

A Brief Overview -

The 2012-21 Forest Management Plan for Crown License 7

Introduction

This document describes in summary form, the major components of the 2012-21 Crown forest management plan covering Crown Timber Licenses 6 and 7 (referred to in this document as Crown License 7). While achieving DNR objectives and requirements, this forest management strategy for Crown License 7 is ecologically sustainable, economically viable, and socially responsible.

Forest Management Objectives

The strategy for Crown lands forest management has been established by the Minister of Natural Resources, through a stakeholder and public input process.

The amount of Crown land designated as Protected Natural Areas (PNA), legally protected forest lands in which no forestry activity can ever take place, has almost doubled since 2001. Fifty-three PNA's covering 92,873 hectares are now located on License 7.

Management objectives for the New Brunswick Crown forest also include the maintenance of specific amounts of a variety of old forest conditions within each ecoregion. The goals are that the full range of naturally-occurring forest communities be maintained and that old-forest vertebrate species remain viable. License 7 includes: 60,201 hectares of designated old forest stands, 47,697 hectares of designated old forest communities, and 35,771 hectares of designated old wildlife habitat stands.

DNR has established a policy and management requirement that designated areas where there has been evidence of significant deer wintering activity must be managed with a primary objective of maintaining or improving the long-term area of "critical deer wintering habitat". Over 49,000 hectares

defining 168 deer wintering areas (DWAs) on License 7 will continue to be managed and monitored to support the local deer population.

Continued protection of lakes, rivers, and streams with watercourse buffers as per the current legislation includes a network of over 29,000 km covering 101,352 hectares of mapped watercourse buffers across License 7.

To encourage capital investments, a clear timber objective creates the certainty of wood supply needed for industry to invest in its long term future. The wood supply objective is to maximize the combined log-potential of Spruce/Fir/JPine and Hardwood over the 100-year planning horizon.

A new “Results-based” management approach is also being introduced and implemented, where performance will be measured and publicly reported. Licensees will be accountable for achieving required outcomes for the management of Crown forests.

The outcomes of this updated forestry strategy are expected to include:

- Increase in legally protected areas,
- Increase in industry investments,
- Increase in forest sector jobs,
- Increase in mill production,
- Increase need for wood from private woodlots,
- Increase in Government royalty revenues, and
- Decrease in Government costs for License management.

License Location and Overview

License 7 covers approximately 1,047,000 hectares which are located within ten counties: Northumberland, Kent, Westmorland, Albert, Saint John, Kings, Queens, Sunbury, York, and Charlotte (Figure 1).

The land base for this Crown License was characterized from the digital forest inventory maintained by DNR and JD Irving, Ltd.

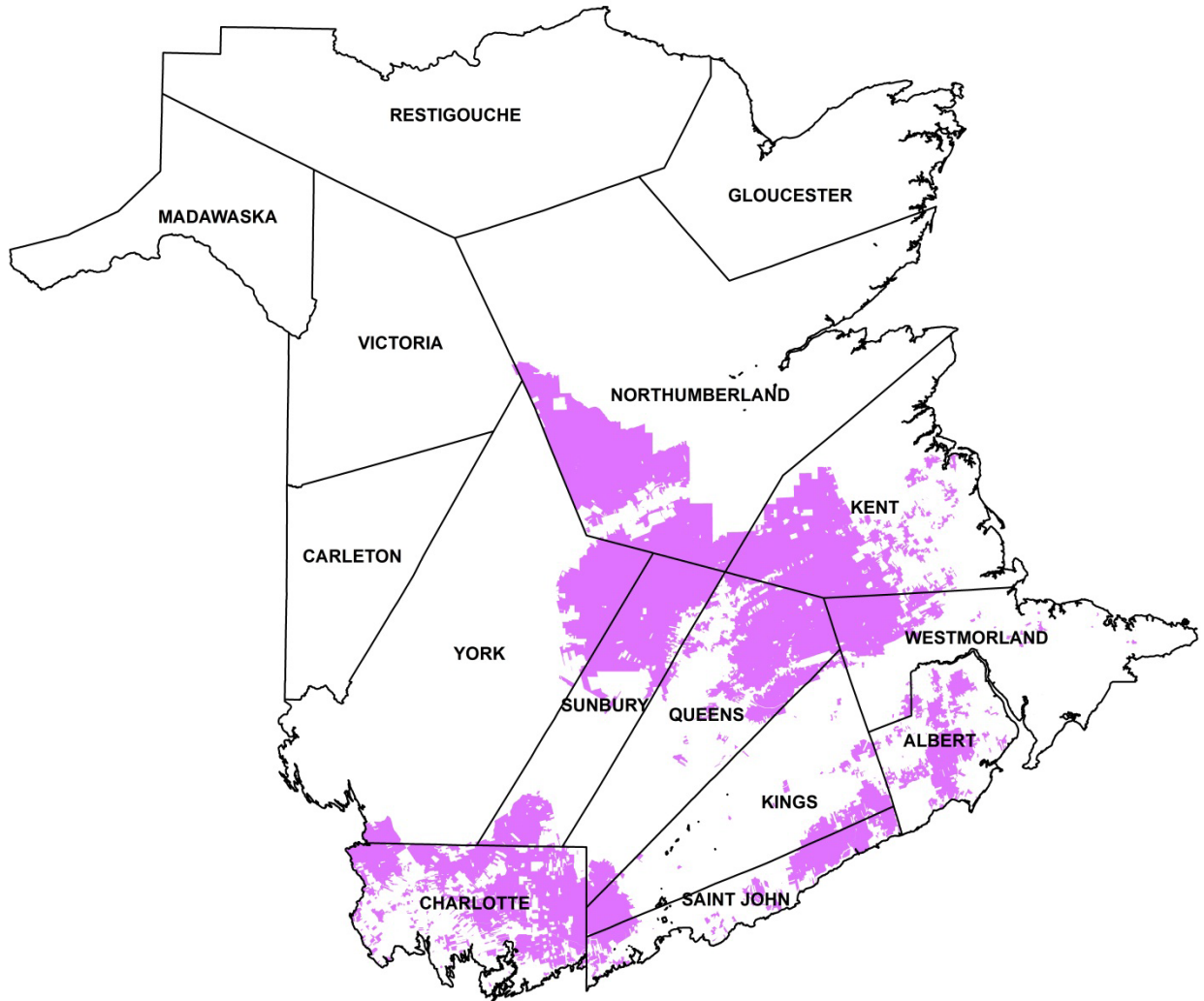


Figure 1: Location of Crown License 7.

The Conservation Forest

Twenty three percent (23%) of the Crown land on License 7 is in mapped designated zones with a primary management objective of conservation and includes the following:

- 53 New Brunswick protected areas (92,873 hectares)
- 162 individual unique sites (14,527 hectares)
- 168 deer wintering area management yards (49,050 hectares)
- 1,683 old forest wildlife habitat stands (35,771 hectares)
- 11,296 old forest stands (60,201 hectares)
- 8,652 old forest community stands (47,697 hectares)
- 29,000 km network of riparian and wetland buffers (101,352 hectares)

In addition, another 10% of the productive forest land base is focused on conservation due to unmapped watercourse buffer requirements, unmapped wildlife habitat buffers, and operationally inoperable areas.

New Brunswick Protected Natural Areas

In 2001, ten large representative Protected Natural Areas (PNA) were announced. All of these sites were placed under special legislation in 2003. The PNA legislation is known as the Protected Natural Areas Act and Regulations. In 2014 an additional 23,330 hectares have been added to the PNA Program. In total 92,873 hectares have been designated to this zone within Crown License 7. As of 2007, there is no AAC associated with the NB Protected Natural Areas within the License.

Unique Sites

J.D. Irving's Unique Areas program objective is to manage each site to maintain and protect its unique features or attributes. Forest harvesting is not necessarily prohibited; however any management activity must be completely compatible with protecting that special feature. Occasionally, salvage operations are scheduled to recover imminent mortality resulting from wind-throw or blow-down in these unique areas.

Riparian Buffers

The management objective for Riparian Buffers is to maintain an over story forest canopy. The purpose of selection harvesting in riparian stands is to regenerate and maintain an uneven-aged forest structure.

Harvesting within these buffers is normally by the riparian select cut prescription, with periodic entries every 15 to 25 years. Removals target the highest risk volume while maintaining a residual canopy, typically 18 m²/ha. This prescription generally removes 30-35% of the merchantable volume. Harvesting activity must not deposit any slash or residues within the watercourse and equipment will be controlled to prevent any soil disturbance within 15 meters of the water course.

Harvesting in riparian buffer management will target the removal of unstable trees.

Deer Wintering Areas

Each DWA is reviewed individually for harvest opportunities while respecting the long-term strategy of managing towards softwood-dominant stand types to provide deer wintering habitat and browse.

Deer wintering area management targets the removal of declining stands in order to replace them with stands which will provide future habitat.

Old Forest Communities and Old Forest Wildlife Habitat

A Crown forest management goal is to maintain the supply of old forest wildlife habitats and forest communities which provide the diversity and distribution of life that requires attributes of old forest. Old Forest Communities (OFC) are the basic building blocks of a strategy to supply old forest conditions on Crown land. Old Forest Wildlife Habitats (OFWH) are for the maintenance of vertebrate wildlife populations and are associated to aggregates of OFC. Any harvesting in these areas must maintain the old forest habitat condition.

License Metrics

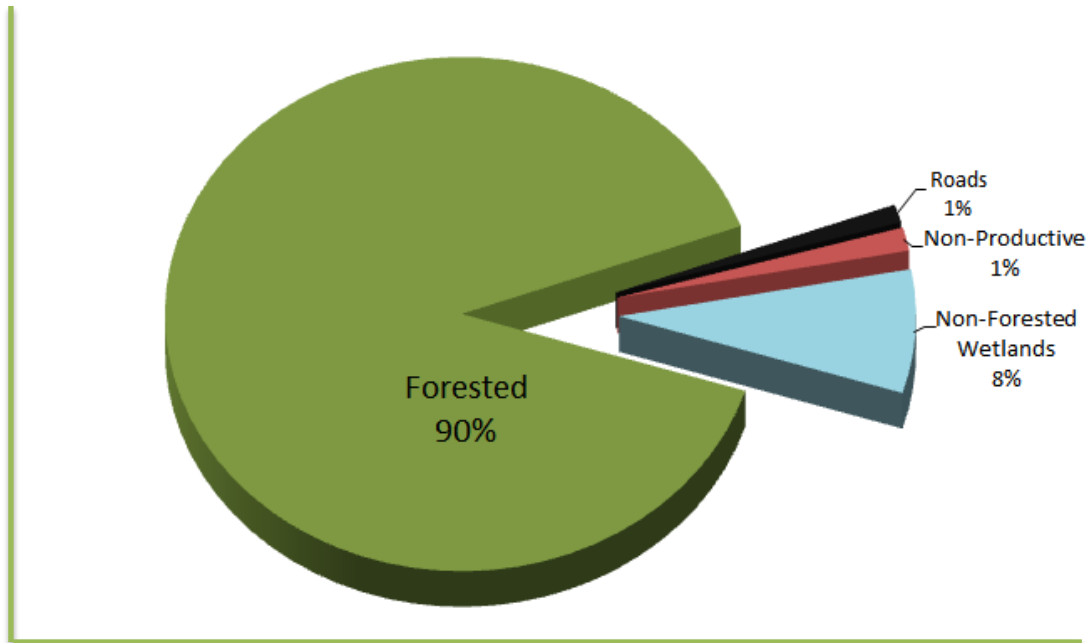


Figure 2: Total area (1.047 million hectares) by land class for License 7.

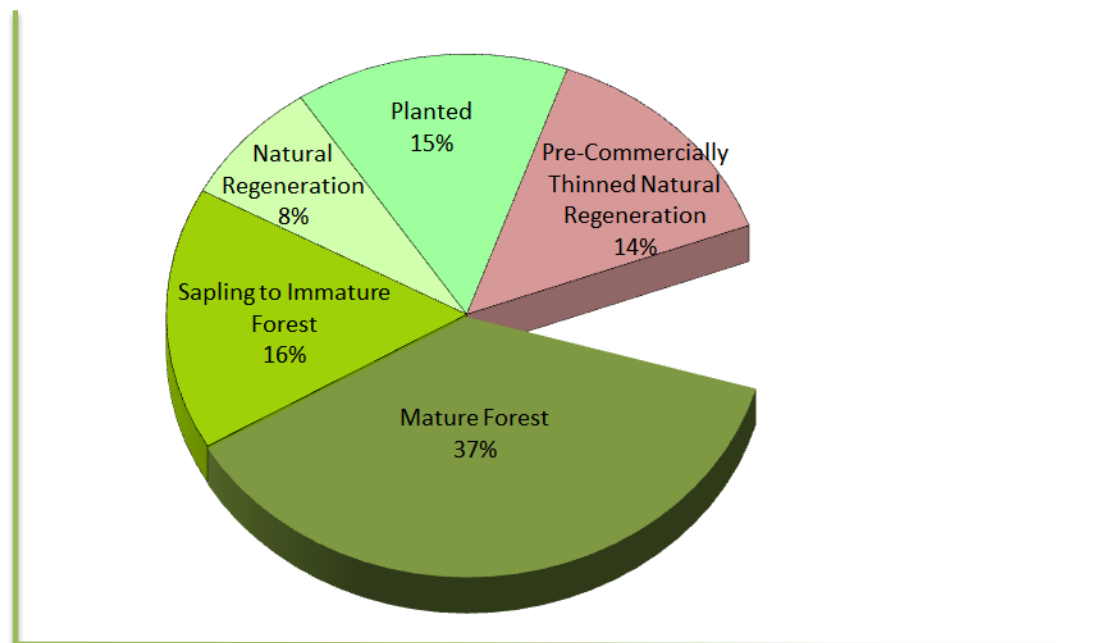


Figure 3: Productive forest (0.952 million hectares) by origin type for License 7.

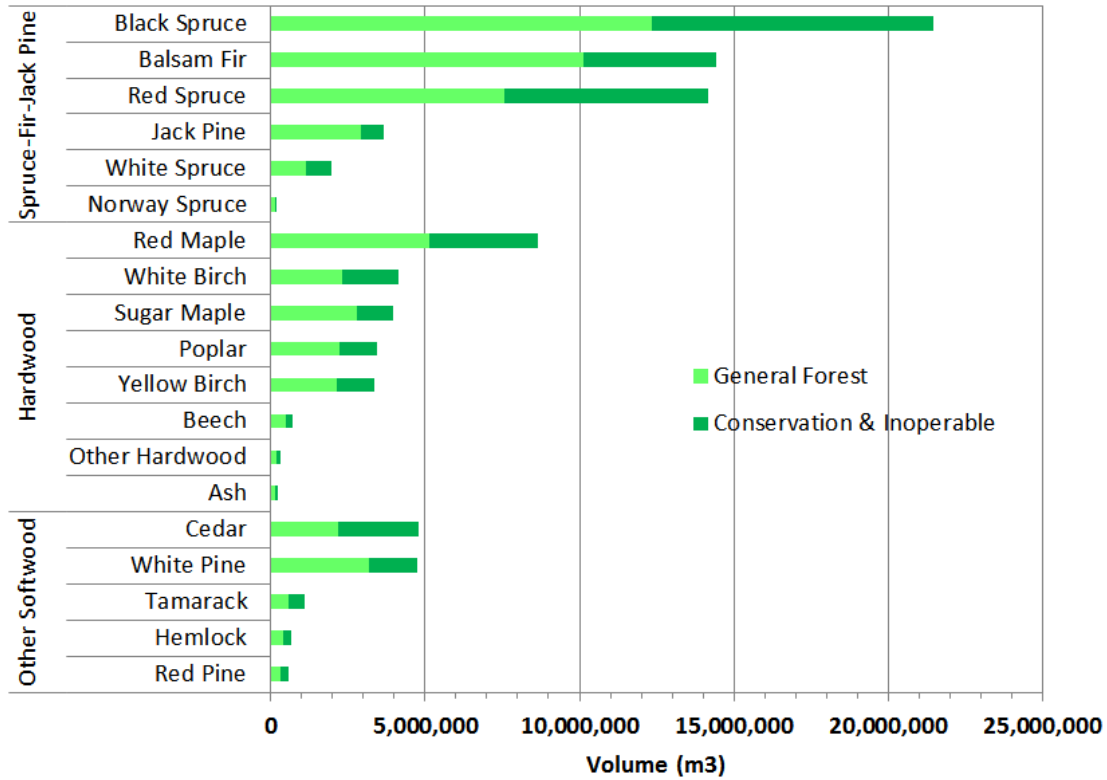


Figure 4: Development stage distribution on License 7.

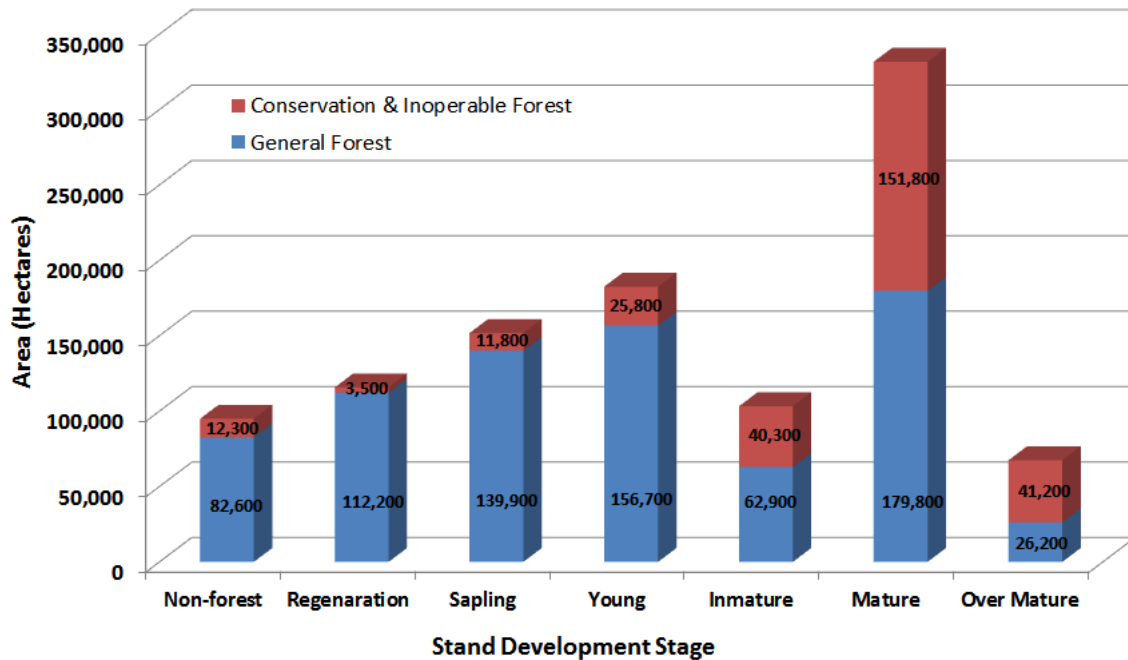


Figure 5: Net merchantable inventory by species group for License 7.

Harvest Prescriptions

The harvest prescriptions we utilize include:

1. **Even-aged Management:** prescriptions where the forest stand is managed as predominantly one or two age-classes. This grouping includes the regeneration systems of Final Harvest (clear-cutting or over-story removal) and shelter wood harvest, as well as intermediate treatments such as commercial thinning. The list of prescriptions under this grouping include:
 - Clear-cuts,
 - Over Story Removal,
 - Commercial Thinning, and
 - Shelter wood and Multiple Pass Harvesting.

2. **Uneven-aged management:** prescriptions where the area is managed to maintain multiple age classes with an objective to retain a forest canopy indefinitely. This grouping typically includes individual tree selection and riparian zone treatments. The array of prescriptions under this grouping includes:
 - Riparian – Selection Harvest:
 - Single Tree Selection:.

Silviculture Prescriptions

Intensive silviculture treatments provide a cost-effective means to increase both the short and long-term yield of desired timber products as well as meeting specific habitat objectives. The silviculture treatments that will be undertaken in this regard include

- Tree Planting,
- Pre-Commercial Thinning,
- Herbicide Release, and
- Planted Stand Cleaning.

License 7 Summary

The following summarizes the key results of the 2012-2022 Crown License 7 management plan:

Table 1. Summary of sustainable harvest volumes (m³/year) by zone and species group for License 7.

Zone and Prescription	Harvest Area	Spruce/Fir/Jp	Hardwood	White Pine	Cedar
	(ha/year)	(m ³ /yr)	(m ³ /yr)	(m ³ /yr)	(m ³ /yr)
Conservation & Inoperable Zones	1,600	47,000	13,000	5,000	1,000
Natural Non-CC (1st-Entry)	2,430	58,300	57,900	1,400	4,600
Natural Non-CC (2nd-Entry)	1,880	68,800	45,900	33,700	2,000
Natural CC	11,020	791,800	311,500	39,200	22,800
CT	1,560	64,200	7,200	3,000	-
CC Plantation	340	40,800	2,500	-	-
CC PCT	840	113,600	15,900	5,000	-
CC Jack Pine	410	50,900	2,500	-	-
CC CT1 (Jack Pine)	260	31,900	1,100	-	-
Total(s)	20,300	1,268,000	457,000	88,000	31,000

Table 2. Summary of Silviculture levels over time for Crown License 7.

Year of Plan	License Area (ha)	Harvest Volume (m ³ /yr)				Silviculture (ha/yr)	
		Spruce/Fir/Jp	Hardwood	White Pine	Cedar	Plant	PCT
2012	1,046,966	1,268,000	457,000	88,000	31,000	3,500	1,000
2007	1,049,917	897,000	473,000	78,410	25,560	5,185	3,610
2002	968,128	1,006,540	524,609	45,500	19,206	4,711	6,230
1997	972,059	922,000	388,000	47,600	19,800	3,605	6,295
1993	975,000	825,500	293,500	50,250	26,125	3,040	2,710

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