and rehabilitation procedures. • Minimizing the degraded width of roads necessary to safely extract timber from an area. • Specifying performance measures in operational plans which include proposed and maximum permanent access area and percent as well as degraded road widths. • Conducting pre-works to communicate road construction expectations and allowable levels of permanent access structures specified in operational plans. • Conducting harvesting inspections to assess consistency with specifications outlined in preworks and operational plans. Note new government objectives for caribou and goat have specific deactivaton requirements with in specific zones. These zones will have an impact on the overall road numbers. Updates to the database on roads is required to address very old road that are naturally returning to a productive state. The current calculations are likely to inflate the net down due to roads for this reason.
Means of Achieving Objective & Target	Proposed reductions to the gross forest landbase resulting from permanent access structures are calculated and included in operational plans (site plans and/or logging plans). Plans are executed providing desired results. Post harvest evaluations and other inspections assess plan conformance with the desired results.
Current Status	Based on the 2016/17 annual report the current status is 2.09%. Year over year comparison is not practical due to significant changes to the DFA area.
Forecast	By implementing the above strategy results are expected to stay below the target.
Target	The target will be as follows: 2.2%
Basis for the Target	This target has no legal basis and is well below legal targets. It has remained static through a number of plans as it seems to be a target that has been reasonable and achievable. It has been based on historical road needs and providing for a bit extra. It is expected that roads in the TSA will at some point reach a static point.
Monitoring & Measurement Periodic	Permanent access structures percent are utilized in Provincial Timber Supply Review forecasts. Report percent converted once every 5 years from operational information supplied into Genus that tracks area in permanent roads, landings, borrow pits, rock quarries and permanent camps. Deduct any included areas that have been rehabilitated during the reporting period.
Annual	None
Variance	None

5.7.10 2.2.2 Proportion of the calculated long-term sustainable harvest level that is actually harvested.

Indicator	**2.2.2 Proportion of the calculated long-term sustainable harvest level that is actually harvested**
Indicator Statement(s)	2.2.2. Percent of volume harvested compared to the allocated harvest level
Element(s)	**2.1 Forest ecosystem condition and productivity** Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.
Value(s) and Objective(s)	Value 2.1: Healthy, productive forests that support ecosystem conditions and process Objective 2.1: Forest ecosystem resilient to disturbances and stresses.
Strategy(s) Description	For many, sustainability involves limiting actual timber harvest to levels within the long-term capability of the forest to grow wood. To track this, managers need data on both harvest levels and long-term production capability to make proportional calculations. In many locations it also requires an understanding of the nature of the transition of forests from harvesting old growth to harvesting second growth. In practice, only the actual harvest level can be physically measured. The amount of wood that can be produced in perpetuity from a forest is a theoretical calculation that depends not only on the inherent wood-growing capacity of the forest ecosystem but also on the kinds and intensities of management inputs (e.g., silvicultural treatments). Because the latter inputs are under human control, a forest can have a wide range of potential long-term sustainable wood harvest levels. One strategy to ensure the wood growing capacity of forests is fully recognized is to retain it in a productive state. Other core indicators that directly measure this are 2.2.1 (additions and deletions to the forest area by cause) and 2.1.1. (reforestation success). Timber supply is usually considered within the context of three relative timeframes — short term, medium term and long term. The short term is typically represented by the first two decades of the harvest forecast and reflects the period in which the scheduled harvest level is defined by immediate concerns of achieving socio-economic objectives and maintaining non-timber values. The medium term corresponds to the transition from harvesting mostly old growth to harvesting managed stands. The long term is the period that begins approximately when the harvest reaches the long-term harvest level. Guidance in developing harvest flow objectives is taken from the current economic and social objectives of the Crown. In the short term, there is often a desire by government to retain the continued availability of good forest jobs and the long-term stability of communities that rely on forests. At the same time, harvest levels in the short term must not compromise long term sustainability. In general, a reasonable flow pattern provides for a managed and gradual transition from short-term to medium- and long-term harvest levels, and avoids large and abrupt disruptions in timber supply. A reasonable flow has a medium-term level that drops below the long-term level to the minimum extent and only if justified. The long-term level should provide an even level of growing stock over the long term. Initial harvest levels are used by government decision makers in determining the allowable annual cut (AAC). The harvest level is set using a rigorous process that considers social, economic and biological criteria.

<table>
<tr><td>Strategy Implementation</td><td>Canfor builds a 4 season harvesting plan to be consistent with cut control. We have an overall strategy to balancing all licenses to exactly 100%. This can be done through monitoring of cut control statements and conducting transfers to balance off any minor differences.</td></tr>
<tr><td>Means of Achieving Objective & Target</td><td>Canfor contributes to the sustainable harvest level by managing to the determined harvest level for the management unit or in some cases by adhering to their apportioned harvest volume within the TSA. Cut control regulations dictate the short-term harvest flexibility. Essentially, licensees have flexibility on harvest levels from year to year but must balance every five years or less if desired by the licensee.
Currently Canfor's replaceable Forest License A16828 has an AAC 940,424 m3 and the five-year cut control is from 2017 to 2022. The new replaceable license A91846 has an AAC of 324,500 and a five-year cut control from 2016 to 2021 This volume is harvested on Canfor's DFA.</td></tr>
<tr><td>Current Status</td><td>Long term harvest level (2015 TSR 4 determination):
the AAC of 1,900,000 m3 for the Morice TSA includes a live 1,600,000 and a 300,000 m3 dead portion.
The dead portion of this determination is expected to be removed after 5 years.
<table><tr><th>Year</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>Total</th></tr><tr><td>Harvest volume</td><td>915,330</td><td>1,184,956</td><td>933,819</td><td>1,236,984</td><td>1,461,816</td><td>5,732,905</td></tr><tr><td>Cut control</td><td>940,424</td><td>1,021,549</td><td>1,264,924</td><td>1,264,924</td><td>1,264,924</td><td>5,756,745</td></tr></table>Canfor is currently at 99.6% of cut control after 5 years. Note A91846 was acquired in October of 2013 so one quarter of 324,500 was added to the 2013 AAC. The cut control period for license A91846 expired 2015 and A16828 in 2016.</td></tr>
<tr><td>Forecast</td><td>By implementing the strategy above the cut control over a five year period is forecast to balance with the annual allowable cut over that period.</td></tr>
<tr><td>Target</td><td>100% over the cut control period as defined by Timber supply forecast harvest flow</td></tr>
<tr><td>Basis for the Target</td><td>Legal requirements.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td>The schedule for subsequent Timber Supply Reviews for the Morice TSA can be found at: https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/timber-supply-review-and-allowable-annual-cut/allowable-annual-cut-timber-supply-areas/morice-tsa.</td></tr>
<tr><td>Annual</td><td>For monitoring purposes only, report (m3) the species composition (pine, balsam, spruce) of harvested volumes.</td></tr>
<tr><td>5 year</td><td>Report the harvest level allocated for each license for the cut control period and the harvest level cut at the end of the period.</td></tr>
<tr><td>Variance</td><td>According to the Cut Control Regulation and Policy
10%</td></tr>
</table>

5.7.11 3.1.1 Level of soil disturbance

Indicator	**3.1.1 Level of soil disturbance**
Indicator Statement(s)	3.1.1. Percent of harvested blocks meeting soil disturbance objectives identified in plans
Element(s)	**3.1 Soil quality and quantity** Conserve soil resources by maintaining soil quality and quantity
Value(s) and Objective(s)	Value 3.1: Productive capacity of soil resources are conserved Objective 3.1: Soil quantity and quality are sustained through their characteristic range of variation on the DFA over time
Strategy(s) Description	The objectives of soil conservation under British Columbia's Forest and Range Practices Act (FRPA) includes: • Limiting the extent of soil disturbance caused by harvesting and silviculture activities that negatively affect the physical, chemical and biological properties of soil; and • Conducting forest practices in a manner that addresses the inherent sensitivity of a site to soil degrading processes to minimize soil disturbance, landslides, soil erosion and sediment delivery to streams. The objective of placing limits on the amount of soil disturbance allowed within the "Net Area to be Reforested" (NAR) is to ensure that site productivity is maintained and that impacts to other resource values are prevented or mitigated. Net Area to be Reforested (NAR) is defined as the area which the licensees are legally obligated to regenerate to free growing status (i.e. gross harvest area minus deletions for roads, landing, gravel pit, wildlife tree patches, etc.). Harvesting and silviculture activities must be carried out such that the total amount of soil disturbance at any time during operations does not exceed the specified maximum (BCMOF 2001). Objectives set by Government for Soils as well as associated practice requirements specific to soil disturbance limits are outlined in the Forest Planning and Practices Regulation (FPPR). Soil Disturbance types and related categories is a general term and can include temporary access structures, corduroyed trails, compacted areas and dispersed disturbance (dispersed trails, gouges, and scalps). Soil disturbance can have positive (mineral soil exposure for seed germination) or negative (soil compaction) impacts. Managing the detrimental soil disturbance levels will help to retain the productive capacity of ecosystems. Soil compaction, displacement and erosion are components of potentially detrimental soil disturbance. These targets seek to manage soil disturbance levels caused by harvesting and silviculture operations.
Strategy Implementation	Prior to harvest commencement field data is collected to assess slopes, soil textures, soil moisture regimes, and organic matter content for soils within a block. This information is then used for the identification and delineation of allowable levels of soil disturbance within the block net area to reforest for harvesting and silviculture activities. Soil disturbance objectives are written into plans by committing to the maximum planned levels of soil disturbance for standard units and roadside work areas. Harvest operations are conducted in a way and during times of year that ensures commitments can be achieved. Post harvest evaluations and other inspections assess -compliance with soil distrubance limits identified in plans.
Current Status	In the 2016/17 reporting year there were two block that were noted in harvest inspection that should be checked. Systematic soil disturbance surveys determined neither had exceeded limits.
Forecast	By implementing the strategy above results are expected to meet targets.
Target	100% of blocks meet soil disturbance objectives.

Basis for the Target	Legal requirement and is key to maintenance of site productivity is a core prerequisite for achieving sustainability. Managing the area of detrimental soil disturbance will help retain the productive capacity of the land base.
Monitoring & Measurement Periodic	The harvesting and/or silviculture supervisor in conjunction with the contractor will monitor and measure soil disturbance levels during active operations. When levels of soil disturbance are approaching limits specified in pre-work meetings and associated operational controls, the contractor is to suspend operations in the area and contact their licensee supervisor.
Annual	Reporting based on harvest inspections and/or government inspections. Any non-conformance or non-compliance to plans will be identified and used as the basis for reporting. Report the of cutblocks where soil disturbance commitments were not achieved as compared to the number of cutblocks that were harvested during the reporting year. The annual report will provide a description of any corrective actions where this indicator falls below the target.
Variance	None

5.7.12 3.1.2 Level of downed woody debris

Indicator	**3.1.2 Level of downed woody material**
Indicator Statement(s)	3.1.2. Percent of cutblocks reviewed where post harvest CWD levels are within the targets contained in plans
Element(s)	**3.1 Soil quality and quantity** Conserve soil resources by maintaining soil quality and quantity
Value(s) and Objective(s)	Value 3.1: Productive capacity of soil resources are conserved Objective 3.1: Soil quantity and quality are sustained through their characteristic range of variation on the DFA through time.
Strategy(s) Description	This indicator and target addresses the need to manage for Coarse Woody Debris (CWD) given its importance as a stand attribute and component of stand-level biodiversity. Coarse Woody Debris typically includes sound or rotting logs, stumps, or large branches that have been fallen or been cut and left in the woods, or trees and branches that have died but remain standing or leaning. For operational purposes CWD is defined as material greater than 10cm in diameter, in all stages of decay. Coarse Woody Debris plays numerous functional roles in natural and managed forests and aquatic ecosystems including: providing feeding, breeding and shelter substrate for may organisms, providing habitat for many forest plants, animals and microorganisms, providing a nutrient source and growing substrate for various bacteria and fungi, carbon storage, erosion control, microclimates for seedling establishment, shelter and access routes for small mammals, and influencing slope and stream geomorphology. Guiding principles related to CWD management include: minimizing CWD accumulations on landings and roadside, larger pieces are more valuable than smaller pieces, ecologically it is advantageous to maintain the full range of decay and diameter classes of CWD, coniferous material lasts many times longer than deciduous material, CWD can be managed in conjunction with wildlife trees and other constrained or reserve areas, manage the composition and arrangement of CWD within acceptable levels of risk of wildfire, insect pest and forest disease outbreaks and harmonize the retention of CWD with silviculture objectives. This indicator is complimented by Indicator 1.1.4: Degree of within-stand structural retention or age class. Potential sources of CWD in managed stands can include the following: • Logs already lying on the forest floor that are left after harvesting. • Uneconomic wood resulting from harvest operations, including breakage, short pieces and tops. • Long-term CWD recruitment may be addressed by leaving reserves and wildlife trees, possibly including cull trees. • Dispersed wildlife trees including green trees, stubbed trees and standing dead trees. • Retain and leave standing trees below utilization standards (poles and bigger) as a long-term CWD recruitment source.
Strategy Implementation	Canfor will achieve objectives and targets specific to CWD through the possible application of the following procedures and controls: • Training for licensee staff and contractors specific to CWD management and best management practices. • Legislative requirements specific to CWD. • Harvesting pre-work meetings and inspections
Current Status	Based on the 2016/17 annual report all blocks met the prescribed CWD requirements.
Forecast	By following the strategy outlined above this indicator is forecast to be consistent with targets.

Target	100% of blocks reviewed annually will meet target.
Basis for the Target	Legal requirements, "Coarse Woody Debris Best Management Practices", "Chief Forester's Guidance on Coarse Woody Debris Management", and studies conducted in the defined forest area on "Post-harvest Monitoring for Coarse Woody Debris and Stand Structural Retention 2008".
Monitoring & Measurement Periodic	Forest & Range Evaluation Program (FREP) conducted by the ministry indicate a summary of CWD date over time. This data is available for a feedback mechanism on the efficacy of our efforts.
Annual	Report compliance with legal requirements and conformance with operational guidelines for CWD management based on blocks reviewed as part of implementation monitoring. On a yearly basis a subset of blocks with harvesting completed during the reporting period will be randomly assessed for consistency with legal requirements and CWD Best Management Practices. Current status results will be calculated by determining the number of blocks consistent with legislative and operational controls divided by the total number of blocks assessed during the reporting period.
Variance	None

5.7.13 3.2.1 Proportion of watershed or water management areas with recent stand-replacing disturbance

Indicator	**3.2.1 Proportion of watershed or water management areas with recent stand-replacing disturbance**
Indicator Statement(s)	3.2.1(a). The percentage of watersheds with active harvesting and road construction that have had a watershed sensitivity analysis completed. 3.2.1 b) The percentage of watersheds with mitigation strategies in place where ECA thresholds have been exceeded 3.2.1 c) The percentage of major drainage structures with mitigation strategies for erosion control
Element(s)	**3.2 Water quality and quantity** Conserve water resources by maintaining water quality and quantity
Value(s) and Objective(s)	Value 3.2: Water Quantity and Quality Objective 3.2: Water quantity and quality are sustained through their characteristic range of variation, on the DFA through time.
Strategy(s) Description	Water quality and quantity can be affected by stand-replacing disturbances (human and natural-caused). The effects are normally highest in the initial post-disturbance years and diminish over time as regenerating forest cover is established. The critical threshold at which the disturbance begins to effect water values at a watershed scales varies according to topography, soil properties, vegetation types, and climate. Certain watersheds can be classified as more sensitive to the impacts of disturbance either because their environmental and climatic attributes or because of their inherent value to aquatic life and communities that are dependent on the water. The peak flow of a watershed is directly influenced by the amount of area that is recently harvested or otherwise recently disturbed (Equivalent Clear-cut Area or ECA). These disturbed areas accumulate more snow and subsequently can deliver more water as the snow melts more rapidly in the spring. All watersheds have differing sensitivities for sediment, riparian function and ECA levels, and all have different values around fish or domestic use. The values are particularly important in picking a point of interest to define a watershed. Conducting the sensitivity analysis by a qualified professional will provide forest managers tools and guidance to help with appropriate management for each watershed. This part e of the watershed management process is considered the initial phase. Further assessments to determine hazards, sediment source or mitigation measure could be considered for specific watersheds. Indicator 3.2.1(a) incorporates a transition plan into the target for this indicator to allow time for watershed sensitivity analysis to be conducted. Assessment of watershed sensitivity represents a different strategy from past plans. Rather than using a default threshold for ECA concern (30%) each watershed will have its own threshold for ECA to act as a trigger for management response. Over time the sensitivity of a watershed will remain fairly static. Riparian sensitivity, sediment sensitivity and rate of harvest sensitivity are all different for each watershed and contribute to an overall sensitivity score. These sensitivities are modified by the value (e.g. fish habitat) at the mouth of the watershed. It is expected it will take a number of years to assess all the watersheds. Watersheds can be looked at very large scales or small sub-basins. As already mentioned watershed are determined by some point of interest. As you move a point up or down a stream the watershed size changes. Generally the point of interest should be in the DFA, but even more important more than half the watershed must be in the DFA. Any point of interest needs

	some value for protection. Small sub basins without specific values will be grouped with larger units for analysis. For example, Buck creek watershed has 7 sub- basins. The larger unit was assessed and two sub-basins within Buck creek were also assessed due to specific fish values. In turn each watershed will be reviewed with a qualified professional to come up with the watersheds and sub units that require specific sensitivity analysis. Efforts will be made to keep the list of watersheds and sub basins as short and concise as possible. Indicator 3.2.1(b) recognizes the importance of management to a specific sensitivity of a watersheds. As we transition into this sensitivity analysis approach it is realistic to assume some watersheds will be above thresholds. It is also reasonable to develop a mitigation strategy for watersheds that are found to be above thresholds. The most obvious mitigation strategy would be altering the rate of harvest to allow recovery. Other strategies might involve or include further analysis into the hazards and mitigation to reduce those hazards. Increasing riparian retention or further management for sediment control could be other strategies. A key will be a review of annual hydrologic recovery. Over time that will allow for better planning to avoid situations where mitigation is required. Watersheds can be managed to different risk levels: low, medium and high. In the transition period a risk level of medium will be the basis for thresholds. Using one risk level at this time and considering alternatives in the future when further assessments and analysis of impacts can be better understood. Watersheds with higher values (fish, water use) are also given higher sensitives therefor an adjustment for risk has already been built into the model. 3.2.1 c) The strategy for erosion mitigation for major structures will include measures such as grass seeding, diversion ditching, hay bales, silt fences, rip rap, short seasonal access and removal of structure before freshet, strategic use of geo textile fabric, road surfacing, paving approaches, deactivation (temporary and permanent). These strategies are typically identified in advance and incorporated in site plans designs and standard procedures.
Strategy Implementation	A) Watersheds that we have a greater than 50% control over will be part of this indicator. It is also known that another major licensee uses the same type of sensitivity analysis which reduces the risk for areas of watershed overlap with this licensee. B) Small sub basins will be grouped into larger watershed units unless there is a specific known value that requires attention. This is very much an interactive process between the forester and a hydrologist to determine the analysis units. C) Mitigation strategies for watersheds over a medium risk threshold. A combination of current status and future plans built into an annual analysis will make it easy to determine when and where a mitigation strategy is required. It is expected that each strategy will tailor to the specific watershed sensitivities. Harvesting scheduling will likely be adjusted over a number of years to allow a transition to new information provided and protect investments made. D) Implementation and documentation of standard erosion control processes on all major structure installations plus implementation of specific prescribed measures will help to ensure this indicator is met. I

Current Status	3.2.1(a). The ECA is known for each watershed but not the sensitivity. The status for 2016 and before will be zero and the status for 2017 will be low as the first sensitivities where just conducted in October. 3.2.1 (b). One of the 23 watersheds assessed in 2017 were over recommended threshold and will require a mitigation strategy developed to score 100% in next year's report. 3.2.1 c) This indicator is new had has not been formally tracked. It is suspected that Canfor is in 100% compliance which will be confirmed in next year's annual report.
Forecast	By following the strategy outlined above, these indicators are forecast to be consistent with targets.
Target	3.2.1(a): The percentage of watersheds with active harvesting and road construction that have had a watershed sensitivity analysis completed will be: 0% 2017, 30% 2018, 60% 2019, 90% 2020 and 100% afterwards 3.2.1 (b): 100% of watersheds will mitigation strategies in place where ECA thresholds have been exceeded. 3.2.1 c): 100% of major structures will have erosion mitigation strategies applied at the completion of installation.
Basis for the Target	A) Individual watershed targets for ECA established based on a medium risk. Sensitivity scoring conducted by a qualified professional. B) The mitigation strategy must be on file and communicated as required before this indicator can be met for those watersheds with a sensitivity analysis completed. C) Major structures are typically in streams with higher values. Sediment mitigation will greatly reduce the chance of sediment impacting streams and watersheds.
Monitoring & Measurement Periodic	Once a sensitivity analysis is completed it should not need redoing for the life of this plan (generally 5 years). Updating of the inventory used for ECA analysis and the methodology used for the analysis and calculations to stay current with the science and information will occur.
Annual	3.2.1(a). Report the proportion of watersheds that had sensitivity analysis completed before harvesting. Each watershed will be treated equally with no area weighting. 3.2.1 (b) Report on the proportion of watersheds over the threshold that have mitigations strategies in place before harvesting commences. 3.2.1 (c) Report on the number of major structures installed versus the ones with erosion mitigation measures used.
Variance	3.2.1 A), B), C) 0%

5.7.14 3.2.2 Proportion of forest management activities, consistent with prescriptions to protect identified water features

Indicator	**3.2.2 Proportion of forest management activities, consistent with prescriptions to protect identified water features**
Indicator Statement(s)	3.2.2a. Number of non-conformance where forest operations are not consistent with riparian management requirements as identified in operational plans
Element(s)	**3.2 Water quality and quantity** Conserve water resources by maintaining water quality and quantity
Value(s) and Objective(s)	Value 3.2: Water Quantity and Quality Objective 3.2: Water quantity and quality are sustained through their characteristic range of variation, on the DFA through time.
Description	Riparian management areas, provide opportunities for connectivity of forested cover along waterways, which are generally areas with high value for wildlife habitat and movement. Operational plans influenced by riparian areas contain site specific commitments that range from 100% protection to 75% removal of merchantable trees ,within the first 10m, generally with efforts to create a feathered buffer of overstory and protect existing understory trees and shrubs.
Strategy to Implement	Canfor will achieve the targets through allocation of retention patches and dispersed retention (individual trees and stubs) during cutblock development along riparian features. The retention will be evaluated to ensure that there is enough retention prescribed or laid out to meet or exceed Forest Stewardship plan commitments. A kaizen conducted in 2016 dealt with making this process easier to understand and implement.
Current Status	There were no non-conformances (2016/17 Annual Report) where forest operations are not consistent with riparian management requirements as identified in operational plans.
Forecast	By following the strategy outlined above, this indicator is forecast to be consistent with the target.
Target	0 non-conformances for riparian management.
Basis for the Target	Recognition that tree retention specifically in riparian areas are “focus areas” for successfully meeting biodiversity and ecosystem objectives. Stand level plan commitments are site specific, consider landscape conditions, habitat values and may exceed legal requirements.
Monitoring & Measurement Annual	Based on implementation of inspections as per pre-work and inspection follow up.
Annual	For areas harvested during the annual reporting period report the number of riparian related non conformances to plans occurring during the reporting year as compared to the number of cutblocks that were harvested that had riparian management areas within or adjacent to them.
Variance	None.

[Element 4.1 Carbon Uptake and Storage]

The indicator for Element 4.1 is covered under indicators 1.1.3, 1.1.4 and 2.1.1 (above).

[Element 4.2 Forest Land Conversion]

The indicator for Element 4.2 is covered under indicator 1.1.2 and 2.2.1 (above).

5.7.15 5.1.1 Documentation of the diversity of timber and non-timber benefits. Supports a diversity of timber and non timber forest products and forest based services

Indicator	**5.1.1 Documentation of the diversity of timber and non-timber benefits. Supports a diversity of timber and non-timber forest products and forest based services**
Indicator Statement(s)	5.1.1 a). Conformance with strategies for non-timber benefits identified in plans. 5.1.1 b). Primary products, by-products, and services that are bought, sold, traded, or utilized with other forest dependent businesses forest users, and the community in the local area. Also reference indicator 2.1.4
Element(s)	**5.1 Timber and Non-Timber Benefits** Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.
Value(s) and Objective(s)	Value 5.1: A balanced supply and variety of timber and non- timber Products, services and benefits on the DFA. Objective(s) 5.1: A sustainable harvest and use of non-timber forest products services and benefits A variety of agricultural products are provided from the DFA A full range of recreation opportunities are provided on the DFA
Strategy(s) Description	Forests represent not only a return on investment for an organization (measured, for example, in profit/loss, or product output) but also a source of income and non-financial benefits for DFA-related workers, local communities and governments. While there is limited information on the ecological services and non-timber benefits produced in the DFA, it is important to consider the costs and benefits of a variety of goods and services. Timber benefits can be measured by looking at sustainable harvest levels in relation to the allocated supply levels determined by the Chief Forester (BC) or authorized by the Ministry of Sustainable Resource Development (Alberta). The harvest level is set only after considering social, economic and biological criteria. In BC, more information on this rigorous process to determine allowable annual cut (AAC) levels can be found at the website: http://www.for.gov.bc.ca/hts/pubs/tsr/tsrbkg.htm. Support for local communities through business relationships provides employment diversification and increased local revenue. Non-timber benefits can be assessed on a harvest unit specific basis by assessing operational plan commitments designed to reduce any potential impact of the operation on other forest users and stakeholders. These plan commitments could include specific actions to assist ranchers, trappers, guides, resort owners, mineral rights holders, etc. manage their licensed obligations on shared public forest land. Actions within plans could also involve public expectations related to forest access, visual quality or specific recreational or ecotourism opportunities. Plan commitments could also include actions to manage or protect sites that are culturally important, sacred or spiritual to local First Nations. An economically and socially diverse community is often more sustainable in the long term with its ability to weather market downturns of a particular sector. Support of efforts to increase diversity, the establishment of other enterprises and co-operation with other forest-dependent businesses and forest users is desirable. Support for local communities through business relationships (defined for this indicator as purchases, sales, or trading of primary forest products and forest by-products) provides employment diversification and increased local revenue.

<table>
<tr><td></td><td>For the purposes of this indicator, local area is defined as Houston, Topley and Granisle postal codes.</td></tr>
<tr><td>Strategy Implementation</td><td>Each planned block goes through a check list at the planning stage and then at the site plan stage. Info sharing is conducted with resource users in order to find out more information about the planning area. Non-timber values are documented in site plans and results are monitored harvesting inspections.
Canfor's strategy around focusing on primary manufacturing of standard dimension lumber has encouraged diversification of products available to other industries. Canfor is working toward utilization of all products where there is a market
Operational plans incorporate commitments to manage concerns related to those discussions. Plans are properly executed providing desired results. Post harvest evaluations and other inspections assess plan conformance</td></tr>
<tr><td>Current Forecast</td><td>Target 5.1.1 a) The table below shows the reporting format and current status of conformance with strategies for non-timber benefits identified in Plans.

[1] - Plans that have commitments identified.

<table>
<tr><th>Type of commitment</th><th>Number</th></tr>
<tr><td>Wildlife</td><td>16</td></tr>
<tr><td>Range</td><td>2</td></tr>
<tr><td>Trapper</td><td>2</td></tr>
<tr><td>Temperature sensitive streams</td><td>4</td></tr>
<tr><td>Wildlife feature</td><td>1</td></tr>
<tr><td>Trail</td><td>1</td></tr>
<tr><td>Botanical products</td><td>1</td></tr>
<tr><td>Lodge holders</td><td>2</td></tr>
</table>

This is in addition to the commitments in 6.1.3. Staff noted that the wildlife features is underestimated because they are often kept confidential.

[2] - Plans that did not meet their commitments = 0</td></tr>
</table>

<table>
<tr><td></td><td>Target 5.1.1 b) was based on 2013 performance. The following is current status:
<table>
<tr><th>Product</th><th>Number of opportunities</th><th>Organization</th></tr>
<tr><td>Logs</td><td>17</td><td>Decker Lake, HPLP, Hunky Dory, Tahtsa Timber, LBN. Lowell Johnson, Dungate Community Forest, John Henry Contracting, Morice Mountain Nordic Ski Club, Mt. Davis Logging, R+B Silviculture, Red Dog Logging, Carl Sydlic, Tutshi Ventures.</td></tr>
<tr><td>Trim Blocks</td><td>3</td><td>Kyah, DH, Brinks/PVR</td></tr>
<tr><td>Sawdust/shavings</td><td>1</td><td>Houston Pellet (HPLP)</td></tr>
<tr><td>Chips</td><td>1</td><td>Canfor Pulp limited Partnership</td></tr>
<tr><td>Total</td><td>22</td><td></td></tr>
</table></td></tr>
<tr><td>Forecast</td><td>By following the strategy outlined above this indicator is forecast to be consistent with targets.</td></tr>
<tr><td>Target</td><td>5.1.1 a) 100% conformances for site level plans
5.1.1 b) Maintain ≥ 13 relationships</td></tr>
<tr><td>Basis for the Target</td><td>Developed with input from stakeholders, broader public and First Nations. Essential that holders of overlapping land use tenures communicate regularly with one another and with the public and First Nations. Conforming to commitments in plans will help measure the company’s performance of operating on public lands.
Business initiatives and relationships, built on sound principles are not only beneficial to the partners, but also to the economy and vitality of communities within and adjacent to the DFA.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
<tr><td>Annual</td><td>Report the number of cutblocks harvested having operational plan non-conformances related to non-timber resource users. Also report the total number of cutblocks harvested that contained commitments involving non-timber resource users
Report on the number of purchase, sale, service or trade relationships with other forest dependant businesses within or in the vicinity of the DFA. Tracking is the number of relationships, not the number of transactions within each relationship.</td></tr>
<tr><td>Variance</td><td>5.1.1 a) 0
5.1.1. b)-20%</td></tr>
</table>

5.1.2 Evidence of open and respectful communications with forest-dependent businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resolution are documented

Indicator	**5.1.2 Quantity and quality of timber and non-timber benefits, products, and services produced in the DFA**
Indicator Statement(s)	5.1.2 a) The number of opportunities provided to the public and stakeholders to express forestry-related concerns and be involved in planning processes (opportunities include FSPs, block & road development proposals, Pesticide Management Plan, field tours, etc.). 5.1.2 b) Percentage of timely responses to written public enquiries. 5.1.2 c) Harvest notifications will be sent to stakeholders in advance of harvest commencement
Element(s)	**5.1 Timber and Non-Timber Benefits** Manage the forest sustainably to produce a mix of timber and non-timber benefits. Support a diversity of timber and non-timber forest products and forest-based services.
Value(s) and Objective(s)	Value 5.1: A balanced supply and variety of timber and non- timber Products, services and benefits on the DFA Objective(s) 5.1: A sustainable harvest and use of non-timber forest products services and benefits A variety of agricultural products are provided from the DFA A full range of recreation opportunities are provided on the DFA
Strategy(s) Description	Communication with stakeholders and the public is the key to receiving feedback and incorporation of non-timber values into plans. A data base will be maintained with communication efforts document and tracked. Key commitments must be entered into the task tab or other equivalent so commitments show up on pre-work forms and can be incorporated into the site plan and block plans. Once a year, stakeholder notifications are to be sent out showing planned blocks. Twice a year, harvest notifications are to be sent out to stakeholders. Maps are uploaded currently to two publicly accessible web sites. One has pdf maps, google earth images, FSP documents and other general information. The other is an interactive map where stakeholders can view block plans and load other layers biodiversity information, watershed information. The interactive map is intended to be used by all licensees.
Strategy Implementation	Canfor's COPI system only pulls stakeholders where a block overlaps and area of interest. Efforts to maintain this data base and web sites are key to the success of this indicator. Once every year trapper, guide and range stakeholders lists are obtained from the ministry as currently registered. This list list is checked and updated. General enquiries from interested parties are also added to the dataset. Not all mail makes it through based on changing addressess. These communication indicators are limited by other parties updating communiction information. These indicators are based on using the best information we have and are not subject to failure if there is no known means to communicate with a stakeholder. Messages sent and received are all tracked in Canfors COPI system allowing retrieval of response times. Changes to harvest plans that have not been notified can be handlled with small localized notifications being sent out.

Current Forecast	A review of the COPI data for the 2016/17 reporting period indicates these indicators would have been met.
Forecast	By following the strategy outlined above this indicator is forecast to be consistent with targets
Target	5.1.2 a) Target: >=2 annually 5.1.2 b) Target: 100% of written enquiries responded to within 30 days of receipt 5.1.2 c) Target: 100% of relevant stakeholders notified in advance of harvest commencement
Basis for the Target	Based on performance for referrals. A thirty-day response time was based on agreed to reasonable period of time with PAG group.
Monitoring & Measurement Periodic	
Annual	Report out on the communications efforts to COPI recipients on an annual basis for a and b. Indicator c can be determined by comparing the harvest block list with the notifications sent out.
Variance	5.1.2 a) variance -1 5.1.2 b) variance 0% 5.1.2 c) variance 0%

5.2.1 Level of investment in initiatives that contribute to community sustainability

Indicator	**5.2.1 Level of participation and support in initiatives that contribute to community sustainability**
Indicator Statement(s)	5.2.1(a). Investment in local communities 5.2.1(b). Benefits directed into local communities by licensee (Local Indicator).
Element(s)	5.2 Communities and Sustainability
Value(s) and Objective(s)	Value 5.2: Healthy and sustainable communities Objective 5.2: A diverse local economy and local participation in the use and management of forest benefits on the DFA.
Strategy(s) Description	5.2.1(a). Investment in local communities In addition to the many biological and ecological benefits provided by forests, they also contribute social and economic benefits. Forests represent not only a return on investment (measured, for example, in dollar value, person-days, donations, etc.) for the organization but also a source of income and non-financial benefits for DFA-related workers, contractors, and others; stability and opportunities for communities; and revenue for local, provincial, and federal governments. In the same way that larger forest organizations depend on a secure flow of resources to justify investment in an area, small businesses depend on a sustained flow of opportunities to develop and invest in their local community. As the majority of forest workers are hired locally, communities benefit by forest planning and operations. This target measures the amount of spending in forest related activities that occur on the DFA by local contractors/suppliers. For the purposes of this indicator, a local contractor or supplier is defined as one that resides within or in the vicinity of the DFA and will include local vendors and suppliers with postal codes that occur within the Defined Forest Area. The total dollar value of goods and services considered to be local will be calculated relative to the total dollar value of all goods and services provided. This calculation will be used to derive the percentage of money spent on forest operations and management of the DFA from suppliers and contractors within local communities. 5.2.1(b). Benefits directed into local communities by licensee. Benefits directed toward local communities by the forest licensees contribute to the distribution of benefits obtained from the surrounding forest resources. With forestry as the primary industry in local communities, licensees can demonstrate good corporate citizenship through various volunteer contribution mechanisms such as providing scholarships, sponsorship, corporate donations, etc. The licensees also demonstrate their commitment to investing in the community for present and future generations by maintaining a certain level of benefits to the local communities over time. This indicator tracks the volunteer contributions (in dollars) made by Canfor toward the local communities in the Morice TSA on an annual basis. Examples of these contributions can be scholarships, donations (cash and in-kind contributions) and sponsorship.
Strategy Implementation	Canfor tracks all spending pertaining to forest related activities (operations, management, donations) within the DFA, separated by that occurring locally. Working relationships are maintained with local contractors and new relationships are reviewed on an ongoing basis. Long term contracts above legal requirements have been signed to provide local stability.

<table>
<tr><td></td><td>In addition to a corporate donation process, Canfor Houston division actively looks for opportunities in discussion with stakeholders. Canfor supports and promotes donation programs such as the United Way and Movember.</td></tr>
<tr><td>Current Status</td><td>5.2.1(a). The following table identifies the percentage of total goods and services provided by local vendors for previous reporting periods.

<table>
<tr><th>Licensee</th><th>2012 Status</th><th>2013 Status</th><th>2014 Status</th><th>2015 Status</th><th>2016 Status</th><th>Average</th></tr>
<tr><td>Canfor</td><td>74.70%</td><td>56.90%</td><td>55.40%</td><td>58.50%</td><td>55.1%</td><td>60.1%</td></tr>
</table>

5.2.1(b). The following table identifies the dollar value of benefits directed into local communities for previous reporting periods.

<table>
<tr><th>Licensee</th><th>2014 Status</th><th>2015 Status</th><th>2016 status</th><th>3-yr rolling average</th></tr>
<tr><td>Canfor</td><td>$46,257.78</td><td>$98,995.08</td><td>$40,171.72</td><td>$61,808.19</td></tr>
</table>
</td></tr>
<tr><td>Forecast</td><td>5.2.1 a is forecast to stay above targets with the strategy outlined above.
5.2.1 b based on trends and strategies to improve this indicator the results are expected to meet or exceed targets.</td></tr>
<tr><td>Target</td><td>5.2.1(a). Percent of dollars spent in local communities; 5-year rolling average. Target will be 45.0%.
5.2.1(b). Amount of benefits directed into local communities; 3-year rolling average. Target will be $38,000.</td></tr>
<tr><td>Basis for the Target</td><td>Targets based on past performance and reflects a desire to maintain or enhance community well-being.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
<tr><td>Annual</td><td>5.2.1(a). Use internal accounting systems to calculate and report out on the percent of dollars spent in local communities during the reporting period.
5.2.1(b). Review the local corporate donations, local donations and local Canfor contribution to United Way.</td></tr>
<tr><td>Variance</td><td>5.2.1(a). -10%
5.2.1(b). -10%</td></tr>
</table>

5.7.16 5.2.2 Level of participation and support in training and skills development

<table>
<tr><td>Indicator</td><td>5.2.2 Level of participation and support in training and skills development</td></tr>
<tr><td>Indicator Statement(s)</td><td>5.2.2. Training in environmental and safety procedures in compliance with company training plans</td></tr>
<tr><td>Element(s)</td><td>5.2 Communities and Sustainability</td></tr>
<tr><td>Value(s) and Objective(s)</td><td>Value 5.2: Healthy and sustainable communities
Objective 5.2: A diverse local economy and local participation in the use and management of forest benefits on the DFA.</td></tr>
<tr><td>Strategy(s)
Description</td><td>Sustainable forest management provides training and awareness opportunities for forest workers as organizations seek continual improvement in their practices. Investments in training and skill development generally pay dividends to forest organizations by way of a safer and more environmentally conscious work environment. Assessing whether forest contractors have received both safety and environmental training is a direct way of measuring this investment. Additionally, training plans should be in place for employees of the forest organizations who work in the forest. Measuring whether the training occurred in accordance with these plans will confirm an organizations commitment to training and skills development.</td></tr>
<tr><td>Strategy Implementation</td><td>Canfor has training matrices for employee and ensures contractors have environmental and safety training. The specific training for each employee is tracked and reviewed annually until complete.</td></tr>
<tr><td>Current Status</td><td>The following table shows the level of Employee and Contractor training in environmental and safety procedures in compliance with Canfor’s training plans (2016 Baseline data).
<table>
<tr><th>Licensee</th><th>2016 Status</th><th>Target</th></tr>
<tr><td>Canfor Employees</td><td>97.8%</td><td>100%</td></tr>
<tr><td>Canfor Contractors</td><td>100%</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forecast</td><td>By maintaining the above strategy the targets for this indicator are forecast to be met on an ongoing basis.</td></tr>
<tr><td>Target</td><td>100% of company employees and contractors will have both environmental and safety training as identified on licensee training plans.</td></tr>
<tr><td>Basis for the Target</td><td>A trained workforce is critical to safe and proper execution of plans. The variance allows for some discretion with respect to contractors or employees whose work is insulated from forest operations (for example administrative or clerical work).</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td>When training is completed by contractors or employees it will be necessary to track training taken by employee as per the applicable training plan. These results can then be summarized to determine the percentage of training taken relative to the training plan.</td></tr>
<tr><td>Annual</td><td>Report the total number of company employees and forestry contractors and identify the number of those that had received both environmental and safety training in accordance with training plan expectations.</td></tr>
<tr><td>Variance</td><td>- 10%</td></tr>
</table>

5.7.17 5.2.3 Level of direct and indirect employment

<table>
<tr><td>Indicator</td><td>5.2.3 Level of direct and indirect employment</td></tr>
<tr><td>Indicator Statement(s)</td><td>5.2.3. Maintain average level of direct and indirect employment</td></tr>
<tr><td>Element(s)</td><td>5.2 Communities and Sustainability</td></tr>
<tr><td>Value(s) and Objective(s)</td><td>Value 5.2: Healthy and sustainable communities
Objective 5.2: A diverse local economy and local participation in the use and management of forest benefits on the DFA.</td></tr>
<tr><td>Strategy(s)
Description</td><td>Forests represent not only a return on investment (measured, for example, in dollar value, person-days, donations, etc.) for the organization but also a source of income and non-financial benefits for DFA-related workers, suppliers, local communities and governments.

While employment levels have been declining in many manufacturing industries including the forest industry, there remains a very direct relationship between direct and indirect employment and annual harvest levels. Stable employment is a clear indication of the sustainable economic well-being of individuals and communities. Employment from the forest sector is an important contributor toward community stability, particularly rural communities that tend to be mostly resource-dependant. Within the context of the forest industry direct employment refers to employment directly related to the production of forest products or services. As a result of this direct employment, employment is also generated in the businesses that supply goods and services to the forest sector. This is referred to as indirect employment. Finally, when these directly and indirectly generated incomes are spent and re-spent on a variety of items in the broader economy (e.g., food, clothing, entertainment), it gives rise to induced employment effects.

Using 2006 data from British Columbia Stats specific to the Nadina Forest District the multiplier is approximately 2.65 direct, indirect, and induced jobs per 1000 m^3 of harvest. This includes 1.25 jobs per 1000 m^3 of volume harvested for logging and 1.40 jobs per 1000 m^3 of volume harvested for wood manufacturing.

Organizations that harvest at sustainable harvest levels in relation to the allocated supply levels determined by government authorities continue to provide direct and indirect employment opportunities. The harvest level is set using a rigorous process that considers social, economic and biological criteria.</td></tr>
<tr><td>Strategy Implementation</td><td>Canfor builds a 2 year harvesting plan to be consistent with cut control. We have an overall strategy to balancing all licenses to exactly 100%. This can be done through monitoring of cut control statements and conducting transfers to balance off any minor differences.</td></tr>
<tr><td>Current Status</td><td>Based on the 2016/17 annual report.
<table>
<tr><th>Year</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>Total</th></tr>
<tr><td>Harvest volume</td><td>915,330</td><td>1,184,956</td><td>933,819</td><td>1,236,984</td><td>1,461,816</td><td>5,732,905</td></tr>
<tr><td>Cut control</td><td>940,424</td><td>1,021,549</td><td>1,264,924</td><td>1,264,924</td><td>1,264,924</td><td>5,756,745</td></tr>
</table></td></tr>
</table>

	The equation for the last 5 years is as follows (AAC) 5,756,745/5 years * 2.65 jobs/1000m3= 3,051 (jobs). Based on the total harvest in the last five years the calculation equaled 3,038 which is with in the variance limits of -10%.
Forecast	Our 2-year harvest plan becomes our forecast. With the strategy above we can predict with a high degree of accuracy that we will meet the indicator with in the variance specified.
Target	1,264,924m^3 * 2.65jobs/1000m^3 = 3352 direct and indirect jobs starting in 2014/15 with additional license. To blend with the previous AAC levels for the 5-year average the previous target of 2,492 will be used for those years.
Basis for the Target	Allocated AAC by licensee and employment multiplier statistics from 2006 British Columbia Stats specific to the Nadina Forest District provides consistent average measure.
Monitoring & Measurement Periodic	Update inputs used to derive targets for this indicator. As changes occur over time to the licensee AAC and/or the employment multiplier from British Columbia Stats specific to the Forest Industry in the Nadina Forest District it will be necessary to update as required.
Annual	Report the 5-year rolling average harvest volume for the most recent year available and use the employment multiplier to determine the level of direct and indirect employment maintained relative to the target.
Variance	-10% or 335 jobs per year

5.7.18 6.1.1 Level of participant satisfaction with the public participation process

Indicator	**6.1.1 Level of participant satisfaction with the public participation process**
Indicator Statement(s)	6.1.1. PAG established and maintained and satisfaction survey implemented according to Terms of Reference
Element(s)	6.1 Fair and Effective Decision-Making
Value(s) and Objective(s)	Value 6.1: Fair, equitable and effective public participation Objective 6.1: A public involvement process designed and implemented to the satisfaction of the participants
Strategy(s) Description	The public participation process is a process of engagement that incorporates a diversity of values into SFM. Implementation of a public participation process as outlined in the CSA standard gives the public an opportunity to be involved proactively in the management of a defined forest area (DFA). An effective public participation process accommodates the public's wide range of knowledge, interests, and involvement with regard to SFM, as well as differing cultural and economic ties to the forest. The SFM Public Advisory Group was established to assist participating licensees in: • Developing and reviewing the SFM Plan; • Identifying and selecting values, objectives, indicators, and targets based on SFM elements and issues of relevance to the DFA; • Developing, assessing and selecting one or more possible strategies; • Designing monitoring programs, evaluate results and recommend improvements; and • Discuss and resolve any issues relevant to SFM in the DFA. The SFM Plan is an evolving document that will be reviewed for effectiveness and revised as needed with the assistance of the Public Advisory Group to address changes in forest condition and local community values. Ensuring the continuing interest and participation of the PAG is an integral part of a dynamic and responsive SFM Plan. The ability of people to share information, discuss and solve problems, and set and meet objectives is key to achieving and maintaining meaningful public participation.
Strategy Implementation	Collecting, responding and discussing survey results and comments is the key to maintaining PAG satisfaction. Asking for feedback on agendas or topics will assist with by in on the process.
Means of Achieving Objective & Target	At the end of each Public Advisory Group meeting participating licensees will provide all Public Advisory Group members in attendance a feedback form (survey) to assess their satisfaction with the meeting and associated process. The survey content and process will be that described in the Public Advisory Group's Terms of Reference. All survey questions will have a 1-5 scoring assessment (1 being very poor, 2 being poor, 3 being average, 4 being good, and 5 being very good). The results of the surveys will be collated and reviewed at the subsequent Public Advisory Group meeting with any corresponding actions or recommendations. The results of all surveys completed will be summarized to determine an overall average score for a PAG meeting as well as the average overall score for all meetings that fall within a reporting period. When the average scoring assessment for a PAG meeting falls below 4 corrective action will be developed in conjunction with the PAG.

<table>
<tr><td>Current Status</td><td>Based on the 2016/17 annual report the current status is above the target.
<table>
<tr><th>PAG Meeting Number - Date</th><th>Average Meeting Score</th></tr>
<tr><td>86 to 87 June 28 and Oct 25</td><td>4.3</td></tr>
</table>
</td></tr>
<tr><td>Forecast</td><td>This indicator is forecast to be maintained based on the strategies outlined above. Evaluations provide the ability to respond to expressed concerns.</td></tr>
<tr><td>Target</td><td>Complete Public Advisory Group evaluation form at end of each meeting, assess results and develop action plans at subsequent meeting when the overall average PAG meeting satisfaction is less than 4.</td></tr>
<tr><td>Basis for the Target</td><td>Ensure issues are identified in a timely manner, discussed and where possible, resolved. Public Advisory Group process is being continuously improved.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td>Periodic monitoring and measurement will be completed for each PAG meeting conducted within a given reporting period. The satisfaction score for a meeting will be determined and presented to the PAG at a subsequent meeting. The results will be discussed, opportunities will be reviewed and action plans will be developed when the overall average PAG meeting satisfaction score falls below 4.</td></tr>
<tr><td>Annual</td><td>Annual monitoring and measurement will entail summarizing the overall PAG meeting satisfaction score for all meeting that fall within a given reporting period to arrive at an overall score for the year. This will be for monitoring purposes only given that opportunities and actions plans have already been completed as part of the meeting summaries.</td></tr>
<tr><td>Variance</td><td>None</td></tr>
</table>

5.7.19 6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general

Indicator	**6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general**
Indicator Statement(s)	6.1.2. Numbers of educational opportunities for information and/or training that are delivered to the Public Advisory Group
Element(s)	Fair and Effective Decision-Making
Value(s) and Objective(s)	Value Fair, equitable and effective public participation. Objective: A public involvement process designed, implemented and functioning to the satisfaction of the participants.
Strategy(s) Description	The ability of people to share information, discuss and solve problems, and set and meet objectives is critical to achieving and maintaining meaningful public participation within the context of forest management and the CSA public participation process. Many types of capacity development initiatives can be used to help achieve meaningful public participation. This indicator recognizes the importance of providing information and/or training opportunities for members of the public advisory group that in turn contributes to a more knowledgeable and effective Public Advisory Group (PAG). Examples of educational opportunities could include field trips and guest presentations on a particular topic of interest to the PAG. Members of the public provide local knowledge that contributes to the achievement of socially and environmentally responsible forest management. At times, public members may feel limited in their ability to contribute to discussions because they may lack the required technical forestry knowledge. Broadening this knowledge base enables better dialogue and helps contribute to balanced decisions and an SFM Plan acceptable to the majority of the affected public.
Strategy Implementation	With each meeting members are asked for training opportunities that could be provided. We discuss in terms of concerns that have been raise by PAG members or current events.
Means of Achieving Objective & Target	Canfor is committed to work with members of the PAG on forest management issues and to improve the effectiveness of the public processes through capacity development. Canfor will provide informational/educational opportunities for PAG participants on an annual basis as part of regularly held meetings.
Current Status	In the 2016/17 annual report this indicator was met with two training opportunities were provided.
Forecast	This indicator is forecast to be met in the future by maintaining or improving the strategy above and based the review of the past trend on this indicator.
Target	≥ 1
Basis for the Target	Additional knowledge provides for better dialogue and ultimately better decisions.
Monitoring & Measurement Periodic	
Annual	Report the number of educational opportunities that were presented to the public advisory group during the reporting period. PAG meeting minutes will contain supporting documentation specific to the educational opportunity discussed.
Variance	None

5.7.20 6.1.3 Availability of summary information on issues of concern to the public

Indicator	**6.1.3 Availability of summary information on issues of concern to the public**
Indicator Statement(s)	6.1.3. SFM monitoring report made available to the public
Element(s)	6.1 Information for Decision-Making
Value(s) and Objective(s)	Value: Fair, equitable and effective public participation. Objective**:** A public involvement process designed, implemented and functioning to the satisfaction of the participants
Strategy(s) Description	This indicator recognizes the importance of keeping members of the public informed on forestry strategies being developed, planning occurring in their area and results from forest management activities. Issues of concern brought forward by the public are part of the discussions occurring at public advisory group meetings and often work their way into a reporting requirement in the SFM Plan or an action in SFM monitoring reports. Annual reporting of the Plan's performance measures to the advisory group and to the broader public provides an open and transparent means of demonstrating how issues of concern are being managed. It provides the public with an opportunity to respond to results and associated actions outlined in the annual SFM Monitoring report and make recommendations for improvement. Members of the public can provide local knowledge that contributes to socially and environmentally responsible forest management.
Strategy Implementation	Standardizing of reports, annualizing the analysis work required and establishing a more formal target date for reporting completion are the implementation strategies. If data is not available by reporting time that indicator will be labelled pending and update later so as to not delay the document being available to the public.
Means of Achieving Objective & Target	Canfor maintains a website that makes the SFM monitoring report publicly available.
Current Status	External and internal websites containing the annual SFM monitoring report have been maintained since 2001. http://www.canfor.com/responsibility/forest-management/plans This indicator was met for the 2016/17 annual report.
Forecast	The strategy described above, to provide more structure to the reporting process, is forecast to provide success in meeting this indicator.
Target	SFM monitoring report available to public annually via an external website.
Basis for the Target	Provides topical information to local public as well as a worldwide audience. Has contact mechanism for those looking for additional information.
Monitoring & Measurement Periodic	
Annual	Report a yes/no answer as to whether the annual monitoring report was made publicly available on an external website.
Variance	None

5.7.21 6.2.1 Evidence of co-operation with DFA-related workers and their unions to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities.

5.7.22 6.2.2 Evidence that a worker safety program has been implemented and is periodically reviewed and improved

Indicator(s)	**6.2.1 Evidence of co-operation with DFA-related workers and their unions to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities** **6.2.2 Evidence that a worker safety program has been implemented and is periodically reviewed and improved**
Indicator Statement(s)	6.2.1 Implementation and maintenance of certified safety program
Element(s)	6.2 Safety
Value(s) and Objective(s)	Value 6.3: Safe working conditions Objective 6.3: Employer and contractor safety records meet current acceptable standards and demonstrate continual improvement.
Strategy(s) Description	Canfor's first measure of success is the health and safety of our people. This philosophy is embraced and promoted from the mill floor to the executive offices. This commitment is reflected in the work practices and safety programs employed at all worksites. Canfor implements their safety programs by assigning responsibilities to managers, supervisors and employees as follows: Management: • Develop and maintain a comprehensive occupational health and safety program. • Conduct regular health and safety audits and implement appropriate action steps. • Facilitate active employee participation in health and safety initiatives and programs. • Provide the necessary education and training in safe work practices and procedures for supervisors, OH&S committee members, and all employees. Supervisors: • Ensure that all employees under their direction receive proper training and instruction and that all work is performed safely. • Ensure that employees are made aware of all known or reasonably foreseeable health or safety hazards in the areas where they work. • Initiate actions and follow-up in order to maintain a healthy and safe working environment within their areas of responsibility. Employees: • Take responsibility for avoiding risk to themselves and others and following all known safe work rules, procedures and instructions. • Eliminate all accidents by working together to identify any potential hazards in the workplace and to take the appropriate corrective action. All of Canfor's forest operations are third party certified to a safety program that meets or exceeds provincial safety programs - SAFE Company in BC.
Strategy Implementation	Canfor implements their safety programs by assigning responsibilities as noted above. Canfor is safe certified and requires our contractors to be as well.

Current Status	Canfor's safety program continues to be subject to third party audits and certification has been maintained.
Forecast	By maintaining the above strategy this indicator is forecast to meet targets.
Target	100%
Basis for the Target	Continuously improve forest worker safety record.
Monitoring & Measurement Periodic	
Annual	Report whether third-party safety certification has been maintained on the DFA.
Variance	None

5.7.23 7.1.1 Evidence of a good understanding of the nature of Aboriginal title and rights

<table>
<tr><td>Indicator</td><td>7.1.1 Evidence of a good understanding of the nature of Aboriginal title and rights</td></tr>
<tr><td>Indicator Statement(s)</td><td>7.1.1. Employees will receive Aboriginal awareness training</td></tr>
<tr><td>Element(s)</td><td>7.1 Aboriginal and Treaty Rights

Recognize and respect First Nations' title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.</td></tr>
<tr><td>Value(s) and Objective(s)</td><td>Value 7.1: Aboriginal rights and title and treaty rights
Objective 7.1: Recognition and respect of aboriginal rights.</td></tr>
<tr><td>Strategy(s)
Description</td><td>Section 35 of the Constitution Act states "The existing aboriginal and treaty rights of Aboriginal Peoples of Canada are hereby recognized and affirmed". Some examples of the rights that Section 35 has been found to protect include hunting, fishing, trapping, gathering, sacred and spiritual practices, and title. SFM requirements are not in any way intended to define, limit, interpret, or prejudice ongoing or future discussions and negotiations regarding these legal rights and do not stipulate how to deal with Aboriginal title and rights, and treaty rights.

The first step toward respecting Aboriginal title and rights, and treaty rights is compliance with the law. The CSA Z809 Standard reinforces legal requirements for many reasons, including the reality that demonstrating respect for Aboriginal title and rights, and treaty rights can be challenging in Canada's fluid legislative landscape and therefore it is important to identify these legal requirements as a starting point. It is important for companies to have an understanding of applicable Aboriginal title and rights, and treaty rights, as well as the First Nations' interests that relate to the DFA.

Both the desire of Canfor to comply with laws and open communication with local First Nations requires that company staff members have a good understanding of Aboriginal title and rights and treaty rights.</td></tr>
<tr><td>Strategy Implementation</td><td>Annual tracking and review of employee training to ensure training is up to date and current.</td></tr>
<tr><td>Current Status</td><td>The following table shows the percentage of employees receiving Aboriginal awareness training. (2016/17 Baseline data).
<table>
<tr><th>2016/17 Status</th><th>Target</th></tr>
<tr><td>100%</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forecast</td><td>By maintaining the above strategy this indicator is forecast to meet targets.</td></tr>
<tr><td>Target</td><td>100% of employees trained in Aboriginal awareness as outlined in the companies training matrix.</td></tr>
</table>

Basis for the Target	Legal obligations, communication process with First Nations and Métis. Sharing information and communication with First Nations and Métis on Forest Stewardship Plans supports the provincial government's legal obligation to consult with First Nations and Métis regarding Aboriginal rights and title. Canfor is committed to assisting the Crown in carrying out its duty to consult by sharing information and endeavouring to address concerns. Training helps employees to understand Aboriginal title and rights, treaty rights and the potential for aboriginal interests.
Monitoring & Measurement Periodic	
Annual	Utilize the employee training database to plan and record awareness training. Report the number of active employees working within the DFA that have received the training within the past five years compared to the total number of employees required to have training as per the companies training matrix.
Variance	-10%

5.7.24 7.1.2 Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution

Indicator	7.1.2 Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management activities, this evidence would include documentation of efforts towards conflict resolution
Indicator Statement(s)	7.1.2 a) Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans. 7.1.2 b) Efforts made to resolve significant disagreement will be documented, along with outcomes (anonymity of parties will be preserved in reporting)
Element(s)	**7.1 Aboriginal and Treaty Rights** Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.
Value(s) and Objective(s)	Value 7.2: Information on Aboriginal Forest Values, knowledge and uses. Objective 7.1: To obtain information from First Nations for use in planning processes.
Strategy(s) Description	Open, respectful communication with local First Nations' communities includes not only the organization understanding the Aboriginal rights and interests within their asserted traditional territory but for the First Nations' representatives to understand the forest management plans of organizations. With this open dialogue, the two parties can then best work towards plans and operations that are mutually acceptable to both parties. The reference to "Aboriginal communities" corresponds to licensees interacting with the Natural Resources Office and Chief and Council (or equivalent positions). For the purpose of this indicator, "management plans" include Forest Stewardship Plans, Pest Management Plans, block information sharing, and SFM Plans. For the purposes of this indicator, clear understanding is considered as part of the continuum of relationship building between licensees and First Nations' communities, and will be a qualitative measure based on the summary of interests and concerns.
Strategy Implementation	Regularly scheduled information sharing events through the year, documentation of information sent out, discussions held and meetings documented are strategies to ensure that best efforts are made to obtain acceptance of plans. Normal communications will be documented under communications and any disputes can be specifically labelled as a dispute (COPI system).
Means of Achieving Objective & Target	Open, respectful communication of forest management plans with affected local First Nations "Best efforts" will reflect the development over time of meaningful and effective working relationships with willing Aboriginal peoples. As detailed in the Monitoring section below, annual reporting will include a qualitative as well as quantitative aspect to attempt to convey the development of long-term relationships.

Current Status	COPI records for the 2016/17 reporting period and arch/cultural reports demonstrate communication and extensive efforts to build relationships and share plans. A total of 894 communication records are in our COPI system for the reporting period. All the bands had more than 3 communication efforts. Any disagreements escalated efforts to reach solutions. There were no disputes for the reporting year.
Forecast	By maintaining the above strategy this indicator is forecast to meet targets.
Target	7.1.2 a) >=3 approaches/Aboriginal community within the DFA, for 100% of management plans, as required. 7.1.2 b) Efforts will be made to resolve 100% of significant disagreements
Basis for the Target	Legal obligations and alignment with Canfor's Environmental Policy and Sustainable Forest Management Commitments.
Monitoring & Measurement Periodic	
Annual	Document communication efforts and what type of communication
Variance	0% for both 7.1.2 a and b

5.7.25 7.2.1 Evidence of efforts to promote capacity development and meaningful participation for Aboriginal communities

<table>
<tr><td>Indicator</td><td>7.2.1 Evidence of efforts to promote capacity development and meaningful participation for Aboriginal communities</td></tr>
<tr><td>Indicator Statement(s)</td><td>7.1.2 a) Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans.
7.2.1 Number of opportunities for Aboriginals to participate in the forest economy</td></tr>
<tr><td>Element(s)</td><td>7.2 — Respect for Aboriginal forest values, knowledge, and uses
Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.</td></tr>
<tr><td>Value(s) and Objective(s)</td><td>Value 7.2: Information on Aboriginal Forest Values, knowledge and uses.
Objective 7.2: To obtain information from First Nations for use in planning processes.</td></tr>
<tr><td>Strategy(s)
Description</td><td>See section 7.1.2 a) for details on that indicator.
7.21 This indicator and related target looks specifically at Aboriginal participation in the forest economy, evaluating Canfor’s efforts to build capacity within Aboriginal communities on matters related to the forest industry. The target recognizes that there are occasions when Aboriginals, after being giving the opportunity, elect not to participate and is respectful of those decisions.
Through info sharing meeting sand business to business meetings opportunities are frequently discussed.</td></tr>
<tr><td>Strategy Implementation</td><td>Possible business relationships are discussed on an ongoing basis with First Nations Bands. Where possible we look for opportunities to tie this to benefits for family or house groups. Woodland tenures and Non-Replaceable Forest Licenses are key target areas.</td></tr>
<tr><td>Current Status</td><td>7.2.1. The following table shows the number of opportunities for Aboriginals to participate in the forest economy provided by Canfor (2016/17 Baseline data).
<table>
<tr><th>Licensee</th><th>2014 Status</th><th>2015 Status</th><th>2016 status</th><th>Target</th></tr>
<tr><td>Canfor</td><td>7</td><td>9</td><td>9</td><td>≥8</td></tr>
</table>
Preliminary targets have been established and the Monitoring Report results will be used to modify the target moving forward.</td></tr>
<tr><td>Forecast</td><td>By maintaining the above strategy this indicator is forecast to meet targets.</td></tr>
<tr><td>Target</td><td>7.2.1. Number of opportunities; three-year rolling average. ≥ 8</td></tr>
<tr><td>Basis for the Target</td><td>Legal obligations and alignment with Canfor’s Environmental Policy and Sustainable Forest Management Commitments.</td></tr>
<tr><td>Monitoring & Measurement
Periodic</td><td></td></tr>
</table>

Annual	Report on the number of working relationships with applicable First Nations (partnerships, joint ventures, co-operative agreements, memorandums of understanding, or business contracts over $5,000 or over 500 cubic meters in volume) during the reporting year. Examples of a business contract include a specific work/service agreement or joint tenure arrangement with a First Nation Band or First Nation Contractor. For consistency in reporting, count multiple work agreements with one band or contractor or purchase agreements with one band or contractor as a single business contract. Include opportunities by also reporting on contracts for work/services offered directly to First Nations that, for whatever reason, were declined. Performance is based on a **three-year rolling average.**
Variance	7.2.1 b) -10%

5.7.27 7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values

Indicator(s)	**7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values**
Indicator Statement(s)	7.2.2 Proportion of identified sites with strategies addressed in plans
Element(s)	**7.2 — Respect for Aboriginal forest values, knowledge, and uses** Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.
Value(s) and Objective(s)	Value: Information on Aboriginal Forest Values, knowledge and uses. Objective: To obtain information from First Nations for use in planning processes
Strategy(s) Description	All harvest blocks will have a cultural hertage reviews. All blocks will be info shared with First Nation groups. Blocks will have cultural heritatge assessments where required. All this information gathering is essential for management of values and incorporating measures into plans.
Strategy Implementation	Implementation of landscape level and stand level management. Canfor includes commitments in site/logging plans or other operational plans to ensure activities do not comprimise these protected areas.
Means of Achieving Objective & Target	
Current Status	Based on the 2016/17 annual report 41 blocks had identified values. The majority of the values were excluded from the harvest area. All blocks had a CHR review and a consultation record completed.
Forecast	By implementing landscape and stand level strategies and documenting commitments in the site plan the forecast is expected to stay at 100%.
Target	100% conformance with management strategies. 100% of blocks and roads that have had a CHR assessment completed. 100% of blocks and roads have a completed consultation record.
Basis for the Target	Legal obligations, alignment with Canfor Sustainable Forest management Commitments
Monitoring & Measurement Periodic	
Annual	Report out on blocks with out a CHR review complete and a consultation record versus the number of blocks harvested.
Variance	None.

5.7.28 7.2.3 Level of management and/or protection of areas where culturally important practices and activities occur

Indicator	**7.2.3 Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur**
Indicator Statement(s)	7.2.3. Percent of forest operations in conformance with operational/site plans developed to address Aboriginal forest values, knowledge and uses
Element(s)	**7.2 — Respect for Aboriginal forest values, knowledge, and uses** Respect traditional Aboriginal forest values, knowledge, and uses as identified through an Aboriginal input process.
Value(s) and Objective(s)	Value: Information on Aboriginal Forest Values, knowledge and uses. Objective: To obtain information from First Nations for use in planning processes
Strategy(s) Description	Meaningful relationships and open communication with local First Nations' communities help ensure that areas of cultural importance are managed in a way that retains their traditions and values. This indicator recognizes the importance of managing and protecting culturally important practices and activities during forestry operations. First Nations, with the benefit of local and traditional knowledge may provide valuable information concerning the specific location and use of these sites as well as the specific forest characteristics requiring protection or management. The outcome of these discussions and the means to manage/protect values and uses are included in operational plans. The intent of the indicator statements is to manage and/or protect those truly important sites, thus there is a degree of reasonableness in identifying the sites. The targets verify that consideration was given in plans, then follows through with assessing plan execution. This indicator closely aligns with Indicators 1.4.1 Protected areas and sites of special biological, geological, heritage, or cultural significance and 7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values.
Strategy Implementation	Key areas of concern have been incorporated into Old Growth Management areas. Blocks dropped due to accommodation are documented and WTP established for accommodations can be queried. Further protection requirements are documented in the site plan. This strategy for documentation is resultant of information sharing, consultation, information gathering and archaeological assessments.
Means of Achieving Objective & Target	Efforts have been made to understand which First Nation traditional territories fall within the Plan area and company Defined Forest Areas. Information sharing agreements are made with willing First Nations' communities to promote the use and protection of sensitive information. Forest management plans are shared with First Nations' communities. Open communication with First Nations that includes a sharing of information and enables Canfor to understand and incorporate traditional knowledge into operational plans. Canfor is aware of culturally important, sacred and spiritual sites leading to their appropriate management or and protection. Once incorporated, operational plans are properly executed. Post harvest evaluations and other inspections assess plan conformance. Consultation records are completed for each block and road and there is a record of the First Nations involved, the comments received, the level of consultation carried out and any adjustment to strategies or accommodation made as a result of this consultation.
Current Status	Based on the 2016/17 this indicator was met and summarized under section 6.1.3 of the annual report.
Forecast	By maintaining the above strategy this indicator is forecast to meet targets.
Target	100% compliance with operational plans and corresponding results and strategies.

Basis for the Target	Legal obligations, alignment with Canfor Sustainable Forest Management Commitments.
Monitoring & Measurement Periodic	
Annual	Number of roads constructed or cutblocks harvested where operational plans had specific content requirements to manage or protect Aboriginal forest values, knowledge and uses. Number of non-conformances with the plans to manage or protect these values.
Variance	0

5.7.29 Links to Other Planning Processes

5.8 Strategic Plans

Morice Land and Resource Management Plan (LRMP)

The Government of British Columbia announced the Morice Land and Resource Management Plan (LRMP) on July 18, 2007. The LRMP addresses the long-term balance of environment and economy in the region. It provides access to timber for the local forest industry, certainty for the mining, ranching and tourism industries while also establishing conservation and recreation objectives for many natural values in the Morice TSA. The stability and security provided by the plan provides economic and social stability and increased opportunities for growth and investment throughout the region.

5.9 Plans, Policies and Strategies That Relate to the SFM Plan

The Forest Stewardship Plan

Licensees are required to prepare a Forest Stewardship Plan (FSP). (FDP) Resource management objectives are set by Government, the Forest and Range Practices Act or by regulation. Forest Stewardship Plans describe the intended results a licensee commits to achieving, or the strategies that the licensee will use, in relation to these established resource management objectives. Licensees are not required to indicate where cutblocks will be located and how harvesting and reforestation will be carried out in FSP's. Licensees are required to prepare a site plan for planned cutblocks and roads prior to harvesting. A site plan must identify the approximate location of cutblocks and roads, be consistent with the Forest Stewardship Plan and identify how the intended results or strategies described in the Forest Stewardship Plan apply to the site.

Canfor's Sustainable Forest Management Commitments

The Sustainable Forest Management Commitments are based on the tenets of accountability, continuous improvement, aboriginal and public involvement and third-party verification of performance. Canfor views these commitments as a fundamental component in improving its existing sustainable forest management practices, ensuring the transparency of its operations and fulfilling sustainable forest management certification requirements. The Sustainable Forest Management Commitments are found at the beginning of this document.

Canfor's Environmental Management Systems

An Environmental Management System (EMS) is a management tool that enables an organization to control the impacts of its activities, products or services on the environment. It is a structured approach for setting and achieving environmental objectives and targets, and for demonstrating that they have been achieved. The EMS requires an organization to have in place the mechanisms, policies and structure to comply with environmental legislation and regulations and to evaluate such mechanisms, policies and structure with the objective of continual improvement.

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from 130 countries. This non-governmental organization was established in 1947 to promote the standardization of related economic activities around the world. In 1996 ISO developed an international standard for environmental management systems, ISO 14001. This standard was subsequently updated in 2004.

The Environmental Management Systems for Canfor's woodlands operations received certification to ISO 14001 following an audit from independent registrars. The EMS standardizes woodlands environmental management for the identified woodlands operations and will help ensure environmental performance improves over time. Canfor recognizes that the ISO 14001 standard is an essential step in achieving independent recognition of our commitment to sustainable forest management.

LIST OF ACRONYMS

AAC: Allowable Annual Cut
BCTS: BC Timber Sales
BEC: Biogeoclimatic Ecosystem Classification
CFP: Canadian Forest Products, Ltd. (Canfor)
CHR: Cultural Heritage Resource
CO_2: Carbon Dioxide
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
CSA: Canadian Standards Association
CWD: Coarse Woody Debris
DFA: Defined Forest Area
ECA: Equivalent Clearcut Area
EMS: Environmental Management System
ESA: Environmentally Sensitive Area
ESSF: Engelmann Spruce-Subalpine Fir
FDP: Forest Development Plan
FMLB: Forest Management Land Base
FPPR: Forest Planning and Practices Regulation
FREP: Forest and Range Evaluation Program
FRPA: Forest and Range Practices Act
FSP: Forest Stewardship Plan
FSR: Forest Service Road
FSW: Fisheries Sensitive Watersheds
GAR: Government Action Regulation
GWM: General Wildlife Measures
IFPA: Innovative Forest Practices Agreement
ISO: International Organization for Standardization
LRMP: Land and Resource Management Plan
MFLNRO: BC Ministry of Forests, Lands and Natural Resource Operations
MPB: Mountain Pine Beetle
NAR: Net Area to be Reforested
NDT: Natural Disturbance Type
NHLB: Non – Harvestable Land Base
NRFL: Non-Replaceable Forest License
OAF: Operational Adjustment Factor
OGMA: Old Growth Management Area
OGSI: Old Growth Site Index
PAG: Public Advisory Group
PAS: Protected Area Strategy
PEFC: Programme for the Endorsement of Forest Certification
PEM: Predictive Ecosystem Mapping
PIR: Partners in Injury Reduction
PL: Lodgepole Pine
RDI: Road Density Index
RPF: Registered Professional Forester
SARA: Federal Species at Risk Act
SBS: Sub-Boreal Spruce
SFM: Sustainable Forest Management
SFMP: Sustainable Forest Management Plan

SIBEC: Site Index Estimates by Site Series
THLB: Timber Harvesting Land Base
TOR: Terms of Reference
TSA: Timber Supply Area
TSR: Timber Supply Review
UWR: Ungulate Winter Range
VOIT: Values, Objectives, Indicators, Targets
VQO: Visual Quality Objective
WCB: Workers' Compensation Board
WHA: Wildlife Habitat Areas
WTP: Wildlife Tree Patch

GLOSSARY

Abiotic – pertaining to the non-living component of the environment (e.g., climate, ice, soil and water). (Canadian Council of Forest Ministers)

Aboriginal – "aboriginal peoples of Canada" [which] include Indian, Inuit, and Métis peoples of Canada (Constitution Act 1992, Subsection 35(2)). (CSA Z808-96)

Abundance – the number of organisms in a population, combining density within inhabited areas with number and size of inhabited areas. (Canadian Council of Forest Ministers)

Access Management Plan - An operational plan that shows how road construction, modification and deactivation will be carried out to protect, or mitigate impacts on, known resources or sensitive areas, while maximizing the efficacy of forest resource development.

Access Structures - a structure, including a road, bridge, landing, gravel pit or other similar structure that provides access for forest management such as harvesting.

Activities – energetic action or movement; liveliness. (The American Heritage Dictionary of the English Language, Third Edition)

Adaptive Management (AM) – a systematic, rigorous approach to improving management and accommodating change by learning from the outcomes of management interventions. (BC Ministry of Forests - Forest Practices Management Branch)

Age Class – any interval of time into which the age range of trees, forests, stands or forest types is decided for classification and use. (BC Ministry of Forests)

Allowable Annual Cut (AAC) – the allowable rate of timber harvest from a specified area of land. British Columbia's Chief Forester sets AACs for timber supply areas (TSAs) and tree farm licenses (TFLs) in accordance with Section 8 of the BC Forest Act. (BC Ministry of Forests)

Apportionment – the distribution of the AAC for a TSA among timber tenures by the Minister in accordance with Section 10 of the *Forest Act.* (BC MoF Website Glossary)

Best Management Practices – a practice or combination of practices that are determined to be the most technologically or economically feasible means of preventing or managing potential impacts. (Best Management Practices Handbook: Hillslope Restoration in British Columbia; Watershed Restoration Technical Circular No.3 (revised); May 2000; Watershed Restoration Program, BC MoF)

Biodiversity (or biological diversity) – the variability among living organisms from all sources including *inter alia* terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (Canadian Biodiversity Strategy 1995) (CSA Z808-96)

Biogeoclimatic ecosystem classification (BEC) – a hierarchical classification system scheme having three levels of integration: regional, local and chronological; and combining climatic, vegetation and site factors. (BC Ministry of Forests)

Biogeoclimatic zone – a large geographic area with a broadly homogenous macroclimate. Each zone is named after one or more of the dominant climax species of the ecosystems in the zone, and a geographic or climatic modifier. British Columbia has 14 biogeoclimatic zones. (BC Ministry of Forests)

Biomass – The total dry weight or volume of all or part of a tree.

Biotic – pertaining to any living aspect of the environment, especially population or community characteristics. (Canadian Council of Forest Ministers)

Carbon Cycle – The storage and cyclic movement of organic and inorganic forms of carbon between the biosphere, lithosphere, hydrosphere, and atmosphere.

Carbon Sink - Forests and other ecosystems that absorb carbon, thereby removing it from the atmosphere and offsetting CO2 emissions.

Coarse-filter Ecosystem Group - Is the outcome of grouping site series that have relative similarities of their indicator plant communities. This term is also referred to habitat types in the SFM Plan.

Coarse Woody Debris (CWD) – Downed woody material of a minimum diameter or greater, either resting on the forest floor or at an angle to the ground of 45 degrees or less. Coarse woody debris consists of sound and rotting logs and branches, and may include stumps when specified. CWD provides habitat for plants, animals and insects, and a source of nutrients for soil development.

Community Forest Tenures – the control and use of land and resources contained within an area influenced by the urban population. (Dictionary of Natural Resource Management-J. & K. Dunster)

Communities of Interest – sectors of society which share common goals and interests e.g. First Nations, Recreation Associations. (Common usage)

Connectivity – a qualitative term describing the degree to which late-succession ecosystems are linked to one another to form an interconnected network. The degree of interconnectedness and the characteristics of the linkages vary in natural landscapes based on topography and natural disturbance regime. (BC Ministry of Forests)

Cultural Feature – Unique or significant places and features of social, cultural or spiritual importance, such as an archaeological site, recreational site or trail, cultural heritage site or trail, historic site, or protected area.

Considered – mentally contemplate. (Canadian Oxford Dictionary)

Critical – being in or verging on a state of crisis or emergency. (The American Heritage Dictionary of the English Language, Fourth Edition)

Cut Control – a set of rules and actions specified in the *Forest Act* that describes the allowable variation in the annual harvest rate either above or below the allowable annual cut (AAC) approved by the chief forester. (BC MoF Website Glossary)

Deactivation – measures taken to stabilize roads and logging trails during periods of inactivity, including the control of drainage, the removal of sidecast where necessary, and the re-establishment of vegetation for permanent deactivation. Road deactivation ranges from temporary to permanent.

Defined Forest Area (DFA) – a specified area of forest, land, and water delineated for the purposes of registration of a Sustainable Forest Management System. (CSA Z808-96)

Disturbed areas – localities which have been impacted by natural events (fire, wind, flood, insects and also by human activities such as forest harvesting or construction of roads (Dictionary of Natural resource management + common usage)

Duly Established Aboriginal and Treaty Rights – existing Aboriginal and Treaty Rights are recognized and affirmed in the Canadian Constitution. When discussed in relation to renewable resources, such Aboriginal and Treaty Rights generally relate to hunting, fishing, and trapping, and in some cases, gathering. (CSA Z808-96 Page 31 Section 2.6.1)

Ecological Reserves – areas of Crown land which have the potential to satisfy one or more of the following criteria:

- areas suitable for scientific research and educational purposes associated with studies in productivity and other aspects of the natural environment;

- areas which are representative of natural ecosystems;
- areas in which rare or endangered native plants or animals may be preserved in their natural habitat; and
- areas that contain unique geological phenomena. (BC MoF Website Glossary)

Ecosystem – a functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size-a log, pond, field, forest, or the earth's biosphere-but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation, for example, forest ecosystem, old-growth ecosystem, or range ecosystem. (BC MoF Website Glossary)

Forest – a plant community of predominantly trees and other woody vegetation growing more or less closely together, its related flora and fauna, and the values attributed to it. (CSA Z808-96)

Forest and Range Practices Act (FRPA) – The Forest and Range Practices Act and its regulations govern the activities of forest and range licensees in B.C. The statute sets the requirements for planning, road building, logging, reforestation, and grazing. FRPA and its regulations took effect on Jan. 31, 2004.

Forest Land – land supporting forest growth or capable of so doing, or, if totally lacking forest growth, bearing evidence of former forest growth and not now in other use. (CSA Z808-96)

Forest Product – an item that is manufactured from trees. Forest products can be classified as primary (originating from harvested timber, i.e., lumber, pulp, etc.), or secondary (a by-product of the lumber or pulp process, i.e. furniture, wood-based chemicals, etc.). (Common Usage)

Forest Resources – resources and values associated with forests and range including, without limitation, timber, water, wildlife, recreation, botanical forest products, forage and biological diversity. (Forest Practices Code of British Columbia Act)

Free-growing Stand – A stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees.

Genetic diversity – variation among and within species that is attributable to differences in hereditary material. (BC MoF Website Glossary)

Global Ecological Cycles – The complex of self-regulating processes responsible for recycling the Earth's limited supplies of water, carbon, nitrogen, and other life-sustaining elements

Habitat - the place where an organism lives and/or the conditions of that environment including the soil, vegetation, water, and food. (BC MoF Website Glossary)

Haylage - Haylage is a name for high dry matter silage of around 45% to 75%.

High Biodiversity Emphasis Area (HBEA) – a spatially explicit portion of the forested landscape managed for high biodiversity values, particularly structural integrity. HBEAs are distributed throughout the plan area and are related to, but not limited by, landscape unit boundaries. (MSRM 2004 - Morice Land and Resource Management Plan Final Land Use Recommendation)

Hydrologic Flows – the movement of groundwater near the surface. (Common Usage)

Hydrology – the science that describes and analyzes the occurrence of water in nature, and its circulation near the surface of the earth. (BC MoF Website Glossary)

Indicator – a measurable variable used to report progress toward the achievement of a goal. (CSA Z808-96)

Indicator species – species of plants used to predict site quality and characteristics. (BC MoF website glossary)

Independent – autonomous, self regulating. (Common Usage)

Inoperable lands – lands that are unsuited for timber production now and in the foreseeable future by virtue of their: elevation; topography; inaccessible location; low value of timber; small size of timber stands; steep or unstable soils that cannot be harvested without serious and irreversible damage to the soil or water resources; or designation as parks, wilderness areas, or other uses incompatible with timber production. (BC MoF website glossary)

Interior Forest – Forest that is far enough away from a natural or harvested edge that the edge does not influence its environmental conditions, such as light intensity, temperature, wind, relative humidity, and snow accumulation and melt.

Landscape – a spatial mosaic of several ecosystems, landforms and plant communities intermediate between an organism's normal home-range, size and its regional distribution. (Canadian Council of Forest Ministers). A watershed or series of similar and interacting watersheds, usually between 10,000 and 100,000 hectares in size. (BC Ministry of Forests Biodiversity Guidebook pp76.)

Linkage – a physical, biological, cultural, psychological, or policy connection or influence between two or more objects, processes, or policies. (Dictionary of Natural Resource Management, Julian and Katherine Dunster, 1996)

Mean Annual Increment – the total volume increment for a given area to a given age in years, divided by that age (m^3/ha/year). (BC MoF website glossary)

Minimum Harvest Age - The age at which the minimum harvest volume of a stand of trees is reached on the corresponding yield curve.

Minimum Harvest Volume – The minimum amount of merchantable volume (m^3/hectare) by leading tree species required before a stand of trees is considered economically suitable for harvest.

Natural Disturbance – The historic process of fire, insects, wind, landslides, and other natural events in an area not caused by humans.

Range of Natural variability – the variation in extent or occurrence through time of ecosystems, and species resulting from naturally occurring biotic or abiotic disturbances. (Common Usage)

Net Area to be Reforested (NAR) – (a) the portion of the area under a silviculture prescription or Site Plan that does not include:

(i) an area occupied by permanent access structures,

(ii) an area of rock, wetland or other area that in its natural state is incapable of growing a stand of trees that meets the stocking requirements specified in the prescription,

(iii) an area of non-commercial forest cover of 4 ha or less that is indicated in the silviculture prescription as an area where the establishment of a free growing stand is not required,

(iv) a contiguous area of more than 4 ha that the district manager determines is composed of non-commercial forest cover, or

(v) an area indicated in the silviculture prescription as a reserve area where the establishment of a free growing stand is not required, and

(b) if there is no silviculture prescription for a cutblock in a woodlot license area or community forest agreement area, the portion of the cutblock that does not include:

(i) an area occupied by permanent access structures,

(ii) an area of rock, wetland or other area that in its natural state is not capable of supporting a stand of trees that meets the stocking requirements specified in the regulations,

(iii) an area of non-commercial forest cover of 4 ha or less that is indicated in an operational plan as an area where the establishment of a free growing stand is not required,

(iv) a contiguous area of more than 4 ha that the district manager determines is composed of non-commercial forest cover, or
(v) an area indicated in an operational plan as a reserve area where the establishment of a free growing stand is not required. (Forest Practices Code of BC Act; Part 1 – Definitions)

Non-contributing – having no involvement or effect (Common Usage)

NHLB – Non-Harvestable Land Base. The portion of the total area of the Defined Forest Area considered **not** to contribute to, and **not** to be available for, long-term timber supply. The non-harvestable land base includes parks, protected areas, inoperable areas, and other areas and tends to change slightly over time.

Objective – a clear, specific statement of expected quantifiable results to be achieved within a defined period of time related to one or more goals. An objective is commonly stated as a desired level of an indicator. (CSA Z808-16)

Patch – a stand of similar-aged forest that differs in age from adjacent patches by more than 20 years. When used in the design of landscape patterns, the term refers to the size of either a natural disturbance opening that led to an even-aged forest of an opening created by cutblocks. (BC Ministry of Forests Biodiversity Guidebook pp76.)

Peak Flow Index (PFI) – Is an index of the maximum water flow rate that occurs within a specified period of time, usually on an annual or event basis. In the interior of British Columbia, peak flows occur as the snowpack melts in the spring.

Permanent Access Structures – A structure, including a road, bridge, landing, gravel pit or other similar structure, that provides access for timber harvesting and is shown on a forest development plan, access management plan, logging plan, road permit or silviculture prescription / site plan as remaining operational after timber harvesting activities on the area are complete.

Permanent Site Disturbance – roads, landings, gravel pits, and permanent skid trails

Plant Association – A community of plants. A plant association is generally comprised of, at least the three most abundant species found growing on a site, with at least one representative from the tree layer and one or more representatives from either the shrub, herb, or bryophyte layers.

Productive forest land – forest land that is capable of producing a merchantable stand within a defined period of time. (BC MoF Website Glossary)

Predictive Ecosystem Mapping (PEM) – A computer-GIS, and knowledge-based method that divides landscapes into ecologically-oriented map units for management purposes. PEM is a new and evolving inventory approach designed to use available spatial data and knowledge of ecological-landscape relationships to automate the computer generation of ecosystem maps. Spatial data typically includes forest cover, digital elevation models, biogeoclimatic units, and may also include bioterrain information. Spatial data layers are overlaid using GIS to produce resultant maps and attributes. The resultant attributes are passed through the PEM knowledge base to derive final ecosystem maps. Field sampling is used to calibrate the knowledge base and to validate the final classification.

Public Advisory Group – an assembly that provides local people, community groups and general public that are interested in, or affected by Sustainable Forest Management (SFM) certification. (Common Usage)

Rare Ecosystems – infrequently occurring; uncommon functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. (Common Usage)

Rare Flora and Fauna – infrequently occurring; uncommon plants and animals in a given area. (Common Usage)

Recreation Feature – a biological, physical, cultural or historic feature that has recreational significance or value. (BC MoF Website Glossary)

Recruitment – the action of enrolling or enlisting people and resources (Common Usage)

Regeneration – the renewal of a tree crop through either natural means (seeded on-site from adjacent stands or deposited by wind, birds, or animals) or artificial means (by planting seedlings or direct seeding). (BC MoF Website Glossary)

Regeneration Delay – the maximum time allowed in a prescription, between the start of harvesting in the area to which the prescription applies, and the earliest date by which the prescription requires a minimum number of acceptable well-spaced trees per hectare to be growing in that area. (BC MoF Website Glossary)

Resource Value – values on Crown land which include but are not limited to biological diversity, fisheries, wildlife, minerals, oil and gas, energy, water quality and quantity, recreation and tourism, natural and cultural heritage resource, timber, forage, wilderness and aesthetic values. (BC Ministry of Forests)

Return on Capital Employed – a key financial statistic reflecting the rate of return that the company's management has obtained, on the shareholders' behalf, by their management of the company's assets. ROCE is determined by dividing net income before income taxes for the past 12 months by Common Shareholder's Equity and Long-term Liability. The result is shown as a percentage. (Common Usage)

Riparian – an area of land adjacent to a stream, river, lake or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas. (BC MoF Website Glossary)

Riparian Habitat - Vegetation growing close to a watercourse, lake, swamp, or spring that is generally critical for wildlife cover, fish food organisms, stream nutrients and large organic debris, and for stream bank stability.

Riparian Management Area (RMA) – Defined in the Forest Practices Code of British Columbia Act Operational Planning Regulation as an area, of width determined in accordance with Part 10 or the regulation, that is adjacent to a stream, wetland or lake with a riparian class of L2, L3 or L4; and, consists of a riparian management zone and, depending on the riparian class of the stream, wetland or lake, a riparian reserve zone. See Figure 1.

Riparian Management Zone (RMZ) – Defined in the Forest Practices Code of British Columbia Act Operational Planning Regulation as that portion of the riparian management area that is outside of any riparian reserve zone or if there is no riparian zone, that area located adjacent to a stream, wetland or lake of a width determined in accordance with Part 10 or the regulation. See Figure 1.

Riparian Reserve Zone (RRZ) – Defined in the Forest Practices Code of British Columbia Act Operational Planning Regulation as that portion, if any, of the riparian management area or lakeshore management area located adjacent to a stream, wetland or lake of a width determined in accordance with Part 10 of the regulation. See Figure 1.

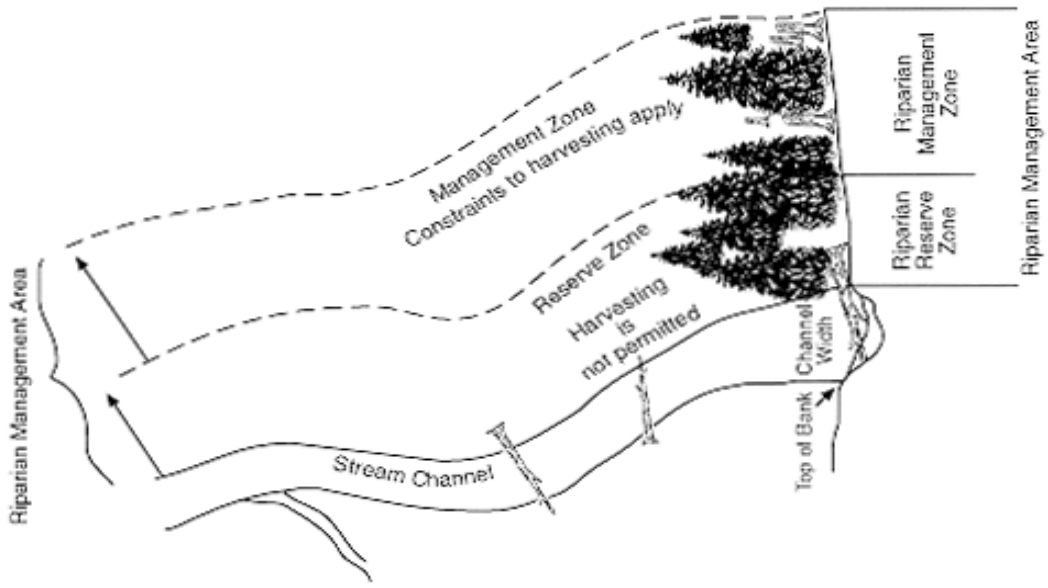


Figure 1. Riparian management area showing a management zone and a reserve zone. Source: Riparian Management Area Guidebook 1995.

Road - A path or way with a specifically prepared surface for use by vehicles.

Road Permit – An agreement entered into under Part 8 of the Forest Act to allow for the construction or modification of a forest road to facilitate access to timber planned for harvest.

Road Density Index – a ratio describing the extent of road development within a given watershed. (Common Usage)

Scenic area – any visually sensitive area or scenic landscape identified through a visual landscape inventory or planning process carried out or approved by the district manager. (BC MoF Website Glossary)

Seral Stages – the stages of ecological succession of a plant community, e.g., from young stage to old stage. The characteristic sequence of biotic communities that successively occupy and replace each other by which some components of the physical environment becomes altered over time. The age and structure of seral stages varies significantly from one biogeoclimatic zone to another. (BC Ministry of Forests Biodiversity Guidebook).

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).

Site Index – The height of a tree at 50 years of age (age is measured at 1.3m above the ground) In managed forest stands site index may be predicted using either (1) the biogeoclimatic ecosystem classification for the site or (2) the Site Index Curve which uses the height and age of sample trees over 30 years old.

Site Plan – Replaces the silviculture prescription and is created and kept on file by the licensee and does not need Ministry of Forests, Lands, Range and Natural Resource Operations approval. The site plan identifies the appropriate standards for:

- Stand-level biodiversity and permanent access structures at the cutblock level; and
- Soil disturbance limits, stocking requirements, regeneration date, and free-growing date at the standards unit level

Site Productivity – The site capacity of the land to produce vegetative cover (biomass).

Site Series – A landscape position consisting of a unique combination of soil edaphic features, primarily soil nutrient and moisture regimes within a biogeoclimatic subzone or variant. Soil nutrient and moisture regimes define a site series, which can produce various plant associations (see definition of "plant association"). In the BEC system, site series is identified as a number (e.g., 01,02, 03, …).

Snag – A standing dead tree, or part of a dead tree, found in various stages of decay—from recently dead to very decomposed.

Soil – the naturally occurring, unconsolidated mineral or organic material at the surface of the earth that is capable of supporting plant growth. It extends from the surface to 15 cm below the depth at which properties produced by soil-forming processes can be detected. The soil-forming processes are an interaction between climate, living organisms, and relief acting on soil and soil parent material. Unconsolidated material includes material cemented or compacted by soil-forming processes. Soil may have water covering its surface to a depth of 60 cm or less in the driest part of the year. (BC MoF Website Glossary).

Soil Disturbance – Disturbance caused by a forest practice on an area. This includes areas occupied by excavated or bladed trails of a temporary nature, areas occupied by corduroyed trails, compacted areas, and areas of dispersed disturbance.

Soil Moisture Regime – The amount of moisture in the soil. Generally shown on a scale going from **xeric** (being deficient in moisture - dry) to **mesic** (characterized by moderate or a well-balanced supply of moisture) to **hydric** (characterized by excessive moisture).

Species at risk– A wildlife species that is facing extirpation or extinction if nothing is done to reverse the factors causing its decline, or that is of special concern because it is particularly sensitive to human activities or natural events.

Species Sensitive to Disturbance – plants or animals susceptible to disturbance by natural events (fire, wind, flood, insects) and also by human activities such as forest harvesting or construction of roads. (Common Usage).

Stand – a community of trees sufficiently uniform in species composition, age, arrangement, and condition to be distinguishable as a group from the forest or other growth on the adjoining area, and thus forming a silviculture or management entity. (BC MoF Website Glossary)

Stakeholder – A person with an interest or concern with resource management within a defined area (i.e. community, forest district, defined forest area).

Standard Operating Procedure (SOP) – established procedure to be followed in carrying out a given operation or in a given situation. (The American Heritage Dictionary of the English Language, Fourth Edition).

Stocking Standard – The required range of healthy, well-spaced, acceptable trees growing on an area to achieve a free-growing stand.

Sustainability – A state or process that can be maintained indefinitely. The principles of sustainability integrate three closely interlined elements—the environment, the economy, and the social system—into a system that can be maintained in a healthy state indefinitely". (BC MoF and R Website Glossary – March 2008)

Sustainable Forest Management (SFM) – Management "to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social, and cultural opportunities for the benefit of present and future generations"[12]

Temporary Access Structures – the area of land within the Designated Forest Area that has been converted through land-use policy (temporarily removed from the productive forest landbase to be rehabilitated after use) to provide access for resources development and protection. Temporary access structures include those haul roads, landings and excavated or bladed trails that will be restored to a productive state upon completion of harvesting. Temporary access structures are identified on operational plans and prescriptions. All areas occupied by temporary access structures must be rehabilitated so that all silvicultural obligations are achieved on the whole of the net area to be reforested. (BC Forest Practices Code Soil Conservation Guidebook)

Timber Harvesting Landbase (THLB) – The portion of the total area of the Defined Forest Area considered to contribute to, and to be available for, long-term timber supply. The harvesting land base is defined by reducing the total land base according to specified management assumptions and tends to change slightly over time.

Understory – "The lower level of vegetation in a forest. Usually formed by ground vegetation (mosses, herbs and lichens), herbs and shrubs, but may also include subdominant trees". (BC MoF and R Website Glossary – March 2008)

Value – a principle, standard, or quality considered worthwhile or desirable. (CSA Z808-96)

Viable – an action or proposed action which has a feasible, realistic outcome (Common Usage)

Visually Effective Greenup – the stage at which regeneration is seen by the public as newly established forest. When VEG is achieved the forest cover generally blocks views of tree stumps, logging debris and bare ground. Distinctions in height, colour, and texture may remain between a cutblock and adjacent forest but the cutblock will no longer be seen as recently cut-over. (BC MoF Visual Landscape Design, Training Manual)

Visual Quality Objective – a resource management objective established by the district manager or contained in a higher level plan that reflects the desired level of visual quality based on the physical characteristics and social concern for the area. Five categories of VQO are commonly used: preservation; retention; partial retention; modification; and, maximum modification. (BC MoF Website Glossary)

Unsalvaged Losses - the volume of timber destroyed by natural causes such as fire, insect, disease or blowdown and not harvested, including the timber actually killed plus any residual volume rendered non-merchantable.

Utilization Standards - the dimensions (stump height, top diameter, base diameter, and length) and quality of trees that must be cut and removed from Crown land during harvesting operations. For detailed standards see the Provincial Logging Residue and Waste Measurement Procedures Manual (July 1, 2002 & May 1, 2004 – Draft).

Waste - the volume of timber left on the harvested area that should have been removed in accordance with the minimum utilization standards in the cutting authority. It forms part of the allowable annual cut for cut-control purposes. For detailed standards see the Provincial Logging Residue and Waste Measurement Procedures Manual (July 1, 2002 & May 1, 2004 – Draft).

[12] *The State of Canada's Forests* 2001/2002, as cited by the CSA.

Watershed – an area of land, which may or may not be under forest cover, draining water, organic matter, dissolved nutrients, and sediments into a lake or stream. The topographic boundary, usually a height of land that marks the dividing line from which surface streams flow in two different directions. (Dictionary of Natural Resource Management, Julian and Katherine Dunster, 1996)

Windthrow – see Blowdown.

Winter Range – The geographical and (or) vertical range where a species (deer, elk, caribou, moose, etc.) occurs after both the reproductive and migratory phases of the year are completed. (BC MoF and R Website Glossary – March 2008)

APPENDIX 1 – LIST OF REFERENCES

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APPENDIX 2 – SUMMARY OF PUBLICLY DEVELOPED VALUES, OBJECTIVES AND INDICATORS

CCFM Criterion	Element Description	Value	Objective	Core Indicator Z809-16 REQUIREMENT	Indicator statement Z809-08 OLD PLAN	Indicator statement Z809-16 NEW PLAN	Target & Variance (CSA Z809-08)	Comments
1.0 Biological Diversity	1.1 Ecosystem Diversity: Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA. Establish	The range of functions, interactions and processes that occur naturally within and between ecosystems on the DFA	Functions, interactions and processes that occur naturally within and between ecosystems on the DFA will fluctuate within a (naturally, socially) acceptable range of variation over time	1.1.1 Ecosystem area by type	Total hectares logged in rare and uncommon ecosystems	(same as -08)	Target: 0 hectares Rare ecosystems groups as identified in the previous table will not be harvested, subject to the variance. Variance: Harvesting may occur in rare ecosystems for access, forest health, or safety issues as rationalized and documented by a qualified professional.	No changes required
						(same as -08)		

	forest plantations only in afforestation projects.			1.1.2 Forest area by type or species composition	Percent distribution of forest type (treed conifer, treed broadleaf, treed mixed) >20 years old across DFA		Target: Treed Conifer: 85-95%; Treed Broadleaf: 2.5-7.5%; Treed Mixed: 2.5-7.5% Variance: None below proposed targets	Change broadleaf to 2.0 to 5.0, from 2.5 to 7.5
				1.1.3 Forest area by seral stage or age class	1.1.3 (A) Percent late seral distribution by ecological unit across the DFA	Maintain early, mature and mature plus old seral targets as per the Morice Biodiversity order	Target: As per table. Variance: As per table.	Reviewed in June 13, 2017 PAG meeting: Percent early, mature and mature plus old as per Morice Biodiversity order.
				1.1.4 Degree of within stand structural retention	1.1.4 A) Percent of stand structure retained across the DFA in harvested areas	(same as -08)	Target: Average of 7% annually for blocks harvested within the DFA, with a minimum of 3.5%. Variance: 0%	No changes required

					1.1.4 B) Percent of blocks meeting dispersed retention levels as prescribed in the site plan/logging plan	(same as -08)	Target: 100% Variance: 0	No changes required
	1.2 Species Diversity	Abundance and distribution of common and rare habitats within a range of variability over time to conserve species on the DFA.	A constant supply of habitats and/or attributes sufficient to conserve species that occur naturally on the DFA through time.	1.2.1 Degree of habitat protection for selected focal species, including species at risk	Percent of forest management activities consistent with management strategies for Species of Management Concern	(same as -08)	Target: 100% Variance: 0%	No changes required
				1.2.2 Degree of suitable habitat in the long term for selected focal species, including species at risk (SAR)				

	1.4 Protected areas and sites of special biological, **geological, heritage, or cultural** significance	**Need to update Value**; "Protected areas and sites of special biological, **geological, heritage, or** cultural significance"	To maintain representative areas of naturally occurring and important ecosystems, rare physical environments and sites of cultural, biological or geological significance	1.4.1 Protection of sites of special significance	Percent of forest management activities consistent with management strategies for sites of biological significance	**Percent of forest management activities consistent with management strategies for protected areas, sites of biological, geological significance or cultural significance.**	Target: 100% Variance: 0%	Added more specifiers (not just "sites of biological significance") to indicator statement as "sites of significance" will instead refer to sites with biological, heritage/historic, non-aboriginal culture, and geological significance.
2.0 Ecosystem condition and productivity	2.1 Forest ecosystem condition and productivity *(was*	Healthy, productive forests that support ecosystem conditions	Forest ecosystem resilient to disturbances and stresses.	2.1.1 Reforestation success	Average Regeneration delay for stands established annually	(same as -08)	Target: ≤ 2.5 years from harvest commencement Variance: 0%	No changes required

	formerly "2.1 Forest ecosystem resilience" and "2.2 Forest ecosystem productivity")	and process		2.1.2 Proportion of regeneration comprised of native species	1.2.3 Regeneration will be consistent with provincial regulations and standards for seed and vegetative material use	2.1.2 (otherwise the same as -08)	Target: 100% of area planted in the DFA Variance: As per legal obligation - 5%	Number change only
				2.1.3 Additions and deletions to the forest area	2.2.1 Percent of gross forested landbase in the DFA converted to non-forest land use through forest management activities	(same as -08)	Target: <2.2% of gross landbase in the DFA Variance: 0	Re-number indicator in SFMP (from 2.2.1 to 2.1.3)
				2.1.4 Proportion of the calculated long-term sustainable harvest level that is actually harvested	2.2.2 The % of volume harvested compared to allocated harvest level	(same as -08)	Target: 100% over 5 years Variance: +10%	Re-number indicator in SFMP (from 2.2.2 to 2.1.4)
3.0 Soil and Water	3.1 Soil Quality and Quantity	Productive capacity of soil resources	Soil quantity and quality are sustained	3.1.1 Level of soil disturbance	The % of harvested blocks meeting soil disturbance objectives	(same as -08)	Target: 100% of blocks meet soil disturbance objectives	No changes required

		are conserved	through their characteristic range of variation on the DFA over time		identified in plans		Variance: None (0%)	
				3.1.2 Level of downed woody **material** *(was formerly "Level of downed woody debris ")*	3.1.1 % of cutblocks where post-harvest CWD levels are within the targets contained in Plans	(same as -08)	Target: 100% of blocks harvested annually will meet targets Variance: 10%	No changes required
	3.2 Water Quality and Quantity	Water Quantity and Quality	Water quantity and quality are sustained through their characteristic range of variation, on the DFA through time	3.2.1 Proportion of watersheds or water management areas with recent stand-replacing disturbances	Nil	**3.2.1 a) The percentage of watersheds with active harvesting and road construction that have had a watershed sensitivity analysis completed.**	Target: Propose a transition period. 0% 2017, 30% 2018, 60% 2019, 90% 2020 and 100% afterwards Variance: 0%	Tranistion to a model based on assesment of watershed sensitivity.

					3.2.1 a) Sensitive watersheds that are above Peak Flow targets will have mitigation measures instituted.	**3.2.1 b) The percentage of watersheds with mitigation strategies in place where ECA thresholds have been exceeded.**	Target: 100% on watersheds were analysis in 3.2.1 a is completed. Variance: 0%	Expansion in focus. Not just sensitive watersheds. Would be based on watersheds that analysis has been completed on.
					3.2.1 b) % of high hazard drainage structures in sensitive watersheds with identified water quality concerns that have mitigation strategies implemented	**3.2.1 c) The percentage of major drainage structures with mitigation strategies for erosion control.**	Target: 100% Variance: 0%	Expansion in focus. Not just sensitive watersheds.

				New core indicator: 3.2.2 Proportion of forest management activities, consistent with prescriptions to protect identified water features	1.1.4 c) Number of non-conformances where forest operations are not consistent with riparian management requirements as identified in operational plans	(same as -08)	Target: 0 non conformances Variance: 0	Number change only.
4.0 Role in Global Ecological Cycles	4.1 Carbon uptake and storage	Storage of carbon in forest ecosystems and products	Forest ecosystems are net carbon sinks over time	4.1.1 Net carbon uptake	Maintain the retention of existing (or replacement of) old forest retention areas. Was with 1.1.3	(same as -08)	Target: 100% Variance: -10%	Minor text changes to be consistent with Morice Biodiversity Order
				4.1.2 Reforestation success	2.1.1 Average Regeneration delay for stands established annually	(same as -08)	Target: 2.5 years from from harvest commencement Variance: 0.5 years	Repeat core indicator - reference indicator statement 2.1.1

	4.2 Forest land conversion	Gross Forest Area within the DFA.	Minimize reductions to the gross forest area on the DFA over time.	**4.2.1** Additions and deletions to the forest area	2.1.3 Percent of gross forested landbase in the DFA converted to non-forest land use through forest management activities.	(same as -08)	Target: <2.2% of gross landbase in the DFA Variance: 0	Repeat of indicator 2.1.3 in new standard. Leave at that location
5.0 Economic and Social Benefits	5.1 Timber and non-timber benefits	Strength and Diversity in the economy	A sustainable harvest and use of non-timber forest products	5.1.1 **Documentation of the diversity of timber and non-timber resources,**	5.1.1 b) Conformance with strategies for non-timber benefits identified in plans.	5.1.1 a) Same as 08 5.1.1 b indicator	Target: 100% conformances for site level plans Variance: 0	

			services and benefits A variety of agricultural products are provided from the DFA A full range of recreation opportunities are provided on the DFA Participate in the local economy by having relationships with forest dependant businesses	including products and services produced in the DFA *(formerly 5.1.1 Quantity and quality of timber and non-timber benefits, products, and services produced in the DFA; and formerly Core Indicator 6.3.1 "Evidence that the organization has cooperated with other forest-dependent business, forest useres, and local community to strengthen and diversify the local economy")*	6.3.1 Primary and by-products that are bought, sold, or traded with other forest-dependent businesses in the local area	5.1.1 b (same as -08 6.3.1 indicator)	Target: Maintain ≥13 relationships Variance: -20%	This indicator statement was 6.3.1 in the -08 standard. Will also reference 2.1.4 (annual harvest levels relative to AAC) in the SFMP for -16.

				5.1.2 Evidence of open and respectful communications with forest-dependent businesses, forest users and local communities to integrate non-timber resources into forest management planning. When significant disagreement occurs, efforts towards conflict resolution are documented.	Nil	**5.1.2 a) The number of opportunities provided to the public and stakeholders to express forestry-related concerns and be involved in planning processes *(opportunities include FSPs, block & road development proposals, Pesticide Management Plan, field tours, etc.)*** **5.1.2 b) Percentage of timely responses to written public enquiries** ***5.1.2 c*) Harvest notifications will be sent to**	**a) Target: >=2 annually** **Variance: 0** **b) Target: 100% of written enquiries responded to within 30 days of receipt** **Variance: 0%** **c) Target: 100% of relevant stakeholders notified in advance of harvest commencement** **Variance: 0%**	This -16 indicator focuses on the integration of non-timber values into plans. Will also reference 5.1.1(A) to report annually on management for non-timber values such as guides, trappers, range, recreation, other tenures, private land, terrain, visual quality, lakeshore, and "other".

						stakeholders in advance of harvest commencement		

	5.2 Communities and sustainability	Healthy and sustainable communities	A diverse local economy and local participation in the use and management of forest benefits on the DFA	5.2.1 Level of **participation and support** in initiatives that contribute to community sustainability	A) Investment in local communities	(same as -08)	Target: Percent of dollars spent in local communities; 5-year rolling average. Target will be 45.0%. Variance: -10%	No changes required. A change from investment to "participation and support".
					B) Benefits directed into local communities by licensee (Local Indicator).	(same as -08)	Target: Amount of benefits directed into local communities; 3-year rolling average. Target will be $38,000. Variance: -10%	No changes required.
				5.2.2 Level of **participation and support** in training and skills development	5.2.2 Training in environmental and safety procedures in compliance with company training plans	(same as -08)	Target: 100% of company employees and contractors will have both environmental and safety training as	No changes required.

							identified on licensee training plans Variance: -10%	
				5.2.3 Level of direct and indirect employment	Maintain average level of direct and indirect employment	(same as -08)	Target: 1,264,924m3 * 2.65jobs/1000m3 = 3352 direct and indirect jobs starting in 2014/15 with additional license. To blend with the previous AAC levels for the 5 year average the previous target of 2,492 will be used for those years. Variance: -10% or 335 jobs per year	No changes required.
6.0 Society's responsibility	6.1 Fair and Effective Decision-Making	Fair, equitable and effective public participation	A public involvement process designed and implemented to the satisfaction	**6.1.1** Level of participant satisfaction with the public participation process	6.4.1 PAG established and maintained, and satisfaction survey implemented according to the	(same as -08)	Target: Complete Public Advisory Group evaluation form at end of each meeting, assess results and develop action plans at	Indicator numbering change.

			of the participants		Terms of Reference		subsequent meeting when the overall average PAG meeting satisfaction is less than 4 Variance: 0	
				6.1.2 Evidence of efforts to promote capacity development and meaningful participation in general	6.4.2 Number of educational opportunities for information/training that are delivered to the PAG	(same as -08)	Target: >=1 (annually) Variance: None	Indicator numbering change
				6.1.3 Availability of summary information on issues of concern to the public	6.5.2 SFM monitoring report made available to the public	(same as -08)	Target: SFM monitoring report available annually via web, by **Dec. 31st of the calendar year**. Variance: None	Indicator number change

	6.2 Safety	**Safe working conditions**	**Employer and contractor safety records meet current acceptable standards and demonstrate continual improvement**	**6.2.1** Evidence of cooperation with DFA-related workers to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities *(was 6.3.2 in -08 plan)* **6.2.2** Evidence that a worker safety program has been implemented and is periodically reviewed and improved *(was 6.3.3 in -08 plan)*	6.3.2/6.3.3 Implementation and maintenance of a certified safety program	(same as -08)	Target: 100% Variance: 0%	Indicator number change. New element requires new value and objective.
7.0 Aboriginal Relations	7.1 Aboriginal and Treaty Rights	Aboriginal title and rights and treaty rights	Recognition and respect of aboriginal rights	**7.1.1** Evidence of a good understanding of Aboriginal title and rights	6.1.1 Employees will receive Aboriginal	(same as -08)	Target: 100% Variance: 10%	Indicator numbering change

(new criterion)	*(was Element 6.1 in -08 plan)*				Awareness training			
				7.1.2 Evidence of ongoing open and respectful communications with Aboriginal communities to foster meaningful engagement, and consideration of the information gained about their Aboriginal title and rights through this process. Where there is communicated disagreement regarding the organization's forest management	6.1.2 Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans.	7.1.2 a) (same as -08 6.1.2 indicator)	Target: >=3 approaches/Aboriginal community within the DFA, for 100% of management plans, as required. Variance: 0	Indicator numbering change
					Nil	**7.1.2 b) Efforts made to resolve communicated disagreement will be documented, along with outcomes (anonymity of parties will be preserved in reporting)**	**Target: Documented efforts to resolve to resolve 100% of communicated disagreements Variance: 0%**	Target wording revised in Nov 7th PAG meeting

				activities, this evidence would include documentation of efforts towards conflict resolution				
	7.2 Respect for Aboriginal Forest Values, Knowledge, and Uses *(was Element 6.2 in -08 plan)*	Information on Aboriginal Forest Values, knowledge and uses.	To obtain information from First Nations for use in planning processes.	**7.2.1** Evidence of efforts to promote capacity development and meaningful participation for Aboriginal individuals, communities and forest-based companies *(was 6.4.3 in -08 plan)*	6.1.2 Evidence of best efforts to share interests and plans with Aboriginal communities	7.2.1 a) (same as -08) and 7.1.2 a above	Target: >=3 approaches/Aboriginal community within the DFA, for 100% of management plans, as required. Variance: 0	Indicator numbering change
					5.2.4 Number of opportunities for Aboriginals to participate in the forest economy	7.2.1 b) (same as -08)	Number of opportunities; three-year rolling average. ≥ 8 Variance: -10%	Target increase from 5 to 8. Based on results in the last 3 years.

				7.2.2 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values *(was 6.2.1 in -08 plan)*	1.4.2 Proportion of identified sites with implemented management strategies	7.2.2 Proportion of identified sites with strategies addressed in plans	Target: 100% conformance with management strategies. 100% of blocks and roads that have had a CHR assessment completed. 100% of blocks and roads have a completed consultation record. Variance: 0	Indicator numbering change. Targets taken from 7.2.3. Slight rewording to differentiate 7.2.2 abd 7.2.3
				7.2.3 Level of management and/or protection of areas where culturally important practices and activities occur *(was 6.1.3 in -08 plan)*	6.1.3 Percent of forest operations in conformance with operational/site plans developed to address Aboriginal forest values, knowledge and uses	(same as -08)	Target: 100% compliance with operational plans and corresponding results and strategies. Variance: 0	Indicator numbering change

APPENDIX 3 – SPECIES OF MANAGEMENT CONCERN

Wildlife Species

Species	SAS Group	BC List	SARA	Species of Management Concern
American Bittern	3w,r	Blue		
Caribou	4	No Status		Y
Fisher	3c	Blue		Y
Grizzly Bear	1	Blue		
Lewis's Woodpecker	4	Red	1-SC (Jun 2003)	Y
Long-billed Curlew	6	Blue	1-SC (Jan 2005)	
Mountain Goat	4	Yellow		Y
Olive-sided Flycatcher	1	Blue	1-T (Feb 2010)	
Peregrine Falcon	4	No Status		Y
Rusty Blackbird	3w,r	Blue	1-SC (Mar 2009)	Y
Short-eared Owl	4	Blue	3 (Mar 2005)	Y
Townsend's Big-eared Bat	6	Blue		
Western Toad	3w,r	Blue	1-SC (Jan 2005)	Y

Wolverine	1	No Status		

Plants

Species	BC List	Bec Zone
alpine lily	Blue	ESSFmc
Back's sedge	Blue	SBSdk
dainty moonwort	Blue	ESSF
diverse-leaved cinquefoil	Blue	ESSF
Montana larkspur	Blue	ESSF
purple oniongrass	Blue	ESSF ,SBSdk
western Jacob's-ladder	Blue	ESSFmv, SBSmc
Whitebark Pine	Blue	ESSFmc, ESSFmv, SBSmc, SBSwk

Plant Communities

Species	Bec units	BC List
black spruce / creeping-snowberry / peat-mosses	SBSdk/09	Blue
lodgepole pine / common juniper / rough-leaved ricegrass	SBSdk/02	Blue

(balsam poplar, black cottonwood) - spruces / red-osier dogwood	SBSdk/08	Red
Douglas-fir / red-stemmed feathermoss - step moss	SBSdk/04	Blue
black spruce / common horsetail / peat-mosses	SBSwk3/08	Blue
black spruce / common horsetail / peat-mosses	SBSwk3/08	Blue
lodgepole pine / black huckleberry / reindeer lichens	SBSwk3/02	Blue
Douglas-fir - hybrid white spruce / thimbleberry	SBSwk3/03	Blue

Data From BC Ecosystems Explorer http://a100.gov.bc.ca/pub/eswp

Current as of January 2012

Includes species with provincial conservation status of Red and Blue, plus species identified in species accounting system.

Species of Management Concern identifies species that both occur in the DFA and are affected by Forest Management.

SAS group definitions

1. Generalists and/or species that benefit from forest practices
2. Species that are associated with broad habitat types.
3. Species with Strong dependencies on specific habitat elements. (riparian, wetlands, cavities, snags, etc)
4. Species restricted to highly localized and/.or specialized habitats.
5. Species for which patch size and connectivity are considered important.
6. Species not dependent on forested environments.

APPENDIX 4 – NON-REPLACABLE FOREST LICENSE (NRFL) RISK ASSESSMENT

Canfor does not have exclusive rights to harvesting on the DFA. Other license holders also operate within the TSA. As a result, these license holders do have the ability to impact Canfor's ability to achieve their targets for some of the indicators in this plan. To provide confidence that the reporting is representative of what is happening in the DFA, the licensee volume summary table below provides the amount of volume that could potentially be harvested in the DFA by other operators. The risk ranking matrix below describes how each indicator is or is not impacted by other operators, and exactly what is being reported.

Morice T.S.A. Licensee Volume Summary Table									
Licensee	**License**	**Expiry**	**Type**	**AAC**	**Volume that could be harvested in DFA**	**Volume managed by SFMP signatories**	**total volume for nonreplaceable licenses**	**Remarks/Risk assessment**	**Risk to SFMP**
West Fraser (PIR)	A16827	31-Oct-21	Replaceable	265,336				Have their own operating area in the Morice TSA and are certified under a different standard.	Nil
Canadian Forest Products	A16828	31-Oct-22	Replaceable	940,424	940,424	940,424		Signatory to the SFM plan.	Nil
Canadian Forest Products	A91846		Replaceable	324,500	324,500	324,500		Signatory to the SFM plan. New license from WF trade.	Nil

BC timber Sales Babine			Timber sales	339,410		0		Have their own operating area in the Morice TSA and are certified under a different standard. Were involved in developing the SFMP. Do not harvest within the DFA. BCTS participates in the IFPA forestry plan and developing the original	Nil
Northern Engineered Wood Product	A85566	14-Jul-19	Non-Replaceable	50,000	50,000		500,000	Bioenergy licenses targeting 75% pine 90% grey less than 214 m3 for the first five years and 264m3 for the second five years. No harvest performance to date.	Low
Lowell A Johnson Consultants Ltd.	A90555	1-May-18	Non-Replaceable	23,827	23,827	23,827	119,135	Managed by Canfor. Harvesting in the DFA on this license follows the SFMP	Nil
	Total volume			1,943,497	1,338,751	1,288,751	619,135		
	Pct of volume that could be harvested in DFA managed by SFMP signatories					96.3%			
	Volume that could be harvested in DFA assessed as low risk					50,000			
	Pct of volume that is low risk to the DFA					3.7%			
	Volume that could be harvested assessed as moderate risk					0			

	Pct of volume that is moderate risk to the DFA	0.00%			

Risk Rank Ref	Expected Impact of Other Licensees on the Indicator
a	Other licensees (NRFL holders) DO have the ability to impact the target, however, the annual report will include these activities in the analysis to the extent the data that is publicly available is current.
b	Other licensees (NRFL holders) DO have the ability to impact the target, however, legislation exists that regulates the activity and result. As all licensees are subject to this regulation, the risk of others impacting Canfor's ability to achieve the target is considered LOW
c	This indicator applies only to Canfor's activities on the DFA.

Indicator #	Indicator Statement	Target	Risk Rank Ref
1.1.1	Total hectares logged in rare and uncommon ecosystems	Rare ecosystems groups as identified in the previous table will not be harvested.	a
1.1.2	Percent distribution of forest type (treed conifer, treed broad leaf, treed mixed) >20 years old across the DFA	Target percentages for Percent distribution of forest type (coniferous, broadleaf, mixed) >20 years old across the DFA (as per the Table in the SFM Plan.	a
1.1.3, 4.1.1	Maintain early, mature and mature plus old seral targets as per the Morice Biodiversity order	As per table.	b
1.1.4(a)	Percent of stand structure retained across the DFA in harvested areas	Landscape level of target 7%.	c
1.1.4(b)	Percent of blocks meeting dispersed retention levels as prescribed in the site plan/logging plan	100%	C

Indicator #	Indicator Statement	Target	Risk Rank Ref
1.2.1	Percent of forest management activities consistent with management strategies for Species of Management Concern.	100% conformance with management strategies	b
1.4.1	Percent of forest management activities consistent with management strategies for protected areas, sites of biological, geological significance or cultural significance	100% conformance with management strategies	a
2.1.1	Average Regeneration delay for stands established annually	Regeneration delay achieved in ≤ 2.5 years	b
2.1.2	Regeneration will be consistent with provincial regulations and standards for seed and vegetative material us	100% of area planted in the DFA	b
2.1.3, 4.2.1	Percent of gross forested land base in the DFA converted to non-forest land use through forest management activities	The target = 2.2%	a
2.2.2	Percent of volume harvested compared to the allocated harvest level	100% over the cut control period as defined by timber supply forecast harvest flow	c
3.1.1	Percent of harvested blocks meeting soil disturbance objectives identified in plans	100% of blocks meet soil disturbance objectives	b
3.1.2	Percent of cutblocks reviewed where post harvest CWD levels are within the targets contained in Plans	100% of blocks reviewed annually will meet target.	b
3.2.1(a)	The percentage of watersheds with active harvesting and road construction that have had a watershed sensitivity analysis completed.	Transition period. 0% 2017, 30% 2018, 60% 2019, 90% 2020 and 100% afterwards	a
3.2.1(b)	The percentage of watersheds with mitigation strategies in place where ECA thresholds have been exceeded.	100% on watersheds were analysis in 3.2.1 a is completed.	a
3.2.1(c)	The percentage of major drainage structures with mitigation strategies for erosion control.	100%.	a

Indicator #	Indicator Statement	Target	Risk Rank Ref
3.2.2	Number of non-conformances where forest operations are not consistent with riparian management requirements as identified in operational plans	0 non conformances	b
5.1.1(a)	Conformance with strategies for non-timber benefits identified in Plans.	100%	b
5.1.1(b)	Primary products, by-products, and services that are bought, sold, traded, or utilized with other forest dependent businesses forest users, and the community in the local area.	≥ 13 relationships	c
5.1.2(a)	The number of opportunities provided to the public and stakeholders to express forestry-related concerns and be involved in planning processes (opportunities include FSPs, block & road development proposals, Pesticide Management Plan, field tours, etc.)	>=2	c
5.2.1(a)	Investment in local communities	Percent of dollars spent in local communities; 5-year rolling average. Target will be 45.0%	c
5.2.1(b)	Benefits directed into local communities by licensee	Amount of benefits directed into local communities; 3-year rolling average. Target will be $38,000.	c
5.2.2	Training in environmental and safety procedures in compliance with company training plans	100% of company employees and contractors will have both environmental and safety training as identified on licensee training plans.	c
5.2.3	Maintain average level of direct and indirect employment	1,264,924m3 * 2.65jobs/1000m3 = 3352 direct and indirect jobs starting in 2014/15 with additional license. To blend with the previous AAC levels for the 5 year average the previous target of 2,492 will be used for those years.	c
6.1.1	PAG established and maintained and satisfaction survey implemented according to Terms of Reference	Complete Public Advisory Group evaluation form at end of each meeting, assess results and develop action plans at subsequent meeting when the overall average PAG meeting satisfaction is less than 4.	c
6.1.2	Numbers of educational opportunities for information and/or training that are delivered to the Public Advisory Group	≥ 1	c
6.1.3	SFM monitoring report made available to the public	SFM monitoring report available to public annually via an external website by Dec 31	c
6.2.1	Implementation and maintenance of certified safety program	100%	c

Indicator #	Indicator Statement	Target	Risk Rank Ref
7.1.1	Employees will receive Aboriginal awareness training	100% of employees trained in Aboriginal awareness as outlined in the companies training matrix.	c
7.1.2(a), 7.2.1	Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans	>=3 approaches/Aboriginal community within the DFA, for 100% of management plans, as required.	c
7.1.2(b)	Efforts made to resolve communicated disagreement will be documented, along with outcomes (anonymity of parties will be preserved in reporting	Documented efforts to resolve to resolve 100% of communicated disagreements	c
7.2.1(b)	# of opportunities for Aboriginals to participate in the forest economy	Number of opportunities; three-year rolling average ≥ 8	c
7.2.2	Proportion of identified sites with strategies addressed in plans	100% conformance with management strategies. 100% of blocks and roads that have had a CHR assessment completed. 100% of blocks and roads have a completed consultation record	c
7.2.3	Percent of forest operations in conformance with operational/site plans developed to address Aboriginal forest values, knowledge and uses	100% compliance with operational plans and corresponding results and strategies.	c