THE YORK LICENSE # 8

2012-2022 MANAGEMENT PLAN

Prepared By: AV Group

November 5th, 2014

Fibres from nature

EXECUTIVE SUMMARY

Following requirements of the New Brunswick *Crown Lands and Forests Act* (1980), AV Group has prepared the 2012-2022 Management Plan for Crown Timber License 8. The proposal forecasts timber, vegetation community and habitat supply for 80 years. The plan addresses objectives for a number of values and guidelines as presented by the Department of Natural Resources (DNR). Tables i and ii provide a summary of the annual harvest and silviculture levels, respectively.

Table i. Summary of 2012-2022 spatial annual harvest levels from License 8.

	Annual Harvest Level (m^3/yr)				
	Sp/Fir/Jp	**Hardwood**	**Cedar**	**Pine**	**Hemlock**
General Forest	218,100	182,000	8,100	7,000	4,700
Conservation Forest	14,000	7,100	600	200	200
TOTAL	232,100	189,100	8,700	7,200	4,900

Table ii. Summary of 2012-2022 annual silviculture levels on License 8.

	Silviculture Area (ha/yr)	
	Planting	**Thinning**
General Forest	480	990

Table of Contents

List of Figures

List of Tables

SIGNATURE SHEET

General Information

Requirements of the Crown Lands and Forests Act (1980)

Management of Crown lands in New Brunswick is governed by the *Crown Lands and Forests Act* (1980). The Act was adopted in 1980 and provides for the division of Provincial Crown forest lands into ten Timber Licenses, which are divided and assigned to the larger forestry-based companies in the province. The Act is administered by the New Brunswick Department of Natural Resources (DNR) and requires, among other things, that Licensees prepare management plans that describe how the License will be managed for both timber and non-timber values. The timber Licensee must write these management plans based on DNR's timber and non-timber objectives. Sustainable supplies of timber are determined for an 80-year period. From these management plans, annual operating plans are developed that show how the management plan will be implemented each year "on the ground". Management plans are scrutinized and approved by DNR.

This management plan proposal has been prepared by the AV Group Woodlands Department and describes the management strategy for York License 8 for the next 80 years.

License Area Description

License 8 is located in western New Brunswick (Figure 1). It is located mainly in York County and comprises a total area of 261,825 hectares. As Figure 2 shows, 90% of this total area is classed as productive forestland (235,576 ha), and this productive forestland is the main focus of the management plan.

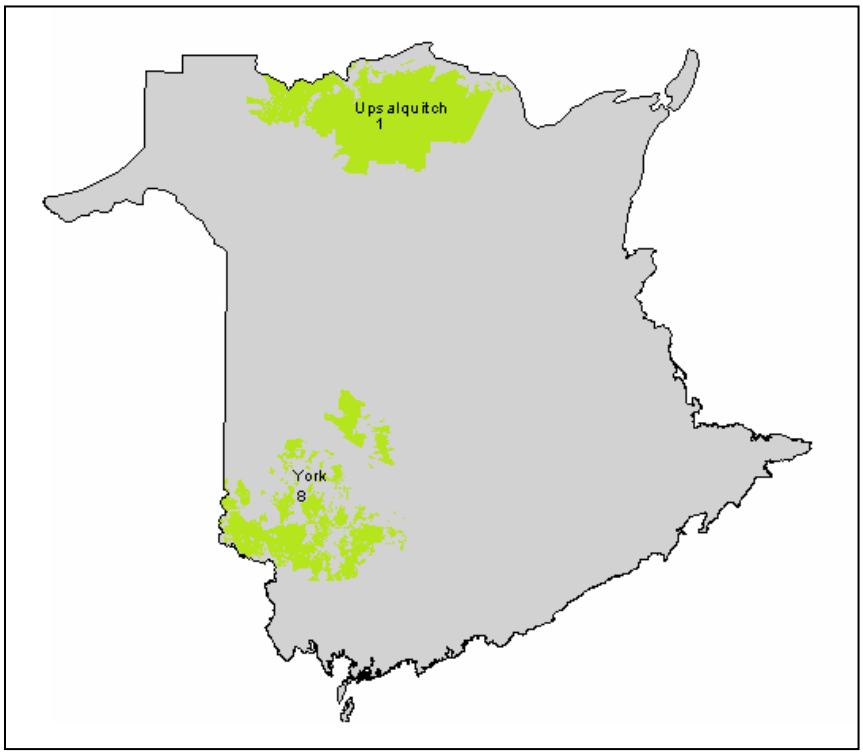
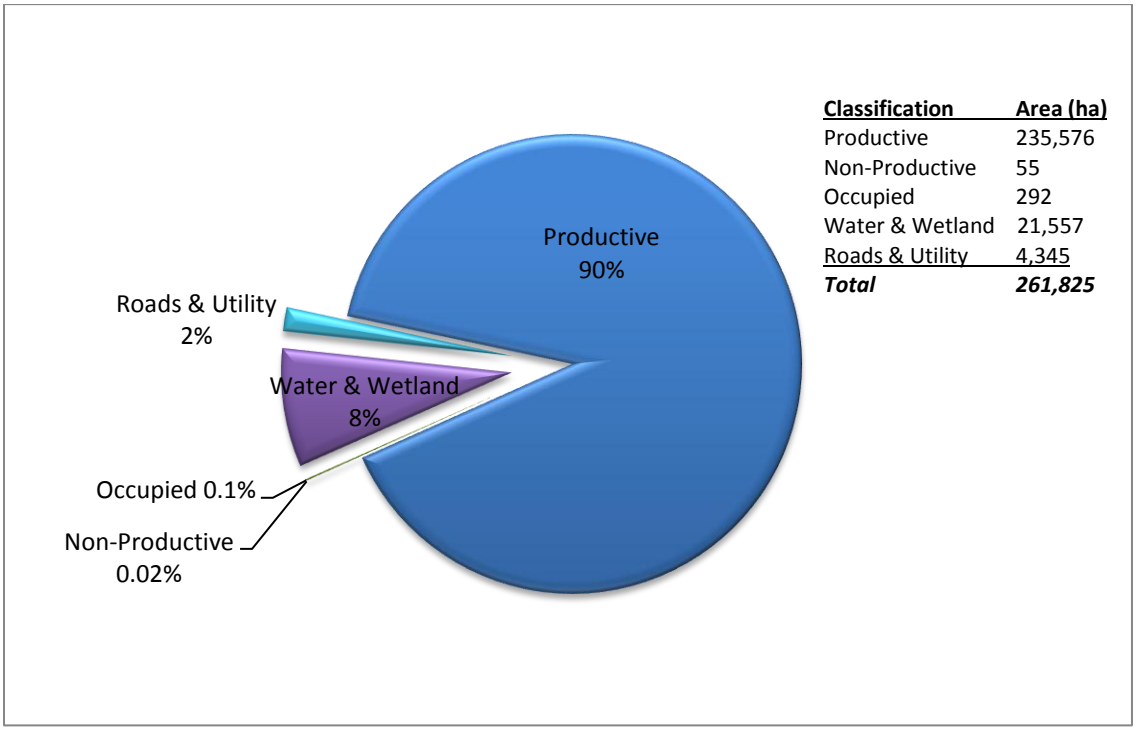


Figure 1. Location of York License 8, situated in southwestern New Brunswick.



Classification	Area (ha)
Productive	235,576
Non-Productive	55
Occupied	292
Water & Wetland	21,557
Roads & Utility	4,345
Total	***261,825***

Figure 2. Summary of total area by land classification for License 8.

Forest Management Objective

Primary Objective (Forest Level)

The 2012 Management Plan embodies specific land management objectives. As illustrated in Figure 3, these objectives are applied to specific areas within the productive forest. The area in each management unit is mutually exclusive from another. Some of these management units do overlap; however, where this occurs the highest rank is assigned to the overlap (Management Unit 1 being the highest rank). These management units are described as follows:

- Management Unit 1: Protected Natural Areas, both Class I & II. These include existing, selected and proposed areas,
- Management Unit 2: Inoperable areas where timber harvesting is not possible. Reasons include, but are not limited to, excessively poorly drained sites, excessive rock outcrops, steep slopes where slope is in excess of 25%, low volume stands that will never reach a minimum operable stand volume. Inoperable also includes forested area assigned to other non-timber uses (sugar bushes, etc.),
- Management Unit 3: Deer Wintering Area,
- Management Unit 4: Old Forest Wildlife Habitat,
- Management Unit 5: Old Forest Communities,
- Management Unit 6: Water & Wetlands buffers,
- Management Unit 7: General Forest primarily managed for timber.

Management Objective	***Area (ha)***
PNA - MU1	27,694
INOPERABLE - MU2	1,714
DWA - MU3	17,804
OFWH - MU4	8,512
OFC - MU5	1,032
BUFFERS - MU6	18,117
GENFOR - MU7	160,703
TOTAL	***235,576***

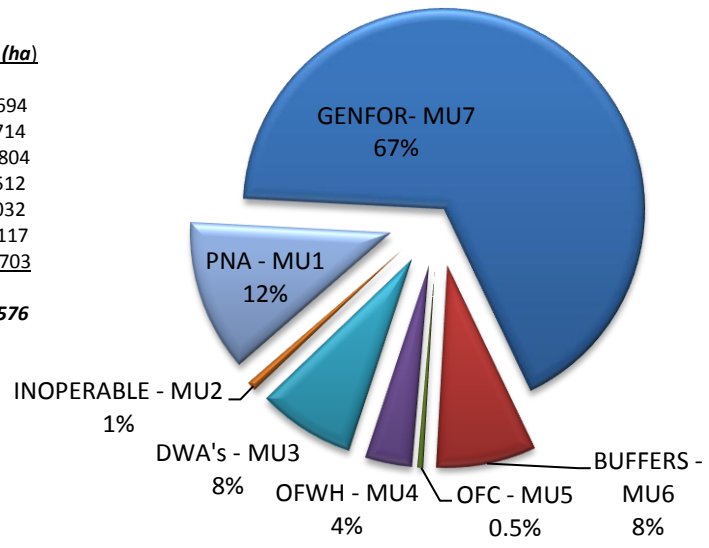
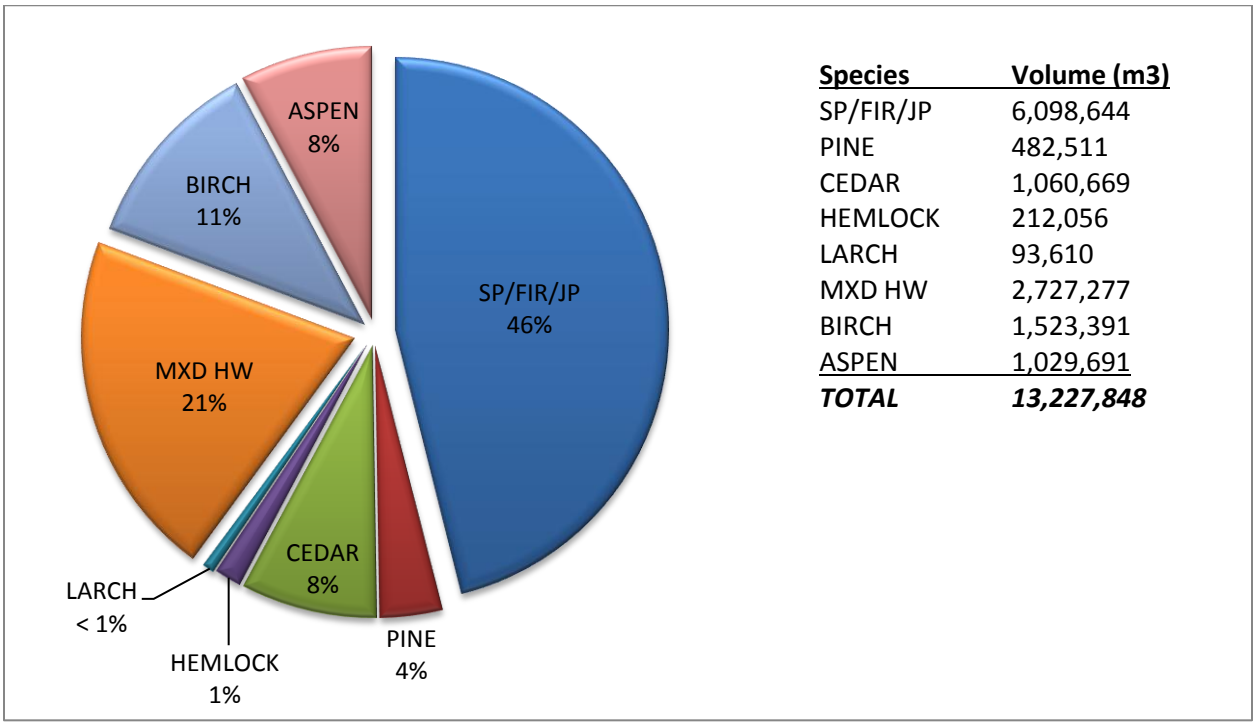


Figure 3. Summary of productive forest area by primary objective for License 8.

Primary Species (Forest Level)

The forest condition can be described in terms of its development stage and species composition. The forest level growing stock is the summation of the volume across the forest at a given time. Figure 4 illustrates the amount of growing stock by major species groups. Sp/Fir/Jp is the most common species group with over 6,000,000 m^3. Meanwhile, all hardwood species groups combined make up over 5,300,000 m^3 and other mixed softwood groups are over 1,800,000 m^3. Roughly 40% of the area is in a regenerating to young development stage, leaving almost 60% of the area in a mature to over-mature stage (Figure 5).



Species	Volume (m3)
SP/FIR/JP	6,098,644
PINE	482,511
CEDAR	1,060,669
HEMLOCK	212,056
LARCH	93,610
MXD HW	2,727,277
BIRCH	1,523,391
ASPEN	1,029,691
TOTAL	***13,227,848***

Figure 4. Broad forest cover type distribution for the mature productive forest area on License 8.

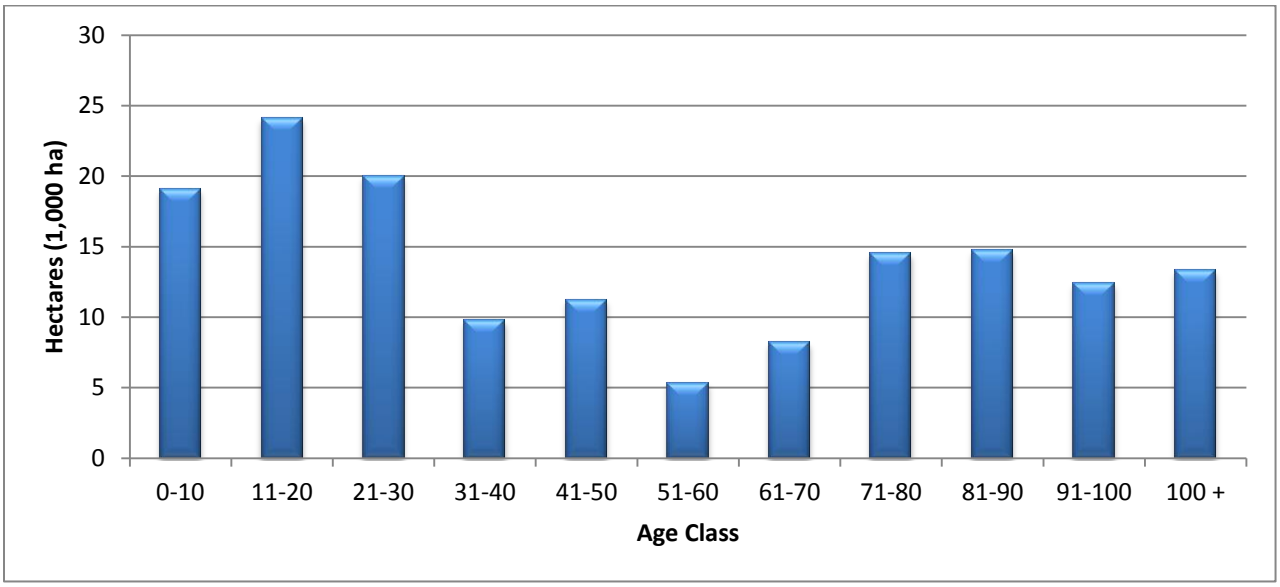


Figure 5. Age class distribution for the productive forestland on License 8.

Conservation Forest

Altogether 73,160 hectares, roughly 28% of the total land base, has been set aside as Conservation Forest in License 8. The Conservation Forest is composed of Protected Natural Areas (PNA), Deer Wintering Areas (DWA), Old Forest Communities (OFC), Old Forest Wildlife Habitat (OFWH), and watercourse and wetland buffers.

Protected Natural Areas (Management Unit 1)

Protected Natural Areas are nature reserves that are legally protected under the *Protected Natural Areas Act* (2003). There are two classes (class I & class II) of Protected Natural Areas where different restrictions apply.

Class I sites are hosts to plant or wildlife species which are too sensitive to sustain any disturbances. There are no activities permitted in class I sites unless permitted by the Minister of the Department of Natural Resources for educational and scientific purposes. There are six class I Protected Natural Areas in New Brunswick. The majority of the new Protected Natural Areas were designated as class II sites. These sites allow low impact activities such as: hiking, canoeing, camping with a tent, hunting, trapping, fishing and nature interpretation. There are a total of 196 class II Protected Natural areas on Crown land in the province.

There are no class I PNA's and 28 class II PNA's that cover 27,700 hectares on License 8.

Deer Wintering Areas (Management Unit 3)

White-tailed deer use old conifer and conifer-hardwood stands during moderate and severe winter conditions. These same sites are typically reused every year. Forest harvesting is permitted in Deer Wintering Areas so long as harvesting does not negatively impact the amount or quality of the habitat.

DWA management will be restricted to two types of single entry partial harvest prescriptions; these are described in Table 3 as 'Conservation Forest Strip Cut' and 'Conservation Forest Group' treatments. Harvesting of the available forest stands will be spaced over **30** years to allow time for evaluation and adaptation of harvest standards to accommodate new information.

There are 76 separate DWA's that cover 17,800 hectares on License 8. Some of this area overlaps with other conservation forest objectives.

Old Forest Communities & Old Forest Wildlife Habitat (Management Units4 & 5)

Old forest communities and old-forest wildlife habitats are key aspects of the province's strategy to maintain old-forest conditions and the biodiversity that that are a part of these stands. Altogether there are 14 OFC and 6 OFWH types which are defined at the stand level by tree species composition, basal area and density of various diameters of both live and dead trees. A summary of these management units showing harvest eligibility, along with the target areas, can be seen in Appendix A.1.

As individual units there are 18,700 hectares of OFC and 18,800 hectares of OFWH in License 8. Some of this area overlaps with other conservation forest objectives.

Watercourse and Wetland Buffers

Watercourse and wetland buffer zones are one of the management tools used to protect water quality and aquatic habitat on Crown land. The NB Watercourse and Wetland Alteration Regulation (*Clean Water Act* (1989)) requires that a 30 meter buffer be maintained between timber harvesting operations and watercourses and wetlands. Watercourses identified within Designated Drinking Watersheds receive 75 meter buffers.

On Crown land, buffer zones are extended to 60 meters on high use recreational waters (rivers, lakes, ponds and larger streams) for aesthetic reasons. Crown Reserve Angling Waters, Angling Leases, and Canadian Heritage Rivers receive buffer zones from 75 to 150 meters wide.

There are 24,000 hectares of watercourse and wetland buffers in License 8. Some of this area overlaps with other conservation forest objectives.

General Forest

Harvest Prescriptions

The type of treatment performed on a stand depends on stand structure, species composition, volume and site. Types of treatments are also dependent on both timber and non-timber objectives. A range of harvest and silviculture treatments are summarized in Table 1, along with associated eligibilities for harvest treatments.

Table 1. Descriptions and stand type eligibilities of treatments used by AV Group.

Treatment Code (Action)	Treatment Name	Treatment Description	Stand Type Eligibility
VARIABLE RETENTION	Variable Retention	In the initial entry, remove all merchantable stems of all species.	All stand types except those that qualify for selection cuts.
SHELTER-WOOD	Two-Pass Shelterwood	Initial entry removes 50% of total volume concentrating on removing the least stable species such as fir, beech and intolerant hardwoods.	Qualifying tolerant hardwood and tolerant hardwood-softwood stands. Used in low quality stands to encourage desired tolerant hardwood regeneration.
STRIPCUT	Strip cut	Initial entry removes 50% of volume by removing alternating strips of a predetermined width of less than 20 m. Where adjacency is an issue, a modified strip cut with 30% of volume removal will be applied.	For application in qualifying cedar, tolerant hardwood and tolerant hardwood-softwood stands. Used in low quality stands to promote natural regeneration where clearcut is unacceptable.
	Conservation Forest Strip Cut	27 meter total strip width where 8 meters are cut and 19 meters are left untouched. 30% volume removed.	DWA, OFC, OFWH, with BA ≥ 22m^2/ha with 70% of points ≥18m^2/ha..
OVERSTORY REMOVAL	Overstory removal	Second entry in a two-pass shelterwood or strip cut conducted at least 2 periods after 1st entry.	For application in all qualifying existing and future shelterwood and strip cuts.
TWO AGE CLASS	Two age class	Initial entry removes most of the volume leaving only future potential hardwood logs standing.	For application in low quality tolerant hardwood stands.
SELECTION	Selection (Tolerant Hardwood)	Initial entry removes 35% of the total volume targeting fir, intolerant hardwoods, and beech. Following entries every 20 years thereafter, remove 50 m^3/ha	For application in quality tolerant hardwood stands and tolerant hardwood-softwood stands with volume ≥ 160 m^3/ha.
	Selection (Cedar)	Initial entry removes 35% of the total volume targeting fir, intolerant hardwoods, spruce, and over mature cedar. Following entries, conducted every 30 years thereafter, remove 50 m^3/ha of volume.	For application in quality cedar stands where cedar content is ≥40% and total volume is ≥ 160 m^3/ha.
	Selection (White Pine)	Initial entry removes 50% of the total volume targeting fir, intolerant hardwoods and spruce. Following entries, conducted every 30 years thereafter, remove 75 m^3/ha of volume.	For application in White Pine stands where Pine content is ≥ to 40%.
	Selection (Hemlock)	Initial entry removes 35% of the total volume targeting fir, intolerant hardwoods, and spruce. Following entries every 30 years thereafter, removing 50 m^3/ha.	For application in stands where Hemlock content is ≥ 40%. (operational only)
	Conservation Forest Group	5 meter trails and 15m by 15m openings, limited to 4 trails and 6 openings per hectare; 30% volume removal.	DWA, OFC, OFWH with BA ≥ 22m^2/ha with 70% of points ≥ 18m^2/ha
COMTHIN	Softwood Commercial Thinning	In the first entry, remove 30-40% of the merchantable volume, thinning from below. In the final entry, conducted ≥ 10 years later will be clearcut.	Managed stands that are ≥ 50% spruce, net merchantable volume is ≥ 130 m^3/ha and mean merchantable diameter is ≥ .08 m^3/tree. (managed softwood)
	Hardwood Commercial Thinning	In the first entry, remove 30% of the merchantable volume. This treatment is done to prepare the stand to be managed as an uneven aged high quality tolerant hardwood stand.	Stands where: 1) net merchantable volume is ≥ 130 m^3/ha and; 2) mean merchantable diameter ≥ .08 m^3/tree. (TH dominated PCTs)

Treatment Code (Action)	Treatment Name	Treatment Description	Stand Type Eligibility
FULL PLANT	Full Planting	Artificial regeneration of harvest blocks with a suitable species (Black Spruce, Red Spruce, White Spruce, Jack Pine, or White Pine) at 2000 – 2500 stems/ha.	All harvested blocks with softwood stocking less than 30%. Exception: areas regenerating to desirable Tolerant Hardwoods and/or Birch.
VEG CONTROL	Vegetation Control	The use of Glyphosate based herbicide to control grasses, bushes and leafy competition in planted stands	Planted stands less than 5 years old that are ≥ 50% out competed by non planted species.
PCT	Thinning	Density reduction on harvest blocks with good stocking of commercial species and high densities.	All harvest blocks with high-density regeneration except if ≥ 50% aspen. (SW, SH, HS, HW)
CLEANING	Plantation Cleaning	Releasing planted trees to a 'free to grow' state by lowering stand density.	Used in plantations ≥ 10 years old that are being outcompeted by natural regeneration.

Landscape-Level Harvest Configuration

(Forest Management Process 2.1.2.10.2 excerpt)

The spatial pattern of forest harvest activities across the landscape influences a number of ecological, economic, and societal values delivered by forest management. Many of these values are linked to an easily controlled characteristic of harvest planning: opening sizes. Openings are collections of nearby harvest activities that can be grouped on the basis of their proximity and structural features. Limiting the maximum opening sizes of forest activities provides an easily controllable means to achieve these values.

For the 2012 Forest Management Planning Process, maximum opening sizes will be regulated in three spatial zones. In 'Zone C', watersheds identified in NB's Watershed Protected Area Designation Order, harvest openings will be limited in order to comply with existing laws protecting potable waters. In eco-districts identified as 'gap-replacing' by DNR, harvest opening sizes are limited in order to better mimic natural disturbance agents such as wind events and insect outbreaks which tend not to cause large openings in the absence of human intervention. In eco-districts identified as 'stand-replacing' by DNR larger harvest openings, which attempt to emulate wildfire patterns, will be permitted (Figure 6).

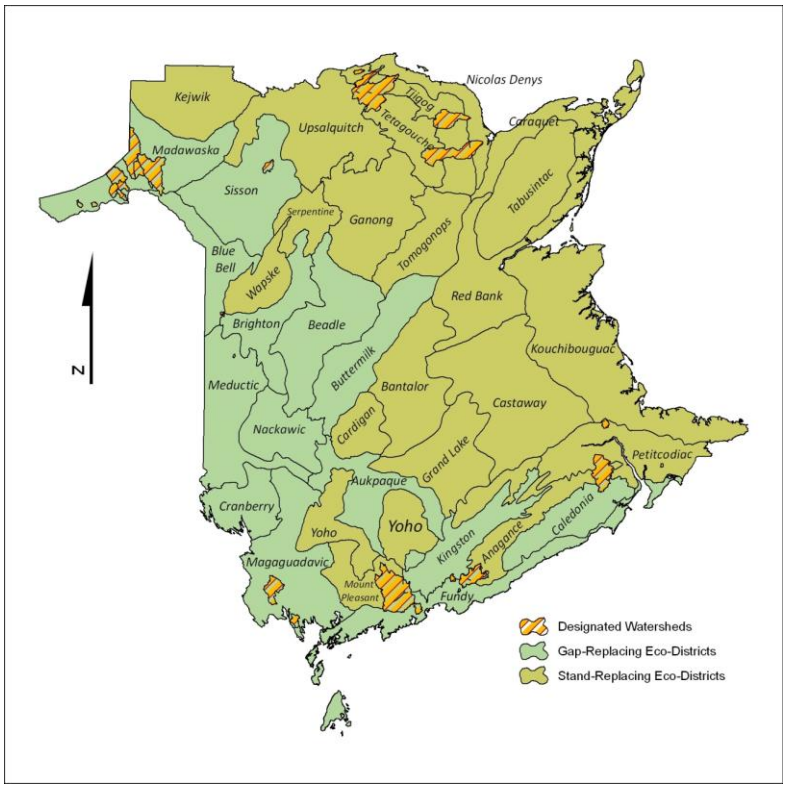


Figure 6. Map of New Brunswick showing gap and stand replacement areas.

Many forest activities leave structures which **do not** contribute area towards an opening under this standard. Those types of activities include:

- Any uneven-aged selection, shelterwood, and patch cuts planned and executed in accordance to the 'Tolerant Hardwood Policy',
- Other partial harvests which are diffuse in nature (i.e. harvest is driven on stem selection) and which leaves at least 18 m^2/ha of basal area roughly in proportion to the pre-harvest composition of hardwood and softwood,
- Other patch harvests which remove no more than 30% of a stand's area, in openings of 0.5 ha or less,
- Other strip harvests which remove no more than 30% of a stands' area, in strips of 20m or less,
- Commercial thinning.

The recruitment period predicted in the forest management planning process to achieve these structural conditions is termed the 'Green-Up Delay', and is specific to each blocking zone. In NB, the 'Green-Up Delay' is generally a prediction of when regeneration will achieve an average height of 2 meters. A summary of the opening size requirements can be found in Table 2.

Nearby blocks which are in the process of 'Green-Up' collectively constitute forest canopy openings. The distance at which two blocks would no longer contribute area to the same opening is termed the 'Proximal Distance'. For forest harvest activities on the majority of Crown lands, this distance is such that roads and watercourse buffers do not separate openings. Notable exceptions to the standard proximal distance include harvest blocks separated by:

- Mapped water-bodies (e.g. rivers, lakes, ponds, etc) and their forest buffers
- Mapped wetlands (e.g. bogs, fens, marshes, etc.) and their forest buffers

Blocks separated by these features are not considered to be part of the same opening. In areas of Crown land identified in the Watershed Protected Area Designation Order, the proximal distance is regulated by NB Department of Environment.

Table 2. Summary of opening sizes, green-up delays and proximal distance requirements.*

Blocking Zone	Green-Up Delay	Proximal Distance	Maximum Opening Size
Designated Watersheds	10 years	100 m	25 ha
Gap-Replacing Eco-Districts	5 years	200 m	100 ha
Stand-Replacing Eco-Districts	5 years	200 m	200 ha

**note – blocks sharing less than 50m of common edge are not considered adjacent regardless of their proximal distance.*

License Level Indicators

Annual Allowable Cut (AAC)

The AAC was determined by DNR wood supply modeling with input from AV Group. DNR used New Brunswick Growth and Yield Unit (NBGYU) yield curves in the modeling process. The resulting AAC was determined by species and management units.

The AAC's will come from a combination of general forest, Conservation Forest, and inoperable areas. Spruce, fir, and Jack pine AAC's are 232,100 m^3, while the hardwood AAC will be 189,100 m^3. Specifically, 113,600 m^3 will be mixed hardwood, 49,300 m^3 will be birch, and

poplar will make up the remaining 26,200 m^3. All of these volumes are separated by major species groups in Table 3.

For cedar, hemlock and white pine, the majority of the volume will be harvested during regular hardwood and softwood operations. Not all of the AAC can come from these operations, so a percentage was calculated to determine what volume will have to come from species dominated stands.

AAC levels in Conservation Forests were determined by dividing total operable area by a 30 year re-entry requirement. Volumes for Conservation forest were calculated using management plan volumes and applying a five percent netdown based on the area history. A total of 300 hectares of DWA and 150 hectares of OFC/OFWH will be operated every year to harvest proposed levels (Appendix A.2).

Table 3. Sustainable harvest levels for the major species groups on License 8.

		Annual Allowable Cut from 2014 - 2022 (m^3/yr)								Total
		Spruce, Fir and Jack Pine	Hardwood				Cedar	Hemlock	White Pine	
			Mixed HW	Birch	Poplar	Total HW				
General Forest		214,100	106,900	48,100	25,000	180,000	8,100	4,700	7,000	413,900
							33% [1]	13%	6%	
Conservation Forest	Buffers	1,900	200	400	400	1,000	0	0	0	2,900
	Old Forest	12,100	6,100	0	0	6,100	600	200	200	19,200
Inoperable Areas		4,000	400	800	800	2,000	0	0	0	6,000
Total		**232,100**	**113,600**	**49,300**	**26,200**	**189,100**	**8,700**	**4,900**	**7,200**	**442,000**

Silviculture levels for License 8 were modeled and suggested by DNR with Licensee input (Table 4). Over the next ten years there will be 480 hectares of planting and 990 hectares of pre-commercial thinning completed annually in License 8. No planting or pre-commercial thinning will take place in Conservation Forest, all planting and PCT is scheduled to take place in the general forest.

[1] Percent represents volume that will need to come from species dominated stands.

Table 4. Silviculture levels in the general forest of License 8.

	Planting (ha/yr)	Pre-Commercial Thinning (ha/yr)					Total
		SW	SH	HS	HW	Total	
License 8	480	250	170	140	430	990	1,470

Growing Stock

Operable growing stock is the total amount of volume available for any harvest action at any point in time. It is the accumulation of volume from individual strata yield curves, multiplied by their associated area, at the corresponding age (age must be between the minimum and maximum operable ages specific to each stratum).

Currently, the softwood operable growing stock is roughly 3,700,000 m^3 and the AAC is about 1,000,000 m^3 per period, where each period is five years (Figure 7). Even when increasing the AAC to 1,160,000 m^3 over the next 15 periods, the operable growing stock only slightly dips to 2,250,000 m^3 and then stabilizes at around 2,500,000 m^3.

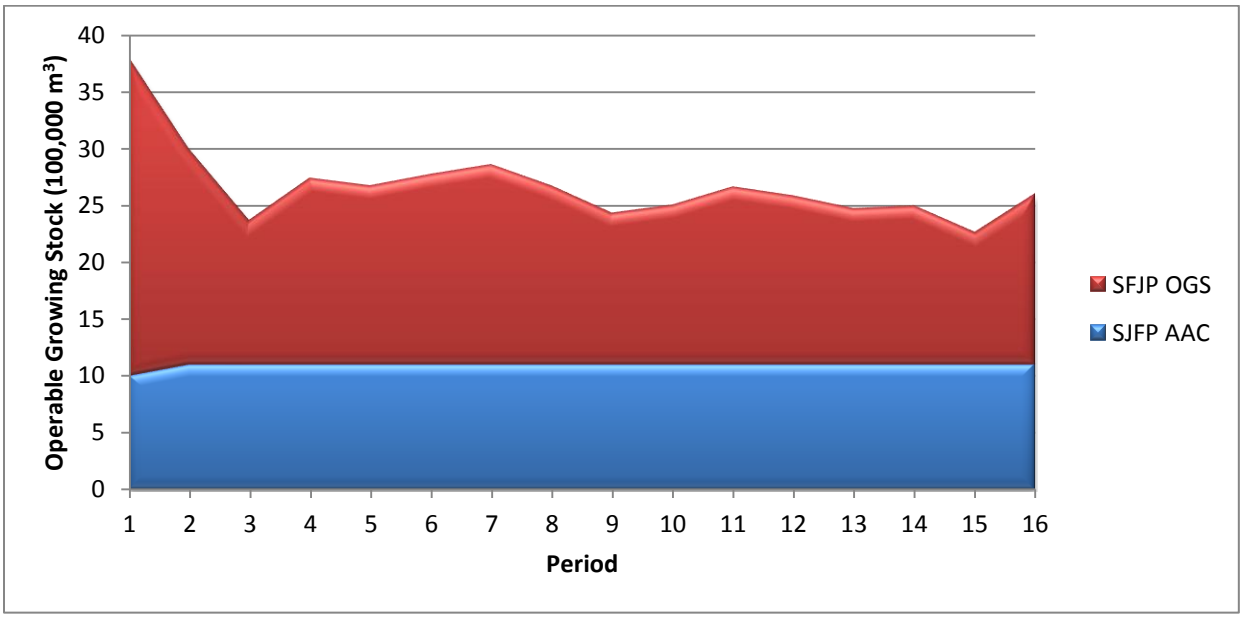


Figure 7. SPFJP operable growing stock and harvest level over time on License 8.

Currently, the hardwood operable growing stock is roughly 3,700,000 m^3, with an AAC of roughly 800,000 m^3 per period. The AAC stays roughly the same over the 80 year planning

horizon and the operable growing stock dips to a low of about 1,250,000 m^3 in period 10. After the low point, the operable growing stock climbs back up to roughly 1,500,000 m^3 (Figure 8).

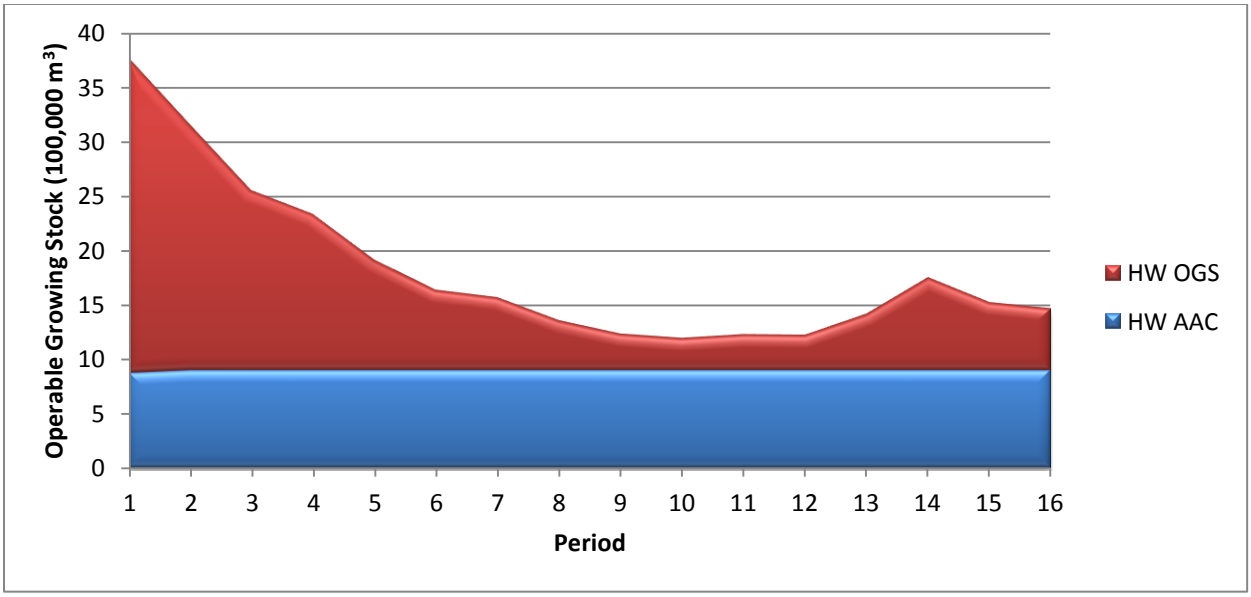


Figure 8. Hardwood operable growing stock and harvest level over time on License 8.

Land Management Issues and Opportunities

As a direct result of increasing AAC for softwood levels the Licensee will produce 34% pulp in the 2014-2022 planning horizon, compared to 28% previously. This will create roughly 28,000m^3 more softwood pulp every year. The total volume of pulp produced every year will increase from 55,000m^3 to 83,000m^3 (Figure 9). In addition, the current hardwood AAC will result in higher pulp percentages, therefore reducing the long-term supply for sawlogs by as much as 70% (Figure 10).

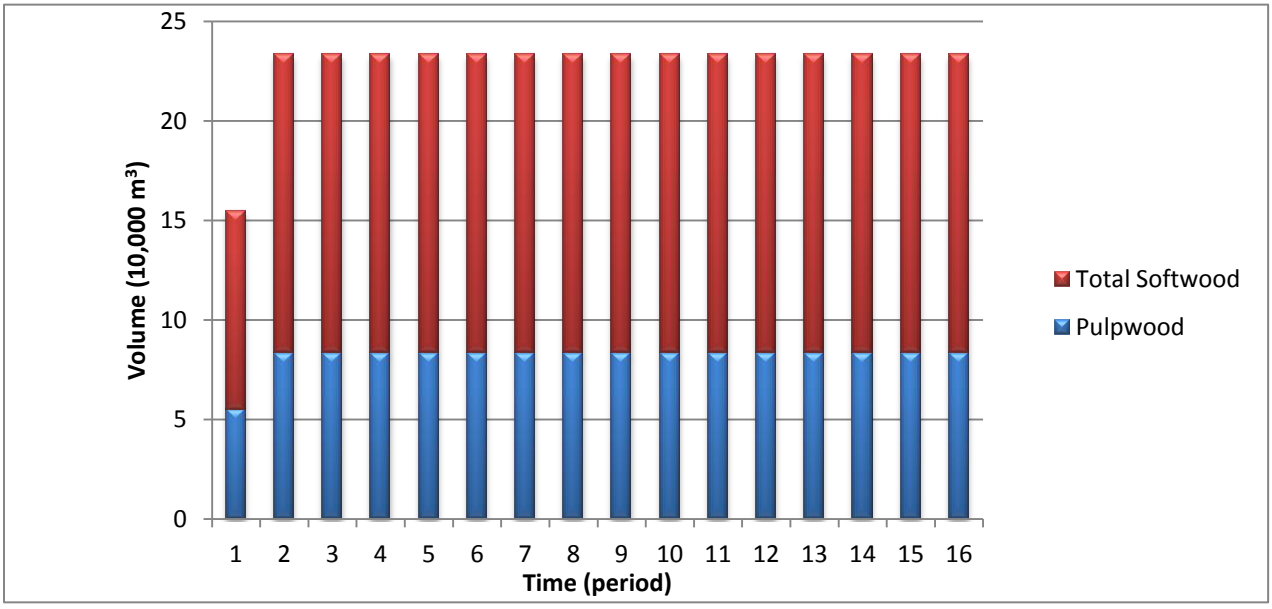


Figure 9. Softwood production separated by products over the next 80 years.

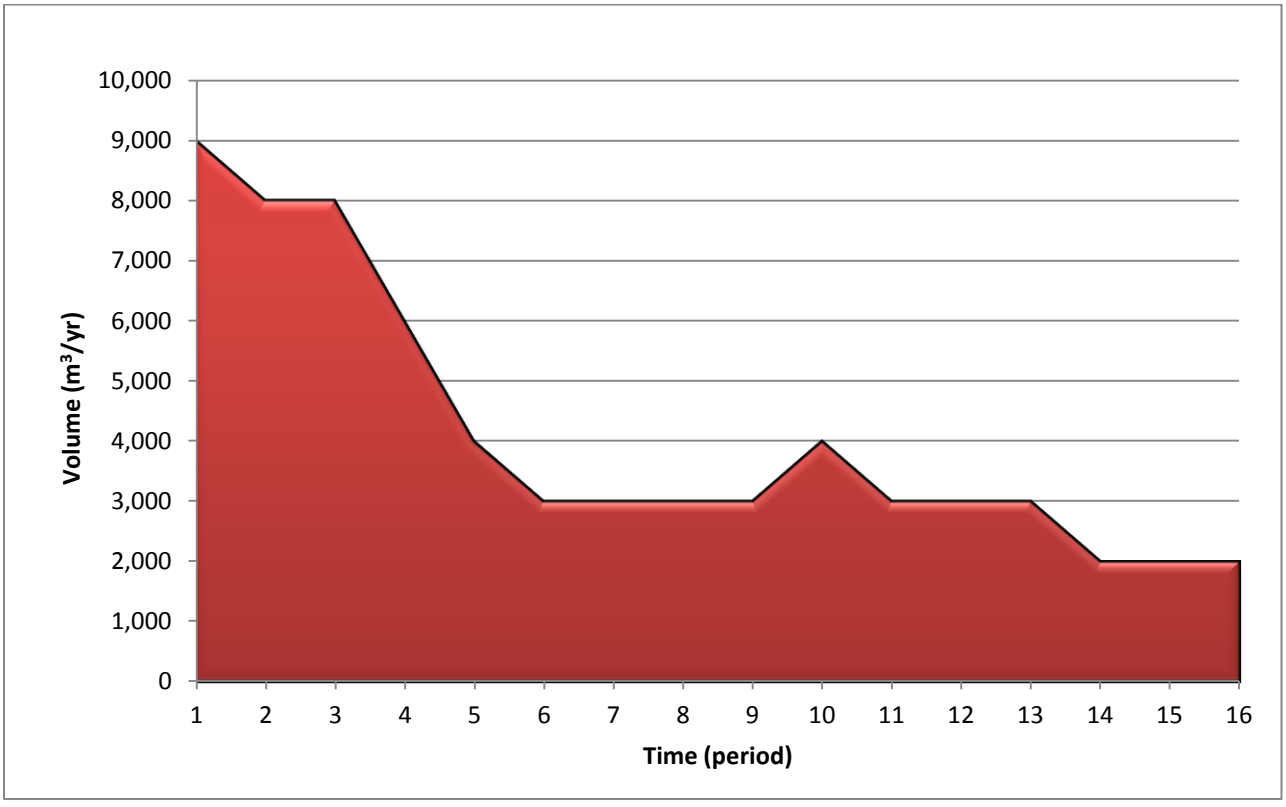


Figure 10. Hardwood sawlog production over the next 80 years.

Silviculture Strategy

Although a variety of silviculture treatments can be applied to mature stands, those choices are constrained by a number of factors. As a result of those constraints, Table 5 shows that the most common prescriptions that will be used will be variable retention and overstory removal. These prescriptions will cover roughly 4,000 hectares each year. There will be a large proportion of variable retention and over story removal and a small proportion of selection cuts, strip cuts and shelterwoods.

Table 5. Yearly harvest treatments by area in License 8.

Period	Harvest Treatment Area (ha/yr)								
	VR and Overstory Removal	Shelterwood		Stripcut		Select Cut		Commercial Thin	Total
		First Entry	Final Entry	First Entry	Final Entry	First Entry	Re-Entry		
1	3,250	120	20	360	370	90	30	0	4,240
2	3,290	90	60	170	90	0	150	20	3,870

One of the assumptions made in the modeling is that plantations are free to grow to yield maximum volumes. To meet this requirement vegetation control will be used on an as needed basis to help plantations become established in the first five years after planting. Once the plantations turn ten years old they will be assessed to determine if they are free to grow. If this is not the case, plantations will be cleaned with spacing saws to release the planted trees. To reduce initial competition and promote soil mixing to help establish seedlings, all sites should be treated with scarification before being planted.

As a result of meeting wood supply objectives and applying silviculture treatments, there will be a shift in the broad stand types in License 8 over the next 80 years (Figure 11). There will be a 9% increase in planted stands in the overall general forest landscape. This percentage will never surpass more than 20% of the total general forest. There will be a 24% increase in pre-commercially thinned stands as variable retention treatments mature into young mature forest. Altogether there will always be at least 80% of the forest in a natural state.

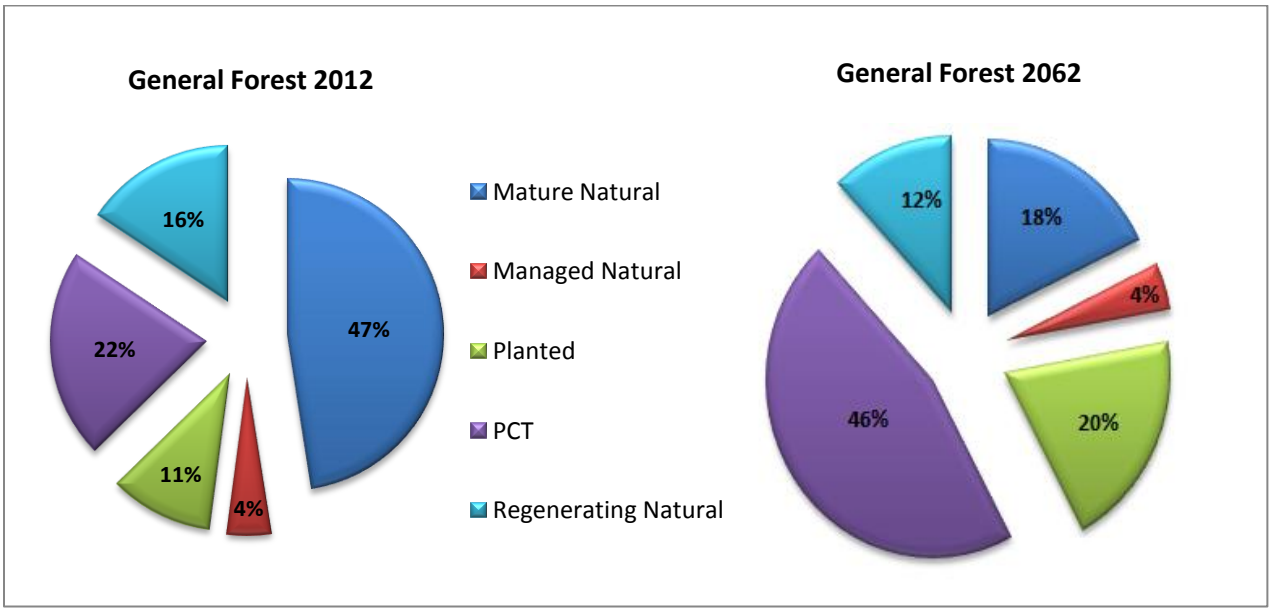


Figure 11. Distribution of productive forest land by broad stand type on License 8 in 2012 compared to 2062.

Summary and Conclusions

The Crown forest management plan for License 8 will be in effect until March 31, 2022. Table 6 shows the comparison of the previous management plan's AAC levels to that of the 2012-2022 management plan. While the definition of Conservation Forest changed slightly between the planning periods, it is still considered a key factor to be compared.

Table 6 . Key factors for comparison of 2007 FMP to 2012 FMP.

	2007	2012	Change
SFJP AAC (m^3/yr)	164,462	232,100	**+ 67,638**
Hardwood AAC (m^3/yr)	183,490	189,100	**+ 5,610**
Cedar AAC (m^3/yr)	11,842	8,700	**-3,142**
White pine AAC (m^3/yr)	9,900	7,200	**-2,700**
Eastern Hemlock AAC (m^3/yr)	2,350	4,900	**+ 2,550**
SFJP pulp production (m^3/yr)	55,000	83,000	**+ 28,000**
Conservation Forest	30%	28%	**-2%**

Appendices

Appendix A.1. OFWH & OFC's by Harveste Eligibility and Target Area.

Old-Forest Wildlife Habitat	**Harvest Eligibility** (Yes / No)	**Target** (ha)
Old forest habitat (OFH)	**Yes**	164,179
Old spruce-fir habitat (OSFH)	**Yes**	135,735
Old pine habitat (OPH)	No	4,720
Old hardwood habitat (OHWH)	**Yes**	71,650
Old tolerant hardwood habitat (OTHH)	**Yes**	85,325
Old mixed-wood habitat (OMWH)	**Yes**	75,800

Old Forest Community	**Harvest Eligibility** (Yes / No)	**Target** (ha)
Eastern hemlock (HE)	No	4,640
Eastern Cedar (CE)	No	10,230
Red Spruce (RS)	**Yes**	65,070
Black spruce – moderate site (BS-M)	**Yes**	44,600
White spruce (WS)	No	11,330
Balsam fir (BF)	No	54,090
Softwood – tolerant hardwood (SWTH)	No	10,650
Red pine (RP)	No	1,940
White pine (WP)	No	4,960
Tolerant hardwood – pure (THP)	**Yes**	29,490
Tolerant hardwood – softwood (THSW)	**Yes**	34,960
Black spruce – poor site (BS-P)	**Yes**	22,780
Jack pine (JP)	No	8,940
Eastern larch (TL)	No	2,530

Appendix A.2. Conservation Forest AAC Calculation for License 8.

License 8	Area (ha)	Operable Area (ha)	Total Operable	Average Hardwood (m3/ha)	Average Softwood (m3/ha)	total operable area/30 yrs	Area*hw vol/ha*.30 vol removal*5% netdown	Area*sw vol/ha*.30 vol removal*5% netdown	Total volume
OFWH & OFC	9,544	4,679	49%	64	87	156	2,845	3,867	**6,712**
DWA	17,804	9,014	51%	38	108	300	3,254	9,248	**12,502**
PNA	27,694	0	0%	0	0	0	0	0	**0**
Total	**55,042**	**13,693**				**456**	**6,099**	**13,116**	**19,214**