

Newfoundland and Labrador
Five Year Sustainable Forest Management Plan
Forest Management Zone 1
District 1

Effective Period - January 1, 2027, to December 31, 2031

Forestry and Wildlife Branch
Forest Ecosystem Management Division
Department of Forestry, Agriculture and Lands

Forest Management Zone 1 (District 1)

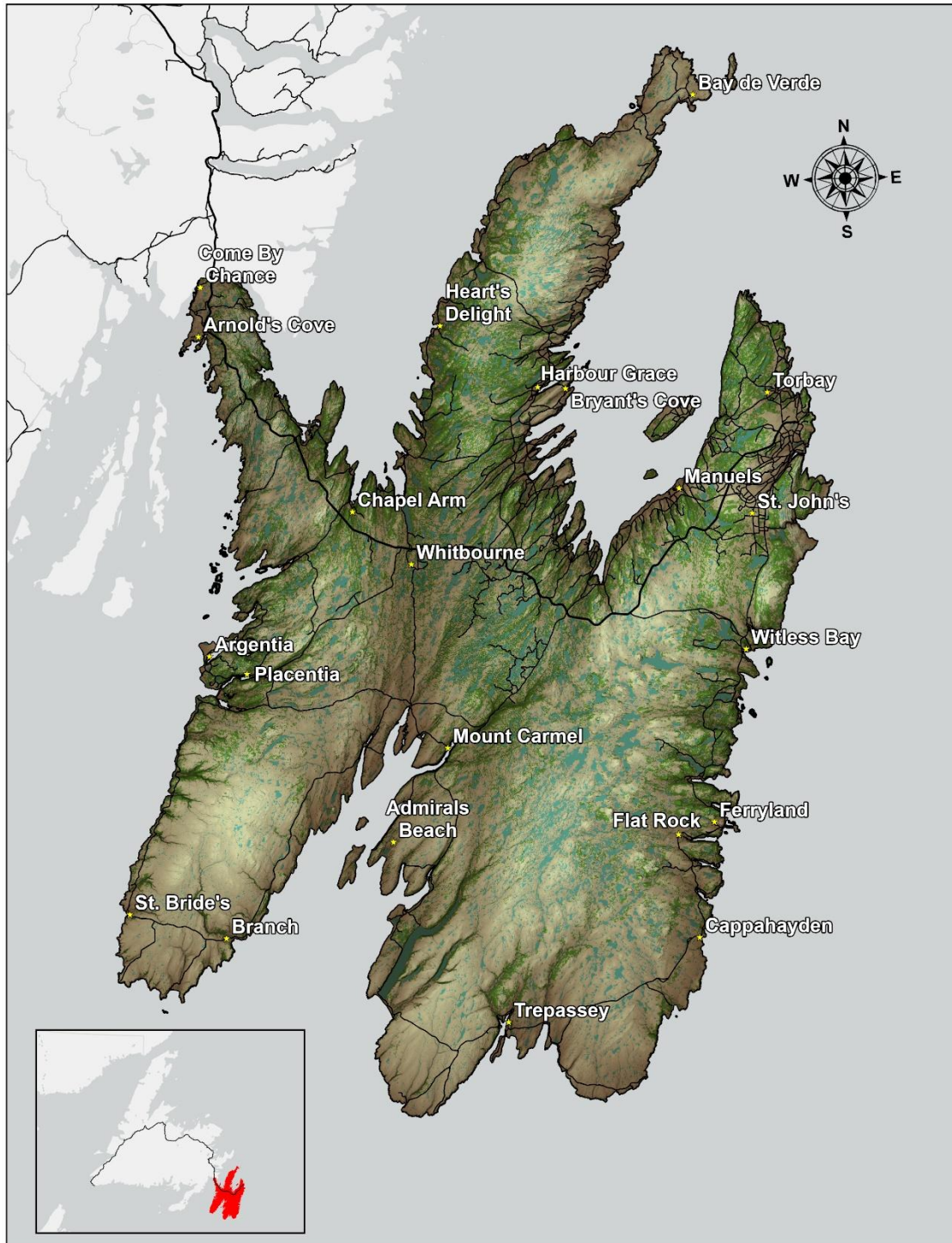


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INTRODUCTION

This Five-Year Operating Plan covers the period from January 1, 2027, to December 31, 2031. It outlines proposed forestry activities on Crown timber lands within Forest Management Zone 1 (Planning Zone 1).

Management of these lands follows the strategies and policies of the Department of Forestry, Agriculture and Lands applied across all Crown land management districts in the province. The plan fully complies with provincial planning requirements, environmental protection guidelines, and standard operating procedures established under the Department's Environmental Management System (EMS), which is registered to the ISO 14001:2015 standard. It also incorporates forest values, detailed forest characterization, ecosystem descriptions, and a dedicated section on forest carbon.

Within each planning zone, every tenure holder is required to prepare a five-year operating plan and submit it to the Forestry and Wildlife Branch and the Department of Environment for environmental assessment review. Forest Management Zone 1 is a large, remote area managed as a single planning zone, with the Crown as the sole forest tenure holder.

This document presents a comprehensive and integrated overview of Crown land management activities within the zone. Descriptive sections provide zone-wide information and relevant comparative statistics, maintaining a consistent, high-level perspective. The plan builds upon the strong foundation of previous Sustainable Forest Management (SFM) five-year plans, with information updated as required and new sections added when new data becomes available - consistent with the principles of adaptive management.

SECTION 1 DESCRIPTION OF THE LAND BASE

1.1 General Location

Planning Zone 1 encompasses the entire Forest Management District 1 and is essentially the Avalon Peninsula, east of Come by Chance. The surface area of the Avalon Peninsula is approximately 969,000 hectares.

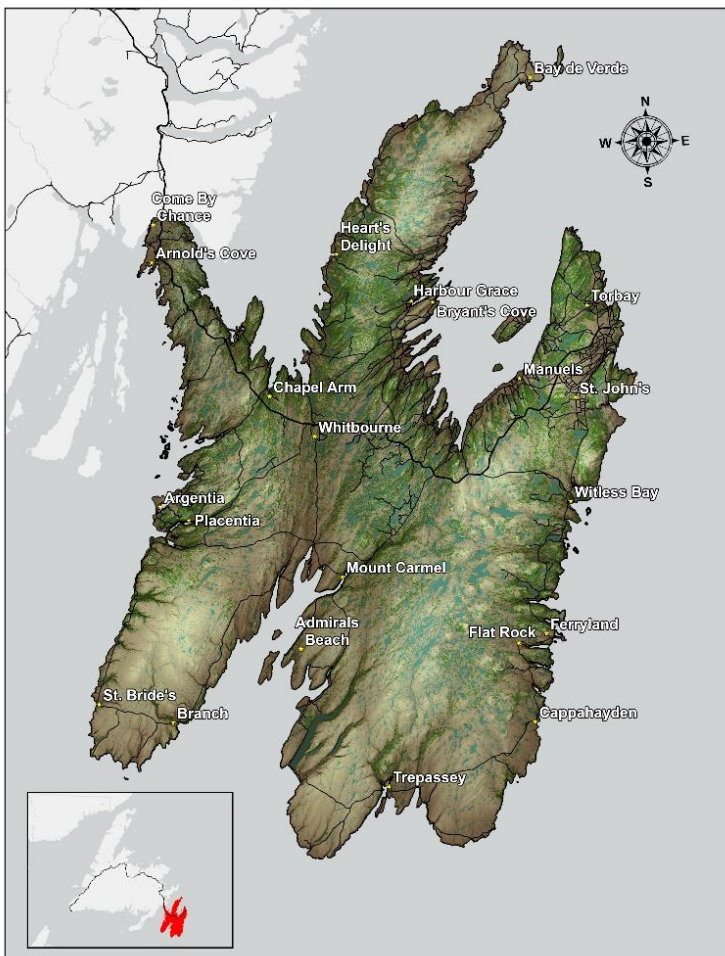


Figure 1: Location of Planning Zone 1

1.1.1 History

The Avalon Peninsula contains approximately half the human the province's population and records the most wildfires, human-animal conflicts, complaints on illegal activity and referrals for allocation of crown land. Within this zone, there has been a strong presence of both agricultural and Tourism sectors.

1.1.2 Ownership

The entire forest land area located in Planning Zone one is managed by the crown.

1.2 Physical

1.2.1 Topography and Hydrology

The Avalon Peninsula is commonly described physiographically as an area of rolling uplands interspersed with small plateaus. Uplands extending up to about 300 meters above sea level, and rarely over 400 meters above sea level, characterize the Bay de Verde, and St. John's Peninsulas, and the Cape Shore and southern Avalon areas. Plateaus between 100 and 150 meters above sea level are common in some parts of the Avalon Peninsula, particularly the southern Avalon. The largest area of lowland extends northward from St. Mary's Bay. Widespread bogs in many parts of the Avalon act as sponges to absorb heavy rainfall and moderate runoff. The evolution of peatlands on the Avalon has been influenced by the wet maritime climate.

1.2.2 Geology

The eastern Avalon Peninsula is underlain by a succession of late Precambrian volcanic and plutonic rocks that are exposed in an anticlinal dome, which extends southward from Conception Bay. These are the oldest rocks in the area. They are overlain on all sides by successively younger, marine, deltaic and fluvial sedimentary rocks. In the western Avalon

Peninsula, younger, late Precambrian volcanic rocks occur immediately below and within the fluvial sedimentary units.

1.2.3 Soils

Most of the existing soils on the Avalon Peninsula are derived from glacial and fluvioglacial deposits from the last glaciation.

1.2.4 Climate

The climate is typically maritime with temperature extremes moderated by the surrounding ocean. Mean summer temperatures are 12-14°C with winter temperatures averaging -4 °C. Precipitation ranges from 1100 to 1600 mm and is well distributed throughout the year. Potential evapotranspiration is 475 to 500 mm per year. Frost free days on the Avalon range from 100 to 160 per year, and the vegetative growing season (summation of degrees above 5 °C each day) is 900 to 1200 per year.

1.3 Ecological Characteristics

Planning Zone 1 is a forest ecosystem. A forest ecosystem, as the term implies, is an ecosystem dominated by tree cover. Like all forests in the province, Zone 1 is part of the Boreal forest ecosystem.

The tree species which characterize Zone 1 are typical of the Canadian boreal forest. Common boreal trees are black spruce, white spruce, balsam fir, eastern larch, trembling aspen, white birch, yellow birch, and jack pine. Jack pine is not native to the Island; all the other species commonly occur in the zone and in the province. The two dominant provincial species are black spruce and balsam fir; together they represent more than 90 percent of the provincial forest growing stock.

The breakdown of current forest inventory tree species is shown in table 1.

TABLE 1: ZONE 1 - FOREST INVENTORY SPECIES BREAKDOWN

Species	Total Hectares	Percentage of Productive Forest Land Cover
bS + wS	32,578	14.7%
bF	173,163	78.3%
wB+tA	776	0.4%
sH	12,878	5.8%
hS	1,861	0.8%
Total	221,255	100

1.3.1 Ecosystem Description

Damman 1979 defined ecoregions as areas where comparable vegetation and soil can be found on sites occupying similar topographic positions on the same parent material, provided that these sites have experienced a similar history of disturbance. Thus, an ecoregion cannot be defined in isolation from the physical landscape, but vegetation topo sequence, vegetation structure, floristic composition, and floristic distributions can provide the primary criteria. According to Damman, nine ecoregions are represented in Newfoundland and Labrador. Each of these is further divided into subregions (also known as ecodistricts). All the Newfoundland and Labrador ecoregions and subregions contain many of the same ecosystem variables. It is the dominance and variance of these variables (e.g., vegetation and climate) that determine their classification. The three ecoregions found on the Avalon Peninsula include: The Avalon Forest Ecoregion, The Maritime Barrens Ecoregion, and the Eastern Hyper-Oceanic Ecoregion.

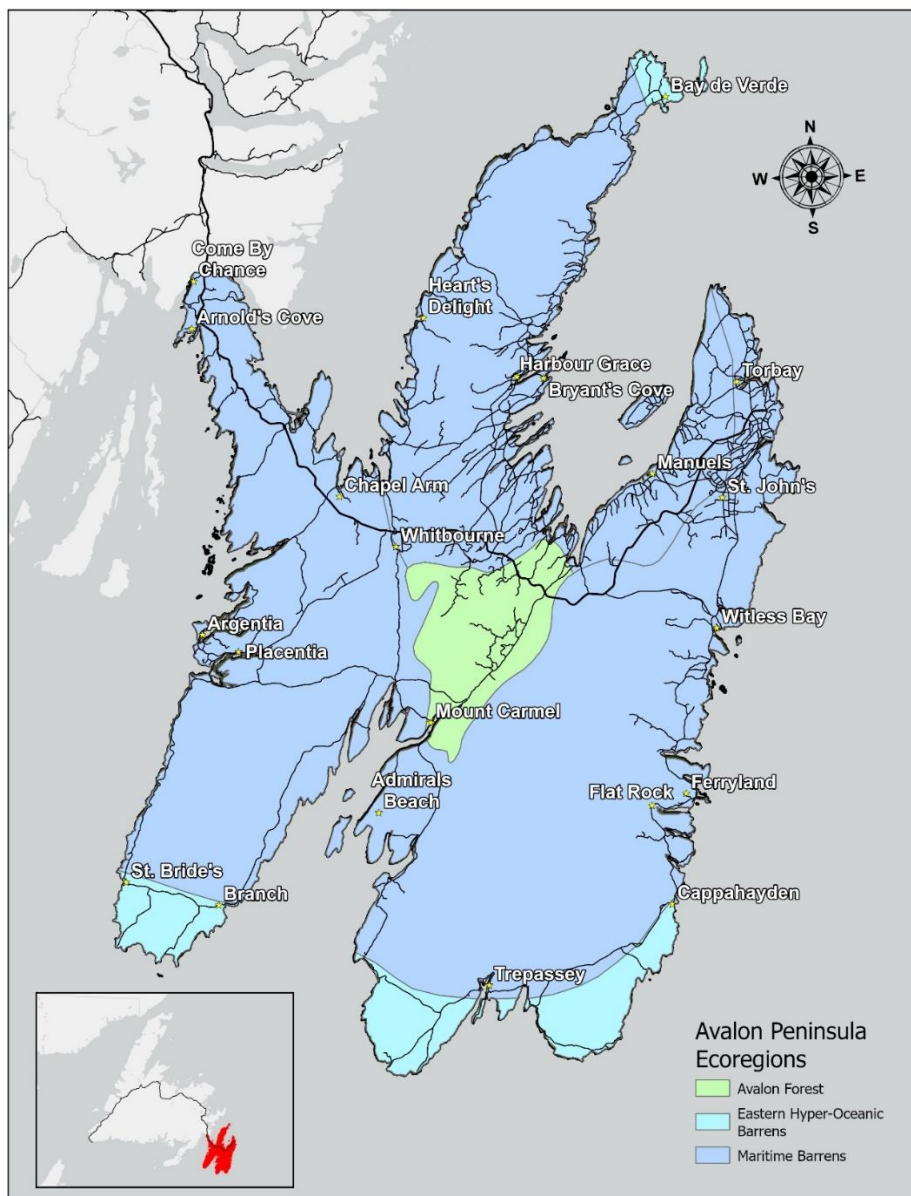


Figure 2: Ecoregions and Subregions of Planning Zone 1

1.3.1.1 Avalon Forest Ecoregion

The Avalon Forest Ecoregion represents a sheltered outlier within the more open and exposed Maritime Barrens Ecoregion. Pure stands of balsam fir with a significant mixture of white and yellow birch are the dominate tree species in this region. The excessively moist climate and ribbed moraine topography give this small ecoregion its uniqueness

1.3.1.2 Maritime Barrens Forest Ecoregion

The Maritime Barrens Ecoregion extends from the eastern Peninsulas westward through south-central Newfoundland and Labrador to Port-aux-Basques. The Maritime Barrens Ecoregion is characterized by cool, foggy and windy summers and relatively mild winters. Intermittent snow cover is common within the coastal portions of this ecoregion but increases accumulation and duration in the interior barrens. The landscape pattern is one of almost pure Balsam Fir interspersed throughout extensive open heathland. Productivity of the forest is better on long slopes which occur in infrequent valleys. The history of frequent wildfire occurrence in much of this ecoregion has had a considerable influence in the development of this largely heath-covered landscape.

1.3.1.3 Eastern Hyper-Oceanic Ecoregion

This ecoregion occurs on the extreme south coast of the Avalon and Burin Peninsulas and on the northeast coast near Bay de Verde and Cape Feels. Although this ecoregion is 200m or less in elevation, the extreme oceanic climate precludes the development of forests other than Balsam Fir Krummholz (commonly called tuckamore). The heaths in this area have a close affinity to oceanic parts of Northern Scotland and Southern Norway. Table 2 shows the relative breakdown of ecoregion area in Zone 1.

Table 2: Percentage of Ecoregions and Subregions in Planning Zone 1

	Total Area within Province (ha)	Percentage of Total Area within Zone 1 Forest Management District	
		1	Total
Avalon Forest			
<i>Avalon Forest</i>	55,275	100.0%	55,275
Eastern Hyper-Oceanic Barrens			
<i>Eastern Hyper-Oceanic Barrens</i>	160,335	42.4%	67,938
Maritime Barrens			
Northeastern Barrens Subregion	383,267	58.9%	225,652
Southeastern Barrens Subregion	989,162	61.5%	607,868

1.4 Ecosystem Dynamics

1.4.1 Ecosystem Condition and Productivity

Landscape patterns determine the variety, integrity, and interconnectedness of habitats within a region. These landscape patterns are a direct result of the relationship amongst physical landforms and soils, disturbance history, and relationships among various species that make up the ecosystem communities. These factors, while listed separately for clarity, are unavoidably interrelated. Landscape patterns play a pivotal role in determining the current conditions and health of forest ecosystems. These variables are evaluated in terms of productivity, stability, and resilience.

Another important role in determining the condition of a forest is change. Forests are an ever-evolving entity, resisting stagnation, and constantly moving through their cycles of life, death, and renewal. The process of change over time is the essence of nature itself. It has been nature's underlying storyline since time began and will continue to be until time ends. The main forces of change in our natural forest ecosystems are disturbance and succession. A definition of disturbance would indicate that it initiates a change in a community structure which often ends up in the replacement of one set of species by another. However, replacement is not always the result (e.g., a species like black spruce is aided in germination by disturbances like forest fire).

Disturbances range from the fall of a single tree to the destruction of thousands of hectares by forest fires. While disturbances may be very destructive, they can often rejuvenate ecosystems and diversify landscapes.

Succession involves changes in both community composition and in the ecosystem structure and process. Succession is the orderly change whereby the dominant species is replaced by another species, then another etc., until a new dominant species establishes a relatively stable community.

1.4.1.1 Productivity

Productivity is the accrual of matter and energy in biomass. In simple terms, primary productivity is the sum of all biomasses produced through photosynthesis. Secondary productivity occurs when this “primary” biomass is ingested and is added to that organism’s biomass. Since secondary productivity is directly dependent on primary productivity, it is this primary productivity component that drives the system. The level of primary production is dependent on the ability to produce biomass. This in turn is dependent on landscape features, soil, climate, etc. In general terms, the more productive (ability to grow trees) a site is, the higher level of primary productivity. For example, a forested stand would have a higher primary productivity than a bog, and a good site would have a higher potential than a poor site.

Overall, the landscape in Planning Zone One has approximately 24 percent productive forest. As well, the relative proportion of productive site types is 1.3 percent good, 69.1 percent medium and 29.6 percent poor with a mean annual increment (MAI) of 2.6, 1.6, and 0.9 m³/ha/yr respectively. The distribution of productive sites across the landscape and range of productivity within these sites is largely dependent on landscape patterns, climate, and soils.

1.4.1.2 Resilience

Ecosystem resilience reflects the ability of the ecosystem to absorb change and disturbance while maintaining the same productive capacity and the same relationships among populations. Healthy forest ecosystems maintain their resilience and adapt to periodic disturbances. The renewal of boreal forest ecosystems often depends on these disturbances. Resilience is characterized by the forest’s ability to stabilize vital soil processes and maintain succession whereby the system is returned to a community composition, and the productivity level is consistent with the ecosystems’ physical constraints following a disturbance. To a large degree, a forest ecosystem’s resilience is controlled by properties such as climate, parent soil, topography, and flora.

1.4.1.3 Stability

Nature is constantly changing and going through the unending processes of disturbance, growth, senescence, and decay. Therefore, the stability of a forest ecosystem does not refer to

one fixed position without variation. Ecosystem stability is more accurately defined as the maintenance of ecosystem changes within certain boundaries and the functional continuation of important potentials and processes such as energy capture.

There are three levels of stability: species stability, structural stability, and process stability. Species stability is the maintenance of viable populations or meta-populations of individual species. Structural stability is the stability of various aspects of ecosystem structure such as food web organization or species numbers. Process stability is the stability of processes such as primary productivity and nutrient cycling. To put stability in perspective, it must ensure that the system does not cross some threshold from which recovery to a former state is either impossible, (extinction) or occurs only after long periods of time or with outside inputs (e.g. loss of topsoil).

Some indicators of stability which can be monitored are areas of forest converted to non-forest use, area, percentage and representation of forest types in protected areas, percentage and extent of area by forest type and age class and change in distribution and abundance of various fauna. These indicators can be measured and monitored to ensure stability is maintained and to evaluate the impact, if any, of forest activities on ecosystem stability.

1.4.1.4 Disturbance Regimes and Successional Patterns

There are four main driving forces that cause disturbance in the boreal forest. Forest harvesting can be considered a major disturbance in the zone, occurring on a regular and consistent basis. Windthrow, Fire and Insect damage are the other three major disturbances and occur on a more irregular or cyclic basis. Apart from a major windstorm, windthrow usually occurs after a stand is weakened by some other agents like insects. For this reason, successional patterns after insect damage and windthrow will be discussed together. The following is a brief synopsis of successional patterns after each major disturbance type by forest type and site type.

1.4.1.4.1 Harvesting

Forest harvesting on the Avalon Peninsula is predominantly associated with domestic fuelwood cutting, which typically results in sites regenerating naturally through advanced balsam fir regeneration. Commercial harvesting remains small in scale and is conducted under careful

management. These sites are planted and managed to establish a mixed species composition of balsam fir, spruce, and birch where feasible, thereby maintaining forest diversity.

Given the limited extent of white birch stands across the Avalon, birch harvesting has been deliberately restricted through previous five-year plans and remains a low-priority activity that is not encouraged.

Harvesting white birch in this zone has traditionally been for firewood purposes. Evidence from domestic cutting in these types indicates that they will regenerate mixed wood types dominated by balsam fir and white birch.

1.4.1.4.2 Fire

Black spruce is a fire adapted species; therefore, it is not surprising that spruce is the most prolific regeneration species after fire across all forest types, site types and ecoregions within the zone. Black spruce regenerates as pure stands or in combination with white birch. Balsam fir is conspicuously absent after fire because most advanced regeneration in the under story is killed by the fire. Black spruce regeneration is somewhat correlated with the amount present in the pre-fire stand. Generally, the higher the component of black spruce in the original stand, the higher the percentage of regeneration to black spruce. In mixed wood stands a higher component of white birch and sometimes trembling aspen is present after fire. Fire disturbance in pure hardwood stands can create conditions that will be favorable to site regeneration to trembling aspen in certain areas. Regeneration failure after fire is on average 20 percent across all forest types and is higher as sites get poorer.

1.4.1.4.3 Insect

Balsam fir is highly susceptible to insect attacks from the hemlock looper, balsam woolly adelgid, balsam fir sawfly, and spruce budworm whereby black spruce is hardly impacted by these insects. For this reason, stands with a high component of balsam fir are more susceptible to insect attack and subsequent windthrown. Mature balsam fir types usually regenerate to balsam fir, or to balsam fir hardwood mixtures. Disturbance by insect defoliation in young balsam fir stands can cause succession to white spruce. Regeneration patterns in mixed wood usually depend on the type of mixture. If black spruce is a component, then it will persist and

form part of the new stand. Otherwise, balsam fir and balsam fir/hardwood mixtures regenerate after insect attack. Regeneration failure occurs approximately 20 percent of the time particularly if pure stands of immature balsam fir are killed.

1.4.2 Biodiversity

Biodiversity is a term used to describe the variety of life on earth. A basic definition of biodiversity includes the variety of animals, plants and microorganisms that exist on our planet, the genetic variety within these species, and the variety of ecosystems they inhabit.

While the boreal forest may not have the extent of biodiversity that some of the equatorial regions possess, Canada does have just over 70 000 species of plants, animals, and microorganisms in its boreal and other forest regions. While the boreal forest has less diversity of large plants than many other forest regions, it has greater biological diversity in some microorganisms. For example, the boreal forest has fewer tree species than the tropical rainforest but potentially up to 500 times as many mycorrhizal fungi. Despite the large number of organisms contained within the boreal forest, only a small amount are plants and vertebrates. The larger portion remains largely unrecorded and unstudied. As a result, we need to manage with caution so that species are not inadvertently extirpated.

Biodiversity provides such essential services for humans such as climate control, oxygen production, purification of freshwater supplies, carbon dioxide removal from the atmosphere, soil generation, and nutrient cycling.

The three components of biodiversity are species diversity, genetic diversity, and ecosystem diversity.

1.4.2.1 Species Diversity

Species diversity describes the overall range of species in each area or ecosystem. Species are groups of animals, plants, and microorganisms capable of producing fertile offspring. Species' extinction is the most dramatic and recognizable form of reduced biodiversity; habitat loss is the most drastic in terms of far-reaching effect. The prevention of species extinction is a key factor

in the conservation of biodiversity. Changes in species population levels indicate the potential for serious changes in ecosystem integrity.

1.4.2.2 Genetic Diversity

Genetic diversity describes the range of possible genetic characteristics found within and among different species. Hair and eye color, weight and height, are examples of genetic diversity found in humans. Genetic diversity within species is the foundation of all biodiversity. Assessing genetic diversity does not mean tracking every gene in the zone's forest. Responsible planning should design and implement measures which maintain or enhance viable populations of all forest vegetation species, and which use the genetic diversity of commercially important species to a maximum benefit. The genetic diversity of commercially important species can also be managed to increase economic benefit from some portions of the landscape while allowing other portions to provide greater social and ecological values. Genetic diversity is the basis by which populations (flora and fauna) can adapt to changing environmental conditions.

1.4.2.3 Ecosystem Diversity

Ecosystem diversity describes the range of natural systems found throughout a region, a country, a continent, or the planet. Wetlands and grasslands are examples of ecosystems in Canada. A complex and intricate mix of plants, animals, microorganisms and the soil, water, and air they occupy create virtually limitless ecosystems around the world.

A forest interspersed with barrens, marshes, lakes and ponds provides diversity across the landscape. Each ecoregion in the province should have representative areas protected which display the diversity where such exists. These areas can serve as a benchmark from which to measure and guide management decisions. These representative areas protect the integrity of the ecoregion and are vital for guiding management actions. As benchmark areas, they will illustrate the multi-species mosaic that planning actions must maintain.

1.5 Forest Characterization

1.5.1 Land Classification

Table 1 displays the land classification for Planning Zone 1. The total mapped land area in the zone is approximately 947607 hectares. There are four basic categories that currently represent how the land is classified: productive, nonproductive, non-forest, and a combination of wetland and fresh water.

TABLE 2: LAND CLASSIFICATION BY DISTRICT AND AREA FOR PLANNING ZONE

Land Class	Total
	FMD 1
<i>Rock Barren</i>	32418
<i>Soil Barren</i>	172571
<i>Bogs/Treed Bogs</i>	159101
<i>Cleared Land</i>	4886
<i>Agriculture Land</i>	6985
<i>Residential</i>	46090
<i>Right of Ways</i>	4687
<i>Miscellaneous</i>	1295
Total non-forested	428034
<i>Waterbodies</i>	88940
<i>Wet Bog</i>	20027
Total Wetland & Lakes	108967
<i>Non-Productive Softwood</i>	175539
<i>Non-Productive Hardwood</i>	10834
Total Non-Productive	186373
<i>Disturbed</i>	9557
<i>Age Class 1</i>	13825
<i>Age Class 2</i>	33815
<i>Age Class 3</i>	47195
<i>Age Class 4</i>	84017
<i>Age Class 5</i>	35294
<i>Age Class 6</i>	513
<i>Age Class 7</i>	17
Total Productive	224233

Figure 3 displays the relative percentages of each major land class category found in District 1.

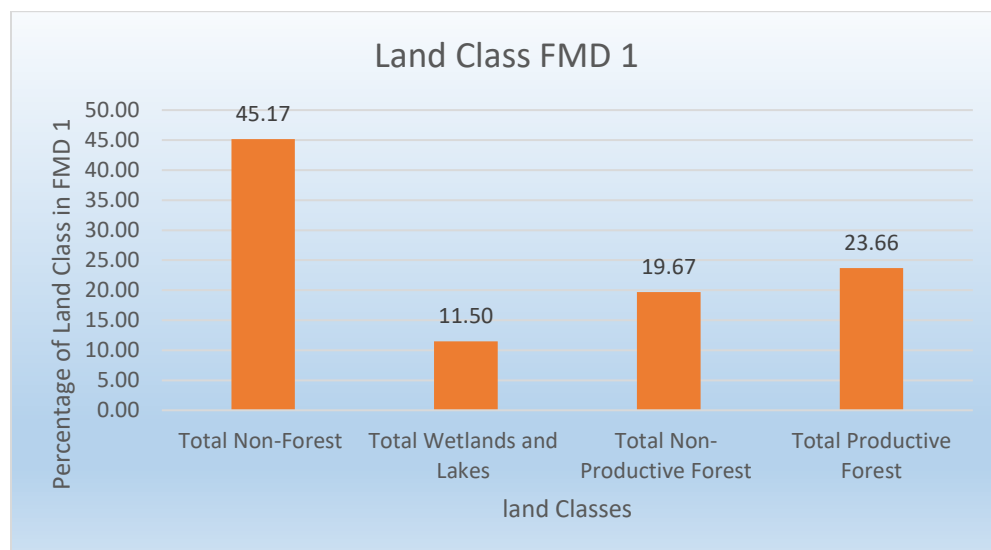


Figure 3: Land Class Breakdown for Zone 1

1.5.2 Age Class

Individual tree ages within any given stand have the potential to be the same after fire or planting. However, in most cases the ages vary. Foresters describe forest stand age in terms of age classes which generally encompass 20 years. The age classes present in the zone are described as regenerating (age class 1, 0-20 years), immature (age class 2, 21-40 years), semi-mature (age class 3, 41-60 years), mature (age class 4, 61-80 years), and over mature (age class 5, 81-100 years), (age class 6, 100-120 years), (age class 7, 120+ years). The age class distribution in each district for the entire productive forest is shown in Figures 5 and 6. In general terms, a continuous timber supply is limited by the lower age class. This means a more balanced age class distribution within a district would yield a greater opportunity for an even flow sustained yield of timber.

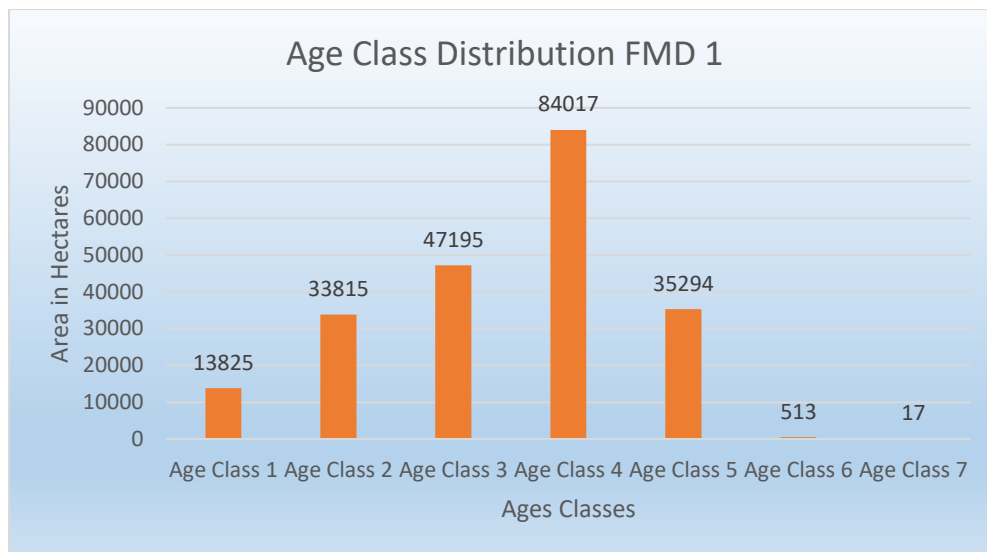


Figure 4: Age Class Distribution for District 1

1.5.3 Site Class

The productive forest in the zone is further sub-divided along a gradient of productivity ranging from poor to good site class. The site class is determined through air photo interpretation supplemented with field checks and is based primarily on the sites' ability to produce timber. Site capability is determined on several factors including soil fertility, moisture regime and geographic (slope) position. The distribution of area by site class for zone 1 is shown in Figure 5. On average, good sites can produce 2.6 m³/ha/yr, medium 1.7 m³/ha/yr, and poor 0.9 m³/ha/yr.

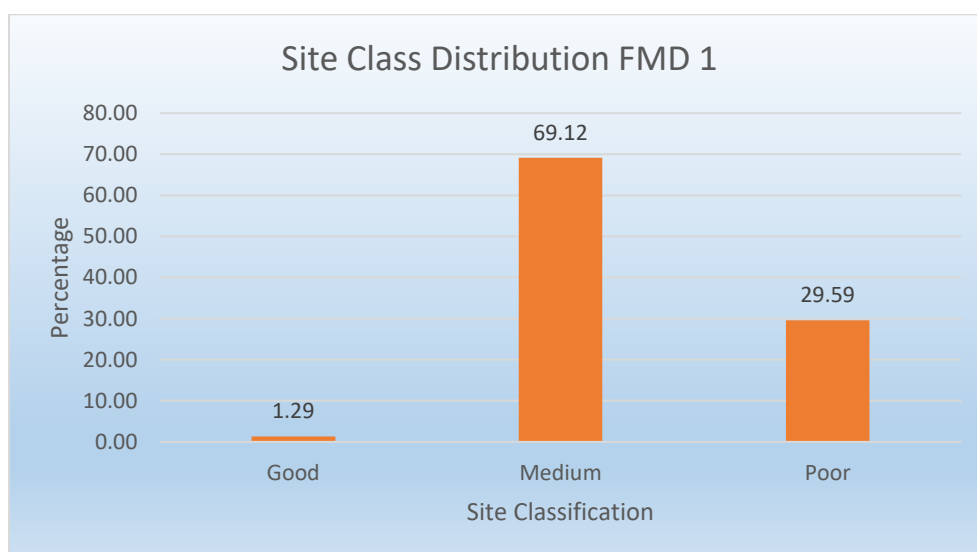


Figure 5: Site Class Breakdown for District 1

1.5.4 Species and Working Group

A Working group is a term used to describe the dominant tree species present in a forest stand. This species may occupy 100 percent of crown closure of a stand or may be present in association with other species. The working group designation describes the stand in general terms based on the prevalent species as opposed to species composition which specifically describes the relative proportion of each individual tree species that make up a stand. The Avalon naturally holds all tree species that occur in insular Newfoundland apart from red pine and black ash. The forests however are dominated by balsam fir, black spruce and white birch.

Figure 6 shows the Working Group Summary for zone1.

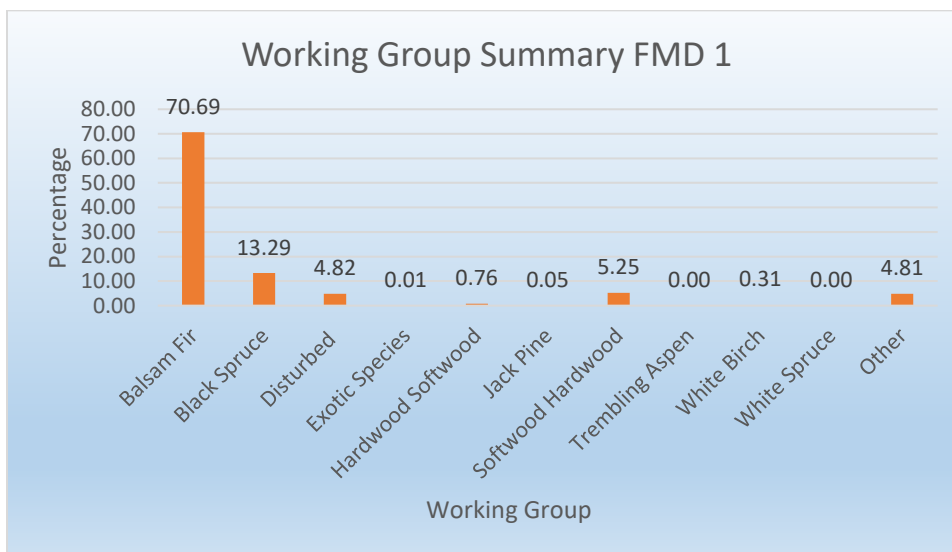


Figure 6: Working Group Breakdown for District 1

1.5.5 Forest Disturbances

Forest harvesting, fire, insects, and windthrow (blowdown) are considered forest disturbance types. However, within this zone, loss of productive forest land to competing land uses on both crown and private land is large enough to be considered a major disturbance.

SECTION 2 PAST ACTIVITIES

2.1 Forest Management Zone 1 / District 1

2.1.1 Harvesting

District 1 has a commercial and domestic AAC. The harvest for the last year of the active plan (2026) is estimated to be from the 2025 figure.

Harvesting commercial and domestic softwood was under the AAC

2.1.1.1 Commercial

The commercial harvest for 2022-2026 District 1 is shown in table 3.

Table 3: 2022-2026 Commercial Harvest District 1

District 01 Crown		Core			Operational (Available)			Non-AAC Wood	
		AAC	Commercial	Deviation	AAC	Commercial	Deviation	Operational	Regulatory
SWD	2022	19,500	4,459	15,041	200	0	200	1,040	
	2023	19,500	2,863	16,637	200	0	200	1,057	
	2024	19,500	3,983	15,517	200	0	200	3,036	
	2025	19,500	2,831	16,669	200	0	200	2,568	
	2026	19,500	2,831	16,669	200	0	200	2,568	
	Sub-Total	97,500	16,967	80,533	1,000	0	1,000	10,269	
		Core			Operational (Available)			Non-AAC Wood	
		AAC	Commercial	Deviation	AAC	Commercial	Deviation	Operational	Regulatory
HWD	2022	140	0	140	0	0	0	0	
	2023	140	41	99	0	0	0	0	
	2024	140	6	134	0	0	0	0	
	2025	140	1	139	0	0	0	0	
	2026	140	1	139	0	0	0	0	
	Sub-Total	700	49	651	0	0	0	0	
District Total		98,200	17,016	81,184	1,000	0	1,000	10,269	0

2.1.1.2 Domestic

The domestic harvest for 2022-2026 District 1 is shown in table 4.

Table 4: 2022-2026 Domestic Harvest District 1

District 01 Crown		Core			Operational (Available)			Non-AAC Wood	
		AAC	Domestic	Deviation	AAC	Domestic	Deviation	Operational	Regulatory
SWD	2022	116,000	46,816	69,184	200		200		
	2023	116,000	42,983	73,017	200		200		
	2024	116,000	35,645	80,355	200		200		
	2025	116,000	35,895	80,105	200		200		
	2026	116,000	35,895	80,105	200		200		
	Sub-Total	580,000	197,234	382,766	1,000	0	1,000		
		Core			Operational (Available)			Non-AAC Wood	
		AAC	Domestic	Deviation	AAC	Domestic	Deviation	Operational	Regulatory
HWD	2022	1,200	0	1,200	0				
	2023	1,200	0	1,200	0				
	2024	1,200	0	1,200	0				
	2025	1,200	0	1,200	0				
	2026	1,200	0	1,200	0				
	Sub-Total	6,000	0	6,000	0				
District Total		586,000	197,234	388,766	1,000	0	1,000	0	0

2.1.2 Silviculture

Table 5 summarizes the completed silviculture treatments in Zone 1 for the period 2022–2026. (Silviculture levels for 2026 were estimated from the 2025 levels.)

Table 5: 2022-2026 Silviculture Treatments District 1

Treatment Type	Area (ha)	
	Proposed	Treated
Pre-Commerical Thinning	112	87
Site Preparation (raking)	5.2	0
Planting	54.13	54.13
Commercial Thinning	0	0
Prescribed Burning	0	0
Plantation Maintenance	396	103.9

2.1.3 Road Construction

Tables 6 summarizes forest access road construction in the zone for the period 2022-2026 (Road construction levels for 2026 were estimated from the 2025 levels.)

Table 6: 2022-2026 Road Construction District 1

Construction Type	Proposed (km)	Constructed (km)
New Construction	14.9	5.3
Re-Construction	28.1	17.9
Grading	78	13.7
Total	57.2	33.9
Bridges	4	4

2.1.4 Natural Disturbance

2.1.4.1 Fire

TABLE 7: 2022–2026 DISTRICT 1 WILDFIRE

Year	District	Number of Fires	Area Burnt (ha)
2022	1	25	101
2023	1	22	80
2024	1	15	5
2025	1	109	10,988
2026	1	21	62
Total		192	11,236

The total wildfire area for the first 4 years (2022-2025) of the previous 5-year plan period was available at the development of this plan. The frequency and total area of wildfire for 2025 may be an unusual event. However, given recent years in Canada, this may also indicate an increasing and alarming trend. The estimated wildfire frequency and area used for 2026 was the average for the 2022-2024 period.

The 5-year plan period is a small window in the life of a forest and further discussion on wildfire frequency and area impacted is covered in Section 8 of this plan.

2.1.4.2 Insect

The province actively participated in Phase II and Phase III of the Early Intervention Strategy to prevent the spread of Eastern Spruce Budworm populations since 2017. In the early years, the of Phase II of EIS the province concentrated its efforts on increasing survey efforts and increasing plot distribution on the province West Coast of the Island of Newfoundland or what is commonly referred to as the leading edge of the ‘outbreak’. Commencing in 2020 while coinciding with the beginning of the COVID-19 pandemic, the province began treating forested

areas along the leading edge on the Great Northern Peninsula. While the province was successful in developing safe work practices to treat forested during the pandemic other areas in Atlantic Canada did not treat that year. During this summer, the province treated 32,063 hectares of forested land with an insecticide and at the same time witnessed the largest dispersal event from Atlantic Canada. Areas that had just received treatment received many immigrant moth populations from Atlantic Canada increasing local populations. Spruce Budworm female moths from Atlantic Canada laid half of their egg complement in Atlantic Canada and lifted off to infest new areas and weather patterns were ideal for long range transport female spruce budworm moths. Canadian Forestry Scientists tracked the dispersal of spruce female moths to the west coast of Newfoundland where the female spruce budworm moths laid the remaining half their egg compliment in Newfoundland and Labrador. From the period of 2020 to 2025 the province treated 593,056 hectares with one or more application of insecticide.

SECTION 3 TIMBER SUPPLY ANALYSIS

3.1 Introduction

The province conducts a review of timber supply every five years to reflect any changes in forest land base, growth rates, and management strategies. This schedule is consistent with the Forestry Act, with oversight by forest management districts, and mandates a wood supply analysis to be completed every five years. The result of this analysis is the establishment of annual allowable cuts (AAC's) for each forest management district. These AAC's are defined as the maximum annual rate at which timber can be harvested at a sustainable level in the future (applicable for a period of 160 years). Annual allowable cuts must be calculated on a district basis, and the cumulative sum would provide the total island's annual allowable harvest level.

With improvements in computer modeling and GIS data management, a new wood supply was developed for the districts in Zone 1 for the period 2027-2031 in 2026. This updated analysis aligns the timber supply analysis to the new Five-year planning period and is consistent with SFM strategies.

3.2 Guiding Principles and Policy Direction

1. The key underlying principles guiding the provincial wood supply analysis are:
2. The AAC must be sustainable.
3. The level of uncertainty associated with the AAC must be minimized by using empirical information wherever possible.
4. There must be conformity between information and assumptions used in the analysis and actions and decisions taken on the ground.
5. The analysis must be consistent with other forest values and objectives; and
6. The timber supply calculation must consider economic factors, not solely the physical supply of timber.

In addition to the establishment of sustainable timber harvest levels, the legislation also requires that forest harvesting does not exceed the total five-year plan established by AAC's. It is government's policy to optimize forest industry opportunities from sustainable fiber supply.

It is still unavoidable that the AAC's will change in each succeeding five-year period. There is a downward trend as competing development occurs. The loss of productive forest land has a 1:1 effect on the AAC. Improvements in silviculture methods and tree improvement can offset some of the effects of land base loss.

3.3 Factors Affecting Timber Supply

The forests of Newfoundland and Labrador are variable in terms of age distribution. Typically, there are significant amounts of mature/over-mature forests and regenerating forests and limited intermediate aged forests. This imbalance is not unusual in a boreal forest where large areas experience natural cyclic disturbances. Wind and harvesting are disturbances that occur in overmature and mature sites. Insect infestation commonly occurs on overmature sites; however, it can spread into mature stands. Fire commonly occurs on overmature sites as well; however, when conditions are dry, it can extend into all age classes.

This imbalanced age class structure of intermediate age forest within insular Newfoundland and Labrador is one of the most important factors influencing AAC's and is therefore the basis for many of the department's forest management strategies. Essentially, the department uses a

matrix of management techniques designed to minimize the imbalance in age structure. These techniques range from an aggressive forest protection program (insect control and fire suppression), forest harvesting programs that try to exclusively target harvesting the oldest stands first, and pre-commercial thinning of the regenerating forest so that it becomes merchantable and ready for harvest at an earlier age.

Another important aspect of the province's forest that poses a challenge to forest managers is the natural fragmentation of forest resources. The province's landscape is carved by wetlands, ponds, bogs, rivers, streams, and rock outcrops resulting in relatively small pockets of timber scattered across the landscape. These conditions are very challenging when finding the economic availability of timber supply.

The most important factor affecting present and future AAC's is the land base. The land base available for forest activity is constantly being reduced due to other land use requirements. There is an approximate correlation between AAC and land base in that a one percent loss of land base is a one percent drop in AAC. Therefore, it is very important that we continue to find methods to minimize the loss of the productive land base and expand efforts to increase volume in the existing land base.

Reduction of the forest land base is unavoidable. There will be loss for agriculture, urban areas, other development needs, loss of land base for the protection of riparian areas (buffers), and for other values.

The entire province of Newfoundland and Labrador lies within the Boreal Forest Ecosystem. Professional foresters are trained specialists in forest ecosystem management and are guided by the Canada Council of Forest Ministers (CCFM) SFM criteria and indicators. Foresters use adaptive management techniques to carry out the goal of SFM.

The establishment of fixed width buffers and unmanaged areas reduces the land base and without professional oversight may also increase risk. Overmature forest areas created in buffers are subject to increased windthrow and fuel loads, resulting in increased wildland fires, fire intensity, and release of stored carbon.

3.4 Timber Supply Analysis

The timber supply analysis is structured to find sustainable timber availability, while respecting social, economic, and environmental objectives. Timber supply, in this context, refers to the rate at which timber is made available for harvesting on a sustainable basis. This analysis results in an Annual Allowable Cut (AAC) estimate.

The determination of supply (represented as AAC's) involves the use of computer models to forecast the sustainability of possible AAC levels. These models require three basic inputs as described below:

1. Description of the current state of the forest (forest characterization and availability),
2. Growth rates associated with the current forest, and
3. Management strategies applied to the forest.

These basic inputs require careful and detailed consideration of a broad range of both timber and non-timber values. The following topics in this section are considered when determining sustainable timber supply.

3.4.1 Forest Characterization

To realize the current description of the forest resource (referred to as forest stock), the province has invested significant resources into creating and maintaining a Provincial Forest Inventory. The forest inventory program is designed to ensure the estimate of forest stock is current and accurate, while other regular programs employed by the department also evaluate:

1. Natural and man-made disturbances (fire, insects and harvesting)
2. Enhancement activities (tree planting and pre-commercial thinning)
3. The delineated stands within the forest inventory are updated to reflect any yield changes.

The Provincial Forest Inventory holds a vast wealth of information related to the provincial forested and non-forested land base, including wetlands, streams, lakes, and non-commercial vegetation. Such information aids in the management of other landscape values such as wildlife habitat assessment, carbon sequestration, and overall forest health.

3.4.2 Land Availability

Through regular timber supply analysis, the Forest Inventory is updated and classified at the stand level based on harvest potential. This classification system consists of six broad land classes that are manually defined by foresters based upon the ground knowledge of the forest management districts:

1. Core - available for harvest under normal operating conditions.
2. Operational – adverse conditions for forest harvesting, making that land base more expensive and less available under current economic conditions. However, an AAC is still calculated in the event of improved economic conditions, making the area more feasible for commercial operations.
3. Domestic – Land base set aside from commercial operations for harvest by domestic wood harvesters as a source of firewood and logs.
4. XLB (excluded land base) – unavailable for forest harvesting. No AAC is calculated on this land base, which incorporates a broad range of timber and non-timber values.
5. SNCF – Areas of noncommercial softwood or hardwood scrub that aren't economical for harvest. These areas don't contribute to AAC calculations.
6. WBLB (water buffer land base) – Areas excluded from harvest within a standard 30m no harvest water buffer.

3.4.2.1 Non-Timber Related

Implementation of non-timber values within the productive forest has a direct impact on provincial AAC's. As the amount of productive forested landbase available for timber management declines, so will the AAC.

Forested Land in Zone 1 consists of 44% of the area total in the Zone, however the entire commercial capable, or productive, forest land base in Zone 1 only consists of 24% of the total area in the zone. The productive forest landbase is constantly being reduced due to competing land use requirements for agriculture and other urban and industrial uses. Most land use changes occur on the forest land base.

The low (24%) productive forest land base is also dispersed and naturally fragmented. The spatial location of harvestable forest area is comprised of small groups of merchantable size

timber separated by younger timber, lakes, and wetlands.

Foresters need to manage as much of the available productive forest land base as possible to be economically viable.

3.4.2.1.1 No-Cut Buffer Zones

The Department has implemented guidelines requiring all water bodies (on 1:50,000 topographic maps) to be given a minimum 30-meter unharvested buffer, measured from the shoreline, or from each stream bank. In addition to the streams found on 1:50,000 scale topographic maps, all streams found in the field are evaluated based upon the Environmental Protection Guidelines for Forestry Operations in Newfoundland and Labrador and may also receive a 30-meter unharvested buffer.

District Ecosystem Managers, in consultation with interested stakeholders, may increase buffer zone widths to protect special values such as salmon spawning areas, cabin development areas, aesthetic areas, wildlife habitat, outfitting camps, etc.

There are no options for management of these zones that allow for any harvesting levels. The establishment of buffer zones is critical for water protection; however, it results in a further loss of productive forest land base in the zone.

3.4.2.1.2 Pine Marten and Caribou Habitat

Wildlife Habitat specialists are working in consultation with industry to ensure future adequate habitat remains available for wildlife species such as pine marten and caribou. Analysis of the land base continues with examining the quantity and quality of habitat, as well as the required connectivity. Wildlife specialists also examine how this arrangement of habitat would change over time. Forest management strategies take into consideration the results and recommendations of the Wildlife Habitat Specialists.

3.4.2.1.3 Protected Areas

All established and proposed protected areas approved within the Natural Areas Systems Plan (NASP) are removed from potential harvest considerations and the AAC calculations.

3.4.2.2 Timber Related

The potential AAC within a Forest Management District is also further impacted by considering other potential losses of land base or timber as indicated below:

3.4.2.2.1 Insect/Fire/Disease Losses

The department reduces AAC's account for anticipated future losses resulting from insects, disease and fire using historical information.

3.4.2.2.2 Logging Losses

Surveys of harvested areas conducted throughout the province are used to determine the quantity and quality of fiber remaining after harvest. The estimate of remaining fibre is the logging loss. The percentage estimate from these surveys is used to reduce the AAC.

3.4.2.2.3 Operational Constraints

Areas that are inaccessible (surrounded by bogs or hills), timber on steep slopes, and selected low volume stands are removed from the Core AAC calculation. Also, significant adjustments are applied to the provincial forest inventory for stands deemed operable in timber analysis but left unharvested within operating areas. The reasons for this are linked to the character of Newfoundland's forests, low volume, steep slopes, rough terrain, and excessively wet ground conditions, etc.

All these timber and non-timber related issues are applied directly in the AAC calculation to ensure harvest levels do not exceed the sustainable level. With the introduction of new values and the broader application of current values, negative pressure on future AAC's will continue to increase.

3.4.3 Growth Forecasting

A key requirement for forecasting future wood supply is an understanding of how forest stands grow and develop over time. That is, as a forest stand develops, how much merchantable (i.e. harvestable) volume does it carry at any given point? These yield forecasts (referred to as yield curves) are required for each type of forest stand (called a stratum) comprising the forest. In Newfoundland, there are dozens of distinct forest strata for which separate yield curves are required. These are defined by the tree species in question (e.g., balsam fir, black spruce), the site quality (e.g., good, medium, poor), the geographic region (e.g., the Northern Peninsula, Western Newfoundland), and other factors likely to affect yield.

Yield curves are a key element in wood supply analysis. In fact, the validity, or “usefulness”, of the wood supply analysis is determined by the truth, or “correctness”, of the yield forecasts. While there is no way of predicting with one hundred percent certainty how stands will grow in the future, care must be taken to ensure that the yield projections are realistic and reasonable. Respecting the sensitivity and importance of these forecasts, the department has directed a large portion of its resources and time into developing accurate yield curves. A growth model was used to project stand development under natural and managed (i.e., silviculturally enhanced) conditions. Tree and stand development data generated from the department's forest inventory program permanent sample plots and temporary sample plots were used to make stand growth predictions. These projections were then evaluated against empirical data from recent temporary point sample data measured throughout the island. If the projections varied from the empirical evidence, the curves were adjusted to make them more accurate where supporting data was available.

In this analysis, yield curves were developed on an ecoregion basis. Also, special yield curve sets were developed for defined geographic areas with demonstrated uniqueness. These include areas where chronic insect activity is ongoing and areas that have unique growth characteristics.

3.4.4 Management Strategies

With the current state of the forest described and the yield forecasts developed, the next step was to design a management strategy for each sector of the forest. The key objective was to

maximize long term AAC while at the same time considering other forest values. This involved developing strategies that minimize fiber losses and enhance forest sustainability.

3.4.4.1 Harvest Flow Constraints

An even-flow harvest constraint strategy is utilized in wood supply analysis. This strategy produces the maximum even flow harvest but results in less than optimum economic use of the forest resource. Conversely, if this strategy was not applied, harvest levels are permitted to fluctuate, which may result in increased commercial potential of the forest at specific intervals. However, applying the even-flow constraint provides stability within the forest industry.

3.4.4.2 Spatial Analysis

The provincial wood supply analysis implements a technique of computer-generated block generation followed by manual harvest block scheduling. The blocking software (Stanley) uses rules such as adjacency and minimum block size to create initial harvest block areas. All the operational restrictions within a forest management district cannot be input into the Stanley optimizer. Professional forest managers utilize training, experience, and local knowledge to modify the Stanley output. District staff can identify specific ground conditions that restrict commercial harvesting, which are then incorporated into a spatial harvest schedule. The proposed harvest schedule is then vetted back through the modeling software to ensure sustainable and non-timber objectives are met. In most cases, this process must go through several cycles before an acceptable harvest schedule can be implemented. The spatial arrangement of areas for timber harvesting is especially challenging in this province because of the natural fragmentation of our forests. This model provided forest planners with the ability to mimic realistic timber harvest schedules based on current practices and to identify other forest stands that are not as accessible for harvesting, without incurring higher costs to access these blocks. The process allows the plan to be realistic, and the harvest levels to be economically attainable.

Spatial harvest scheduling has several major benefits. First, it fosters the long-term sustainability of our AAC's by mimicking current harvest practices and accounting for actual on the ground conditions that delay or restrict the harvesting of stands. Historically, even with the

use of computers, spatial restrictions were largely unaccounted for. Spatial schedules have made our AAC's genuinely sustainable. Secondly, the mapped harvest schedules build credibility into the forest management process.

Having the ability to visualize the timber that will be harvested in the future helps reassure the resource is being used in a responsible manner. Next, harvest scheduling helps integrate the management of other forest resource values into timber management planning. Specific forest values can be directly related to forest areas, which can be mapped, and potential issues can be addressed. Finally, the harvest schedule maps developed for the wood supply analysis can be a starting point for a 5-year operational planning process. Worthy to note is that harvest scheduling is completed for Core land base only. Operable AAC, for the most part, is considered opportunistic if economic conditions become favorable.

3.4.4.3 Planning Horizons

Given the province's commitment to long term sustainability of our forest resource, timber supplies are projected 160 years (equivalent to two forest rotations) into the future to ensure actions and strategies applied today will result in a sustainable forest in the future. Long term planning is fundamental in timber supply forecasting.

3.4.4.4 Operable Growing Stock Buffer

The province imposed an operable growing stock constraint in the analysis to ensure the sustainability of calculated timber supplies. This constraint imposes a condition that in any period there must be a minimum operable growing stock of two times the harvest level on the landscape. The requirement for a growing stock buffer is based on several factors including:

1. Some of the non-timber objectives are not explicitly accounted for in the planning process and therefore will require a growing stock buffer to achieve them.
2. The ability to completely incorporate the optimum harvest schedule due to operational restrictions on commercial harvesting.
3. Lowers the overall risk associated with the sustainability of the timber supply.

3.4.4.5 Old Forest Targets

Within the wood supply analysis, the department considers a target for old forests, where at least 15 percent of forests at any given time must be older than 80 years. This is a minimum target; actual results are usually higher. This initiative was designed to provide a coarse filter approach to maintaining representative forest structure. It ensures the presence of certain amounts of old forests across the landscape in the future and can be tracked across a district.

3.4.4.6 Operability Limits

Operability limits are the timeframe in which forest harvesting activity can be undertaken within specific forest stands. Stand growth development (merchantable timber volume) and individual piece size of trees are factors which determine a stands readiness for commercial harvest activity. To meet management objectives and maximize the total volume of wood harvested, the Woodstock model schedules harvests inside the operability limit window defined as the period between the minimum harvest age and the maximum harvest age. Stands younger than the minimum harvest age will have small trees that are uneconomical to harvest yet and stands older than the maximum harvest age may have begun to break apart and have lost enough volume that they too are no longer economical to harvest. Operability limits vary for different species types, growing on different site qualities and when growing at different tree densities.

The operability limits for stands within Zone 1 are defined below:

District	Treatment	Species	Site	Density	Min	Max
FMD 1	Natural	Balsam Fir	Good,Medium	D1,D2,D3	60	120
		Balsam Fir	Poor	D1,D2,D3	70	100
		Black Spruce	Good,Medium	D1,D2	60	150
		Black Spruce	Good	D3	60	140
		Black Spruce	Medium	D3	60	120
		Black Spruce	Poor	D1	70	150
		Black Spruce	Poor	D2,D3	70	140
		Softwood/Hardwood	Good,Medium	D1,D2	60	120
		Softwood/Hardwood	Good,Medium	D3	60	100
		Softwood/Hardwood	Poor	D1,D2	70	100
		Softwood/Hardwood	Poor	D3	70	100
		Hardwood/Softwood	Good,Medium	D1,D2,D3	60	120
		Hardwood/Softwood	Poor	D1,D2,D3	70	120
		White Spruce	Good,Medium	D1,D2	60	150
		White Spruce	Good,Medium	D3	60	140
		White Spruce	Poor	D1	70	150
		White Spruce	Poor	D2,D3	70	130
		White Birch	Good,Medium,Poor	D1,D2,D3	60	120
		Trembling Aspen	Good,Medium,Poor	D1,D2,D3	60	120
	Managed	All Plantations	Good	N/A	40	60
		All Plantations	Medium	N/A	50	70
		All Plantations	Poor	N/A	60	80
		Balsam Fir PCT	Good	N/A	40	60
		Balsam Fir PCT	Medium	N/A	50	70
		Balsam Fir PCT	Poor	N/A	60	80
		Black Spruce PCT	Good	N/A	40	60
		Black Spruce PCT	Medium	N/A	50	70
		Black Spruce PCT	Poor	N/A	60	110
		Softwood/Hardwood PCT	Good	N/A	40	150
		Softwood/Hardwood PCT	Medium	N/A	50	150
		Softwood/Hardwood PCT	Poor	N/A	60	110

Figure 7: Operability Limits

3.4.4.7 Silviculture

Silviculture is one of the main forest management tools available to forest managers when analyzing the many different future forests that are generated using wood supply modelling software. The silvicultural action used in the current wood supply analysis included planting of any areas that do not regenerate naturally with either black or white spruce.

Levels used in the Woodstock Model are Shown in Figure 8 below.

ZONE	DISTRICT	Tenure	2026 Silviculture Levels ha/10yr		
			Black Spruce Plant	White Spruce _Plant	PCT
1	1	Crown	500	500	250

FIGURE 8: LEVELS OF SILVICULTURE INPUT INTO WOODSTOCK

3.5 Inventory Adjustments

The current wood supply model does not incorporate stochastic events that result in tree mortality. Natural disturbances such as wildland fire, blowdown, insects, and disease are considered in addition to timber utilization of both harvested and non-harvested stands. This loss estimate is called inventory adjustment. This adjustment accounts for the difference between the actual harvest volume measured versus the predicted gross merchantable volume (GMV) in relation to sustainable AAC's.

3.5.1 Fire

An estimate of productive area loss because of fire was based on an analysis of the historical fire statistics maintained by the department of forestry.

3.5.2 Insects

An aerial mortality survey was completed in areas with historically high insect infestations. This information along with a GIS analysis of areas salvaged enabled the department to determine the area of productive forest lost to insect mortality each year.

3.5.3 Timber Utilization

Information for this adjustment was derived from a series of intensive on-the-ground surveys which measured the amount of wood remaining on cutovers following harvesting. This wood was comprised of solid merchantable wood (logging losses) and wood with inherent cull (butt and heart rot). Surveys were conducted province wide and, on all tenures, where the information is analyzed by harvesting system and season.

3.5.4 Stand Remnants

Following harvesting operations, small fragments of stands often are left for a variety of reasons (operational constraints, low volume stands, terrain conditions). Leaving stand remnants often result in lower volumes achieved than predicted by computer models. Surveys were conducted across the province, and the results were analyzed to determine the productive area attributed to remnants.

The inventory adjustment used for Forest Management District 1 was 20%.

3.6 Results

The commercial and domestic AAC for Forest Management Zone 1 for the period 2027-2031 is shown in Table 8.

Table 8: Commercial and Domestic Annual Allowable Cut Zone 1 2027-2031

	Annual Allowable Cut Volume (m ³)					
	Core Softwood	Operationally Constrained Softwood	Domestic Softwood	Core Hardwood	Operationally Constrained Hardwood	Domestic Hardwood
DISTRICT 1	19,500	260	91,500	400	0	810

SECTION 4 CARBON ANALYSIS

4.1 Carbon in Our Forests

Forests remove carbon from the atmosphere in the form of carbon dioxide (CO₂). Through photosynthesis, carbon is extracted from CO₂ to form glucose and other organic compounds which fuel the tree's biological processes and form structural biomolecules that constitute the tree's biomass. The process of removing CO₂ from the atmosphere and transforming it into a usable form is called carbon sequestration, while the incorporation and retention of the sequestered carbon within the trees' biomass is called carbon storage. The carbon remains stored in the trees until the tree dies and decays, is naturally disturbed, or the wood is harvested. The post-disturbance landscape carbon dynamics differ depending on the type of disturbance.

The main driver of forest carbon dynamics is the age class structure of the forest, resulting from the forest's disturbance history. Both carbon sequestration and storage are low in young forests as their photosynthetic capacity is limited from their smaller leaf area and lack of biomass accumulated to this point. Middle-aged stands excel at carbon sequestration as this stage of succession undergoes rapid growth rates and biomass accumulation, requiring higher photosynthetic rates than at any other stage in development. By now, carbon storage has improved from the accumulation of biomass but is still progressing. Mature forests are necessary for carbon storage since they have the largest accumulated biomass that locks in the carbon they have sequestered throughout their lifetime. However, mature forests experience reduced growth rates and stand break-up through senescence, so carbon sequestration is limited to maintenance of existing biomass rather than producing new tissue. For these reasons, a balanced to right-skewed age class structure is optimal for maximizing the long-term carbon storage potential of a forest.

4.1.1 Modelling Forest Carbon

A tree's biomass is closely related to its volume, which is a function of its height and DBH, with variability due to differences in wood densities across species. To convert the gross merchantable volumes from our wood supply models into stand-level carbon estimates, we integrated species-

specific allometric biomass expansion factors (Boudewyn et al., 2007) into the model. It is an accepted assumption in the forest carbon field that carbon comprises half of a tree's dry biomass and applying this assumption allowed us to track carbon storage over the entire planning horizon. Stands without an assigned merchantable volume (i.e., commercial stands less than or equal to 10 years old or non-commercial forest stands) use area-based coefficients (Boudewyn et al., 2007) instead of the previously described volume-based expansion factors.

4.1.2 Carbon Management Scenarios

The distinction between managed and unmanaged landbase is crucial in explaining carbon dynamics. The managed landbase, which includes the core, operational, and domestic areas, allows for harvesting and silviculture interventions to actively shape the forest in alignment with the goals and values of the forest management plan. The excluded landbase, water buffers, and non-commercial forest defines the unmanaged forest, and this landbase does not differ between forest management scenarios for a given forest management district (FMD). Forest growth within unmanaged areas follows a natural forest succession regime since unmanaged forest areas are not created or destroyed in the model, and no harvest or silviculture intervention can be scheduled in those areas. Non-commercial forest stands (scrub) are assigned an age of 120 years old and are not represented in the age class distribution graphs, but the carbon storage from these areas is included in the "unmanaged forest" trendline in the aboveground carbon graphs for each district.

To evaluate the impacts of various forest management strategies on carbon storage, four distinct scenarios were assessed using the carbon model. The first scenario (S1) is a management option in which no harvesting or silviculture intervention can occur. This scenario demonstrates the natural range of variation of carbon stocks in the managed forest when forest succession is undisturbed. However, this scenario also introduces the most risk to the forest for wildfires and insect outbreaks through fuel loading. The second scenario (S2) is the maximized carbon storage scenario which demonstrates the highest attainable carbon storage on the landscape within the bounds of all wood supply constraints. Planting levels, harvest deferrals, and all other constraints on harvesting are present, but with an objective to maximize the amount of carbon that exists on the landscape. The optimization model uses harvesting and silviculture to maximize the carbon storage potential of the landbase. The third management scenario (S3) is an unconstrained scenario, meaning there are no limitations on harvesting or silviculture for the entire 160-year planning horizon. This scenario demonstrates the absolute maximum carbon storage potential of

the landscape but is not operationally realistic. The fourth scenario (S4) represents the harvest scenario used to generate harvest schedules that assisted District Managers in developing their five-year commercial operating areas (COA). This final scenario (S4) is important for contrasting the effects of the proposed harvesting regime on the district's carbon stocks and how the carbon dynamics compare to the three reference scenarios (S1, S2, and S3).

4.1.3 Carbon Analysis – District 1

FMD 1 currently stores a total of 12.30 megatons (Mt) of carbon in aboveground biomass (i.e., stem wood, bark, branches, and foliage). The managed forest (125,653 ha) stores 5.50 Mt of this carbon, while the unmanaged forest (285,940 ha) stores 6.80 Mt. Middle-aged stands dominate the age class structure of FMD 1. As such, a strong cyclic pattern is observed in the natural range of variation (S1) initially increasing carbon stocks as these stands mature into older ages classes, die, and regenerate throughout the planning horizon (Figure 9). The maximized carbon scenario (S2) dampens the natural variation through strategic harvesting and subsequent silviculture efforts early in the planning horizon. This trend is amplified in S3 where harvesting and planting levels are unconstrained. After mid-age classes reach their maximum yields, S3 applies extensive harvesting with silviculture intervention, causing an early drop in carbon followed by a strong rebound that exceeds the natural range later in the planning horizon. With harvest volume as the primary objective, S4 maximizes harvest levels immediately, stabilizing carbon stocks within the mid-range of the natural variation observed in S1.

The initial age class distributions of the managed and unmanaged landbase in FMD 1 are very similar, resulting in nearly identical carbon stock trajectories as forest succession proceeds undisturbed in both areas in S1. However, of the 285,940 ha of unmanaged forest, 186,362 ha is classified as scrub. Since scrub is assigned a fixed age of 120 years old, it is excluded from the age distribution graph but included in the carbon stock estimates. Consequently, the area of unmanaged landbase appears smaller across age classes but displays higher total carbon stocks than the managed landbase.

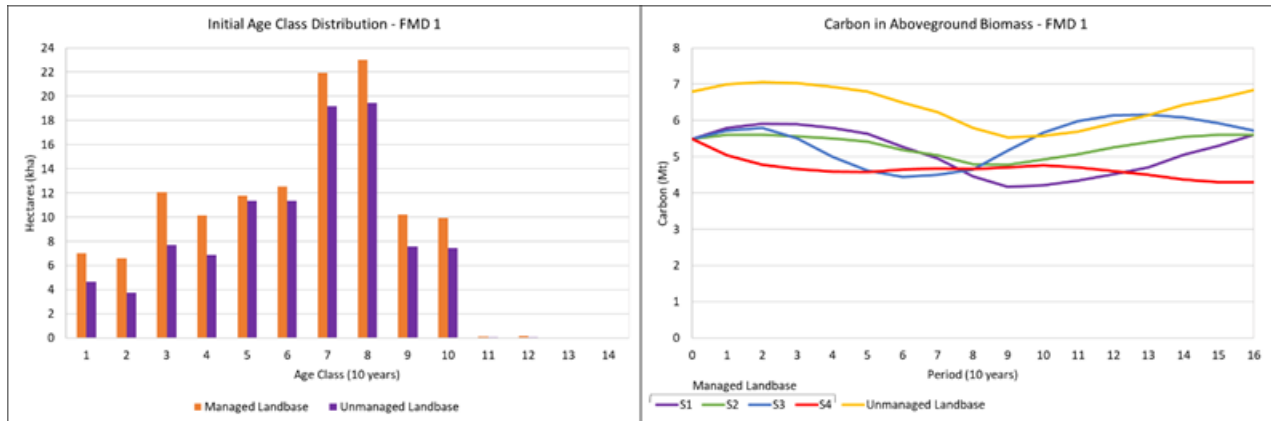


FIGURE 9: AGE CLASS DISTRIBUTION AND ABOVE GROUND BIOMASS

4.1.4 Carbon Transferred to Harvested Wood Products Under Scenario 4

Industrial roundwood products (i.e., sawlogs, stud wood, pulpwood, and energy wood) continue to retain carbon in its biochemical structure after stands have been harvested. The following graph (Figure 10) displays the relative proportion of carbon transferred to each raw material as a result of harvesting under S4, totaling approximately 214 kilotonnes (kt) of carbon in each period. Intuitively, the carbon transferred in the harvest products follows the same even-flow pattern that the harvesting is confined to in S4. Despite this relationship, the relative product proportions vary between periods as a result of differences in the age distribution of the stands being harvested.

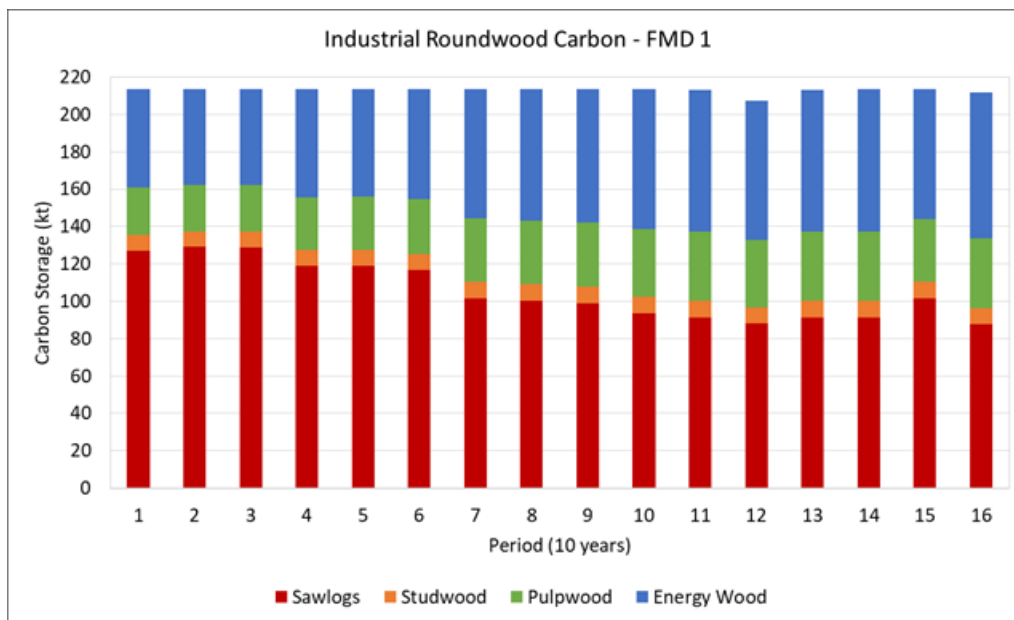


FIGURE 10: INDUSTRIAL ROUNDWOOD CARBON

SECTION 5 VALUES

5.1 Guiding Principles of Sustainability

Environmental, Economic, Political, Social, and Cultural are considered the five guiding principles of sustainability.

Environmental sustainability evaluates current and future ecosystem health. It ensures that the needs of the present are obtained without compromising the ability of future generations' needs. Ecosystem health is determined by such factors as ecosystem integrity, biodiversity, productive capacity, and resiliency. The five-year operating plan strives to ensure these factors are maintained.

Economic sustainability requires forest resources to be managed efficiently and equitably among stakeholders. Economic development remains a high priority for many of the residents within the province. However, economic development should only proceed with the incorporation of the other principles of sustainability.

Political sustainability refers to goals and management objectives being applicable, administrable, and practical. With the aid of public input and support, these goals and objectives must maintain these qualities in the future.

Social sustainability means fairness and equality to all interested stakeholders. The forest management strategy should not jeopardize the basic requirements of the public. As a result, public involvement, awareness, participation, and decision-making are considered necessary for the development of proper forest management plans.

Cultural sustainability is attained by applying Newfoundland and Labrador's culture to the planning process. A forest management strategy cannot be successful without allowances within the strategy for traditional access and use of the land. For generations, the public of Newfoundland and Labrador have had free range in our pristine wilderness, a fact that cannot

be ignored when planning for the zone. All are key interlocking components, and each must be maintained if sustainable development is to be properly achieved.

5.2 Value Structure

The forest ecosystems of the zone provide a wide range of values to different individuals and groups, which include:

1. Consumptive values such as timber products, hunting, trapping, sport fishing, and berry picking.
2. Non-Consumptive values such as skiing, snowmobiling, hiking, and bird watching.
3. Intrinsic and intangible values such as a feeling of wilderness and peace which some people describe as spiritual. Although difficult to spatially describe or quantitatively measure, spiritual values are a product or an accumulation of all values.

Other values such as water quality, parks, and protected areas provide the protection of forest ecosystems, which can enhance the above-identified values. Many of the values in the zone are identified by many years of forest management planning and engagement with interested stakeholders.

The following represents a framework for characterizing values in a clear and consistent manner. This approach consists of three components:

A. Characterization

- Description: Why the value is important, types of activities, intensity, spatial extent, employment, etc.
- Data in support: Statistical references.

B. Critical Elements

- Forest Features: Elements at risk from harvesting or enhanced by harvesting (viewscales, adjacent to water, mountains, habitat, wilderness ambiance, road access, etc.)

C. Guiding Principles

A guiding principle can be defined as a fixed or predetermined policy or mode of action. These 'modes of action' would be implemented in the five-year plan in the form of:

1. Policies that should be in place to protect or enhance resource value.
2. Methods for negotiation or inclusion of other interested stakeholders in resolving potential conflicts.
3. Special management provisions/strategies such as riparian buffer zone consideration, temporal operating periods, modified harvesting, or best management practices,
4. Models and/or forecasting strategies to determine economic contribution, biodiversity impact, or community sustainability

In many instances, the Environmental Protection Guidelines (EPG's) developed by the department help form the guiding principles for a value. Quite often the spatial extent or location of all values is not known (e.g., raptor nests). Specific guidelines are still listed to provide a direction or course of action when and if these values are encountered.

5.2.1 Biotic Values

5.2.1.1 Big Game

Big game species in Planning Zone 1 consist of three species Moose, Caribou, and Black Bear.

5.2.1.1.1 Moose

Characterization:

Moose are not native to the island. A pair was introduced to Gander Bay in 1878, and two pairs were introduced to Howley in 1904 (Northcott, 1980). Today, moose are distributed throughout the island, and the population is estimated to be about 125,000 - 140,000.

Currently, moose are managed on an area/quota system in the province. The island is divided into management areas, and license quotas are set annually for each area. Moose quotas are established for moose management objectives for each area. Generally, if an area has too high a moose population, managers will increase quotas to bring down the population to prevent damage to the habitat. However, if the habitat is in good condition, and the area could support more animals, future quotas may be increased.

Approximately 100,000 residents actively participate in the annual moose license application process. If successful, it provides an opportunity to hunt, to take part in an outdoor fall activity, to be part of an important social event and to provide local food.

Non-resident harvest is conducted through outfitting establishments, employing guides, cooks, maintenance people, pilots, etc. Other businesses benefiting from the non-resident outfitting industry include local stores, accommodations and restaurants, outdoor stores, aviation companies, etc.

The moose is also important for non-consumptive activities. Intrinsic value is added to hiking, cycling, camping, paddling, sightseeing, etc., when there is a chance to view megafauna such as moose. The tourism industry relies on this intrinsic value to promote many of the activities offered.

Critical Elements:

Moose select different habitats at different times of the year and therefore require a mixed forest landscape year-round: a mixture of closed, mature stands for cover, shelter and winter moose yards; early-seral stages (due to disturbances such as insects, fires and logging) with a high amount of young regenerating areas for browsing; and aquatic foraging areas in the summer.

Forest Harvesting - recently harvested large scale areas can be low quality moose habitat as forage and cover are removed. 5+ year old cutovers tend to have enough regeneration to support a slow return of moose to the area. Regenerating cutovers provide excellent foraging opportunity until trees become too tall for moose to reach.

Forest roads – Access roads provide hunters access into areas previously free from vehicle traffic. Removal of access, in areas of new forest regeneration, may allow moose densities to increase beyond sustainable levels.

Forest harvesting is not expected to have a negative impact on moose populations in this zone because moose prefer the early seral stages of a forest and generally do well in areas after harvesting.

Guiding Principals

Proposed forestry activity is reviewed by the staff by the Wildlife Division, and recommendations are incorporated into this five-year plan.

5.2.1.1.2 Caribou

Characterization:

Caribou in Canada occur in two primary ecotypes: Barren-ground caribou and Woodland caribou, often referred to as boreal caribou. The Woodland ecotype inhabits mosaics of barren, wetlands, and mature forests. The herds on the island of Newfoundland belong to the Woodland ecotype. Caribou are cyclic by nature mainly due to being density-dependent; meaning restricted by food and/or space, as well as regulated by predators such as wolves and, in recent periods, coyotes. Hunting levels are managed.

Caribou is the only native ungulate species on the island (Northcott, 1980). Numbers are anecdotal at best for the 1800's (ranged from 40,000 to 200,000). Prior to the railway's completion in 1897, there was a healthy population on the island. By 1925 hunting was closed

as the island population was down to a few thousand caribou and by 1930 the population had declined to about 2,000 animals (Murphy and Minty 1993).

From the 1960's through the 1990's the caribou population recovered, peaking at over 90,000 in the 1990's. In late 1990's caribou started another downward trend and in a 2014 assessment the population was just over 32,000 animals. The 2019 population estimates were 30,600 animals and the latest available data from 2021 was 27,115.

In the past few years, populations have declined, with this Forest Management Planning Zone being no exception. Zone 1 (Avalon) Caribo are currently closed to hunting.

Critical Elements:

Caribou populations have been and continue to be studied. Information has been developed to restrict forest harvesting around calving zones during the calving season. It has also been hypothesized that forest road construction may have negative impact resulting from improved access into remote areas, which increases the probability of roadkill and poaching.

Caribou display a highly mobile nature, and some herds occupy large home ranges. Caribou shows a high selection habitat for bogs and mature coniferous forests, as well as shrubs and water bodies. These habitats provide refuge from predation and support an abundance of forage.

Caribou avoid disturbed areas large cutovers, linear features, and fragmentation. Any habitat destruction will have direct impacts such as increased mortality. Reduced recruitment rates are likely to be with habitat loss and with any improved access for humans as well as predators.

Guiding Principles:

Caribou populations are monitored and assessed on a regular basis via:

- o Annual fall classification surveys: provide regular updates to sex ratios and recruitment within each herd. This work feeds into herd level assessments and quota evaluation/development.

- o Collar deployment: analysis of caribou movements, mortality rates and range occupation

This supports the development and assessment of Caribou Management Guidelines for forest management planning. New iterations of these guidelines may incorporate maximum targets for disturbance and linear features (e.g., forest roads) as well as no net losses within certain caribou core ranges. The guiding principles for forestry operations and road construction will apply to all crown operations within the province. Wildlife Division will provide specific caribou herd guidance and recommendations.

5.2.1.1.3 Black Bear

Characterization:

The black bear is native to the island and is found in forested areas. Black bears are solitary creatures and do not truly hibernate but enter a state of lethargic sleep. A den is chosen in mid fall under tree stumps or logs which are lined with grass, twigs and leaves. If reproducing females gained enough body fat, they will give birth between January and February before emerging from the den with the cub(s) in April or May. Currently, the number of black bears occurring on the island has been estimated at approximately 6,000 - 10,000 animals.

The province is divided into Black Bear Management Areas (BMA), which correspond to MMAs (except for sub-areas). Currently, only one license (with a bag limit at two black bears) is required by hunters on the Island to hunt for black bears in both the spring and fall.

Critical Elements:

Heavily wooded areas with dense bush intercepted with smaller clearings or early successional seral stages represent suitable habitat for black bears.

Guiding Principles:

A 50-metre undisturbed buffer must be maintained around known bear den sites (winter) or those encountered during harvesting.

5.2.1.2 Furbearers

Characterization:

There are a variety of furbearers within the province: lynx, red fox, beaver, otter, muskrat, short-tailed weasel, red squirrel, mink, coyote, wolf (Labrador) and Newfoundland marten (currently listed as a Species at Risk). Of these, mink and red squirrel are not native to the Island and coyotes are considered recent colonizers as they expanded their range naturally.

Furbearer populations fluctuate from year to year and are influenced by factors such as predator/prey relationships, food supply, and disease. Trapping pressure, driven due to fur market prices, can also influence population growth or decline.

Trapping furbearers for their fur, meat and other natural products has a long tradition in this Province. Today's trapping is a choice of lifestyle, most times deeply rooted in the family and local culture, providing food, clothing and money as well as an enduring connection and experience with nature. Approx. 2,500 people in the province trap and snare furbearers.

Management of furbearer species within the province is highly regulated and the responsibility of the Wildlife Division. There are 13 furbearer management zones throughout Newfoundland and Labrador. Within these zones, harvest activities for each species occur during optimum periods for fur quality, which is generally during the fall and winter period. However, furbearer seasons may vary for each different species.

Critical Elements:

Embedded in conservation of furbearers is the conservation of biodiversity and the ecological processes that support that biodiversity. Furbearers depend on other species, lynx on snowshoe hares, marten on mice and beaver on deciduous trees. Each species belongs to a diverse community that depends on specific habitat conditions. Habitats change from one forest's successional stage to another and are therefore inextricably linked to forest management. (Fur Institute of Canada, 2019).

Species respond differently to logging operations or Silviculture treatments (i.e. thinning, prescribed burns). Hare and grouse increase with logging, which is advantageous to lynx, coyote and fox. The wolf depends on caribou and moose, and beaver. Snags, coarse woody debris, and sufficient understory provide sites for shelter, denning, nesting, traveling, etc. Maintaining sufficient undisturbed riparian buffer zones along aquatic areas such as wetlands and waterbodies ensures water quality maintenance as well as shelter from upland disturbances. A mix of various forest conditions and successional stages that provide diversity of habitats supports a diversity of prey and thus a diversity of furbearers.

Guiding Principles:

The Wildlife Division manages the trapping of furbearers. The Hunting and Trapping Guide published annually on the provincial government website provides information on furbearer trapping / snaring and relevant information on furbearer zones.

5.2.1.3 Species of Interest

5.2.1.3.1 Endangered Species

Characterization:

At present there are 31 species listed under the Endangered Species Act Regulations as endangered, 20 listed as threatened and 24 listed as vulnerable. In District 1, only 6 species on the list are of consideration in this five-year operating plan, Rusty Blackbird (Vulnerable), Olive Sided Flycatcher (Vulnerable), Short Eared Owl (Threatened), Grey Cheeked Thrush (Threatened), Boreal Felt Lichen (Vulnerable), Blue Felt Lichen (Vulnerable), and Graceful Felt Lichen (Endangered).

Critical Elements:

Quarrying, road construction, logging, all-terrain vehicle traffic, and wildland fire also pose a potential threat.

Guiding Principles:

Department personnel training and public awareness on the locations and importance of endangered species. Identify and update all applicable habitat sites on a GIS database, work with the Wildlife Division to develop mitigative measures.

5.2.1.3.2 Rare Plants

Characterization

The distribution of specific species as well as plant communities depends on regional and landscape-level factors, such as climate, geology, altitude and terrain as well as more local factors, such as the depth, moisture regime and fertility of the soil, microclimate and other biota, such as presence of herbivores, pathogens or pollinators. Information on the distribution of plant species in Newfoundland and Labrador is obtained from various surveys initiated by government, research institutions, individual naturalists, and local organizations, as well as those by consulting firms required through Environmental Assessment processes.

Four of the endangered plant species are not found anywhere in the world outside of the Gulf of St. Lawrence Region, and three of them, the Fernald's Braya, Long's Braya and Barrens willow, are only found on the Island of Newfoundland. There are many species of plants, lichen and fungi throughout the province that are not rare or endangered but still have an important social or economic value. Many of these species also play important roles in the functioning of the province's ecosystems. The vast majority of the rare plant species throughout Newfoundland are inhabitants of open habitats, such as river gravels, salt marshes, wetlands, aquatic habitats, alpine areas and coastal barrens, which are not targeted by commercial forest operations and in some cases receive special protection.

Critical Elements:

A small subset of the plant and lichen species of conservation concern, such as the Endangered Graceful Felt Lichen, depends on forests, and some of them are specialists requiring late-successional forests. Without proper protection measures, negative effects can occur from:

1. quarrying and road construction
2. logging and extraction using heavy equipment
3. mechanical site preparation

4. all-terrain vehicle traffic
5. prescribed burning
6. stand conversion to different tree species and/or earlier seral stages

Guiding Principles:

Work with the Wildlife Division to educate forestry personnel and develop mitigative measures in areas where rare plants occur and identify and update all rare plant sites on GIS forestry database. Encourage domestic harvesting in the winter. The guiding principles for protection during forestry operations will apply to all crown operations within the province.

5.2.1.3.3 Waterfowl

Characterization:

Maintaining waterfowl populations depends on effective conservation efforts throughout North America. Newfoundland and Labrador most productive waterfowl breeding and staging areas are either owned by or are under management control of major corporations, private or communities. To help manage waterfowl areas, stewardship agreements are signed at either the municipal, corporate, or private levels.

Critical Elements:

Habitat maintenance and breeding disturbance of waterfowl during the brood rearing, breeding, and staging

Guiding Principles:

Habitat, a 30-metre riparian buffer is standard for forest operations, a 50-metre riparian buffer will be established around designated sensitive waterfowl areas. No forestry activities are recommended during the brood rearing, breeding, and staging periods.

The guiding principles for Habitat and Breeding during forestry operations will apply to all crown operations within the province.

5.2.1.3.4 Other Species

There are other species currently listed as endangered. Any recommendations on modified forestry activities, if any, for those species will be developed with input from all members and implemented accordingly. Following SFM adaptive management processes.

5.2.1.4 Water Resources

Characterization:

The protection of water resources is an important topic both nationally and provincially. While much of the current focus is directed towards drinking water, it is also recognized that equal importance must be attached to water which has other beneficial uses. Human impacts both locally and globally have the potential to impair water for future uses. Recreational uses of water within this zone are used for activities such as fishing and boating and as a water supply source for numerous cabin owners. Human activity on the land has the potential to alter water quality and water quantity. Commercial forest harvesting is one of the predominant activities occurring throughout the zone. Mining operations within the zone in the form of mineral exploration, mining operations and small quarrying operations associated with road construction.

Critical Elements:

Forest management activities such as road construction and maintenance, timber harvesting, and Silviculture have the potential to alter the quality of water draining from watersheds. Impacts could include stream hydrology, sediment loadings, and stream characteristics. Careless storage and handling of fuels by industrial and recreational users, stream diversions, and agricultural operations are other examples.

Guiding Principles:

There are numerous protective measures listed in the Department of Forestry's Environmental Protection Guidelines under the broad categories of road construction, stream crossings, road abandonment, fuel oil handling and storage, support services and structures, harvesting, silviculture, and protected water supply areas.

5.2.2 Human Values

5.2.2.1 Timber Resource

Characterization:

Commercial logging contractors have a relatively small annual allowable cut level in the zone. Commercial harvesting and sawmilling activity provide jobs in harvesting, sawmilling, trucking, pulp and paper manufacturing and related spin off industries for residents. Commercial uses have arisen for timber, which includes lumber, pulp and paper products, and value-added products.

Domestic harvesting provides fuelwood to heat many homes and sawlog material for residential house construction in the zone. Domestic harvesting is conducted in specific domestic cutting areas via a crown domestic cutting permit that is required and issued within each forest management district. Unless otherwise specified, domestic cutting is limited to these designated cutting areas. A Domestic Permit specifies the volume and species that can be harvested, utilization standards, and other relevant conditions. Most areas in the zone will allow the harvest of all hardwood and softwood species except for White Pine.

Silviculture treatments are important to the forest resource of the zone as it ensures that a vigorous and healthy forest is maintained. Forest renewal activities facilitate renewal of productive landbase by manual planting areas that are not sufficiently restocked. Forest improvement activities help improve and enhance the growing stock which can reduce harvest cost, enhance forest product options and increase sustainable timber supply. There will be investment in silviculture in the zone each year creating seasonal employment.

Timely access to timber is critical to planning any forestry operations. Primary, secondary, and tertiary roads form an integral part of operating areas for commercial harvesting. Upon completion, these roads are often used for silviculture and recreational purposes. Each year, a significant amount of money will be spent to construct forest access roads in the Zone.

Protection of the forest from various disturbances is a major characteristic of resource management, which includes integrated pest management and forest fire prevention/suppression techniques. Other resource values are protected through modification of activities and enforcement.

Critical Elements:

The objective is to ensure the AAC is calculated using the latest information while considering other resource values and conducting environmentally sound operations. This is achieved by:

- Maintenance or enhancement of productive land base.
- Planting of non-regenerating areas.
- Minimizing loss of land base to other users.
- Minimize losses to fire, insect and disease.
- Timely access road construction.
- Enhancement of younger stand age classes through thinning to correct age class imbalance.

Guiding Principles:

- Enforcement of the Forestry act, regulations, guidelines and policies.
- Minimize loss of productive land base through spatial and temporal compromises and continuous dialogue with other resource users.
- Education (staff, public, operators).
- Aggressively conduct silviculture, access road, and protection activities.
- Implement best management practices. The EPGs outline courses of action and mitigative measures for forest activities. These most recent EPGs are outlined in their entirety on the Provincial Government Website:
<http://www.gov.nl.ca/ffa/files/2025-Environmental-Protection-Guidelines.pdf>
- Some highlighted subject areas are listed below.
 - Garbage disposal
 - Fuel storage
 - Mineral soil exposure
 - Buffer requirements

- Road and bridge construction
- Silviculture and harvesting activities

5.2.2.2 Agriculture

Characterization:

The agricultural industry provides both direct and indirect employment to residents of the province.

Critical Elements:

Surveys indicate that approximately five percent of the soil in the province is suitable for agriculture. It is not possible to identify and plan all sites for future agriculture use and often there is conflict with other land uses, particularly forestry because these sites are of high growing capability. Although a suitable land base is the first critical element necessary for a successful agriculture operation, markets and the interest of individuals are also prime factors in the development and location of future farms. In the spirit of managing the ecosystem for multiple benefits, provisions have been given for the agriculture industry to expand.

Both the Forestry and Agrifoods departments have identified Agricultural Areas of Interest (AOI's) across the province, representing approximately 155,600 hectares. The area in AOI's has been removed from wood supply calculations and is available for agricultural development. In addition, Agricultural Development is still considered for areas falling outside established AOI's.

Guiding Principles:

Landbase falling inside AOI's are available for agricultural production. However, the Land base falling outside AOI's and designated for forest management that is determined high potential for agriculture will also be considered. Consequently, the Forestry Branch will collaborate with the Agrifoods Branch when such opportunities exist.

- The following will provide guidance for the development of agriculture within the zone:

- Home gardening leases should be confined to areas already developed for this activity.
- New agriculture leases are approved by the Agrifoods Branch of the Department of Fisheries, Forestry and Agriculture.
- The Forestry Act has been amended to allow clearing of land to occur without a commercial cutting permit if the applicant is utilizing the fibre for their own private use.
- Where possible, existing commercial forest operators should be encouraged to work with farmers to clear new land for development.

5.2.2.3 Mining, Mineral Exploration, and Quarrying

Characterization:

Mineral exploration, mining, and quarrying are recognized as separate and distinct activities, each of which is approved and regulated under a separate piece of legislation.

Mineral exploration activities may consist of prospecting, geological mapping, grid line-cutting, geochemical surveys, ground-based and airborne geophysical surveys, the preparation and use of access trails, mechanized trenching, diamond drilling, and – in remote areas – the preparation and use of campsites.

Mineral exploration takes place province-wide and is a significant contributor to the provincial economy, particularly in rural areas.

There are many active quarries throughout the province which generate significant royalties and which provide the raw material for the development and maintenance of infrastructure such as highways, building lots, and concrete.

There are several active mines in the province at any given time and mining represents a major component of the provincial economy.

Critical Elements:

- Forest Ecosystem

- Mining, quarrying, and mineral exploration activities can have potential negative impacts to Forest Ecosystems and future Wood supply calculations. Mining and quarrying represent permanent (but sequenced – not all at once) alterations to the landscape whereas mineral exploration activities at most involve temporary disturbance. Each activity is subject to rehabilitation requirements.
- Utilization of Timber Resource
 - When exploration activity occurs, merchantable trees may need to be harvested to gain access to work sites. Under the forestry act, all merchantable trees can only be removed with a cutting permit and that holders of a cutting permit must utilize all portions of the tree to a top diameter of 8cm (outside bark). Section 18 of cutting of timber regulations state that all timber cut shall be removed from the cutting area to a roadway while harvesting operations are in progress unless otherwise specified in the cutting permit.

Guiding Principles:

- Forest Ecosystem
 - Regulations and permitting conditions require that all mine sites, quarry sites, and mineral exploration sites be rehabilitated. While each activity is regulated separately, rehabilitation requirements for each include the requirement that the organic overburden (e.g., topsoil, ground vegetation) be stockpiled and stored in a manner so that it can be used to rehabilitate the site. Rehabilitation requirements can be further specified in special terms and conditions and could include, if warranted, the requirement that the site be left in a condition conducive to forest regrowth.
- Utilization of Timber Resource
 - As part of exploration and development activities, individuals must attempt to extract timber harvested. If timber cannot be feasibly extracted using conventional means, then timber shall be piled so that it may be extracted during winter months by snowmobiles.
 - Mineral Exploration companies are permitted to use some harvested timber within access routes for the purposes of corduroy or brush-matting to prevent rutting and minimize ground disturbance on sensitive sites.

- Additional:
 - The Forestry Branch will consult with the Mining and Mineral Development Branch in determining appropriate silviculture buffer distances from the boundaries of sites covered by a quarry permit or quarry lease. In many cases, 100 meters is an appropriate buffer distance that will accommodate discrepancies in plotting. However, in other cases, there may be valuable aggregate resources present and expectations that the area will see proposals for new quarry developments in the foreseeable future, in which case a buffer zone should be specially planned in consultation with Mines. In other cases, where quarry development is expected to proceed slowly, silviculture buffer distances may be much reduced.
 - For mine sites (including all associated infrastructure), an appropriate silviculture buffer distance should be chosen in consultation with the site operator and the Mining and Mineral Development Branch.
 - Mineral exploration activity that proposes to explore or develop within a silviculturally treated area must be undertaken with minimal disturbance and under approval of Forestry Branch. A standard condition has been developed by the Mineral Development Branch and Forestry Services Branch to include as a condition in mineral exploration approvals document where silviculture treatments may be impacted.
 - Mineral exploration and/or development on mineral licenses will not be impeded and will follow government policy. Specific proposed forest management activities are identified in annual operating plans for each upcoming calendar year.
 - Should future quarry or mineral resource developments or exploration programs (i.e., new quarry development, existing quarry expansion, new mine development, exploration for quarry materials, or mineral exploration) be considered by the Forestry Services Branch as having the potential to cause a significant impact on the forest resource and forest resource users, the Forestry Services Branch will work closely with the Mining and Mineral Development Branch and the proponent to ensure that mutual impacts are minimized.
 - For road construction, quarry permits or quarry leases are required only for aggregate material taken outside of the road right-of-way.
 - Non-compliance with exploration permits identified by Forestry Branch will be passed to Mining and Mineral Development Branch.

- Many forest access roads and bridges are used by other land users, among them parties carrying out mineral exploration or quarrying. Where possible, the Forestry Services Branch will forward plans to decommission roads or bridges as a matter of course to ensure that all road/bridge rehabilitation and decommissioning plans are reviewed to consider whether mineral exploration, quarrying, or mining may be affected. Plans should be forwarded to MinesBranchReferrals@gov.nl.ca
- The guiding principles for Forest Ecosystem, Utilization of Timber Resource, and additional comments will apply to all crown operations within the province.

5.2.2.4 Historic Resources

Characterization:

The provincial archeology office (PAO) is the agency responsible for the management and protection of archaeological sites and artifacts in Newfoundland and Labrador. This program is carried out under the Historic Resources Act which ensures that developments with potential to have adverse impacts on historic resources are investigated as and monitored by a qualified archaeologist through archaeological impact assessments.

Archaeological sites are non-renewable resources and play a vital role in understanding our heritage. Most often, archaeological sites are small, so it is important to protect these sites and professionally record as much information as possible to fully understand their history. To do this properly, the site must not be disturbed.

Critical Elements:

Activities which disturb soil layers and/or provide unintended public access to an archaeological site can have a negative impact on that historic resource. Without applying best management practices, forestry activities such as construction of access roads and bridges, harvesting, mechanical site preparation and regeneration have the potential to destroy historic resources. While forestry activities can have adverse impacts on historic resources, beneficial effects can be realized. Where impact assessments are carried out and new sites are found, it adds to our

understanding of Newfoundland and Labrador's heritage. When archaeological sites are discovered through impact assessments, these resources are protected from damage or destruction and preserved.

Guiding Principles:

Any project involving land use has the potential to adversely impact historic resources. Therefore, it is important for the provincial archaeology office is involved in the planning stage to ensure effective mitigative measures are developed early in the process to protect historic resources. Buffer Zones will be implemented to protect known archaeological sites and potential unknown sites. If deemed necessary, archaeological assessments may be required to fully assess the site. In addition, buffer zones are required along all rivers and ponds, as well as along the coastline, where there is potential for archaeological resources to be found. Occasionally there are accidental discoveries made of historical resources. If this does happen, activities should cease in this area and contact be made immediately with the provincial archaeologists.

5.2.2.5 Newfoundland T'Railway

Characterization:

The T'Railway is a linear park approximately 850 km in length, where a large section is located within the zone. It is comprised of the former Canadian National Railway right of way, which may vary, however is generally 15 meters wide. It provides an all-season, multi-use recreation corridor and is developed and managed by the Parks and Natural Areas Division in conjunction with the T'Railway Council. The *Provincial Parks Act* provides the legislative framework for the administration and management of the T'Railway and is protected for the present and future enjoyment of the public. The T'Railway constitutes the province's contribution to the Trans Canada Trail System and is used primarily by snowmobile and all-terrain vehicles. Industrial or traditional uses such as commercial and domestic harvesting, quarry and mining access, and cabin access are also granted with a special permit.

Critical Element:

- Protection of the historical landscape integrity of the T'Railway corridor.
- Preservation of the scenic quality along the corridor.
- Control of land usage adjacent to the T'Railway.

Guiding Principles:

- Co-ordination of activities with various other agencies responsible for land management outside the T'Railway corridor to ensure that the integrity of the park is maintained
- Build partnerships with other stakeholders and user groups such as communities, industry and recreational organizations for the long-term maintenance and development of the T'Railway
- Establishment of a 100-meter buffer along the right-of-way corridor to preserve the natural value of the T'Railway. Also, consider viewscales in forestry management plans.
- Where access is required, any landings or turnaround areas shall be 100 meters or more along the resource roads from the T'Railway.
- Where feasible and possible, Forestry Activity utilizing the T'Railway will avoid peak snowmobile and ATV seasons.

5.2.2.6 Parks and Protected Areas

Characterization:

The mission statement of the provincial Natural Areas Program is to protect, in an unimpaired condition, large wilderness areas, representative examples of all the province's ecoregions including their natural processes and features, and rare natural phenomena, to preserve the diversity and distinctiveness of the province's rich natural heritage and to support an ecologically sustainable future for the benefit of present and future generations.

There are several different types of conservation areas in the province contributing to the provincial system of protected areas, as recognized by the International Union for the Conservation of Nature. Wilderness Reserves and Ecological Reserves are established via the *Wilderness and Ecological Reserves Act*. Wilderness Reserves are generally large (>1000 km²) and are designed to protect complete ecological systems. Ecological Reserves may be

established to protect representative samples of each of the province's natural regions (ecoregions) with a mid-sized reserve (50-1000 km²), or to protect exceptional natural features, occurring in an area <10 km², such as rare species or areas of unusual biological richness. Provincial Parks, established under the *Provincial Parks Act*, do play a conservation role, but are primarily established as sites for outdoor recreation and nature-based education. Wildlife Reserves may be established under the *Wildlife Act* for the protection of specific species or habitats. Public or Crown Reserves may be established for conservation reasons under the *Lands Act*. National Parks such as Terra Nova, Gros Morne, and Tongaat Mountains are established under the federal *National Parks Act*. The benefits of protected areas are to preserve biodiversity, provide areas for scientific research, opportunities for environmental education, provide standards against which the effects of development can be measured, and provide natural venues for enjoyment of nature.

Critical Elements:

- Preservation of biodiversity.
- Maintenance of protected area integrity.
- Maintain natural processes and features.
- Can be utilized as “control blocks” measured against similar areas where forest management activities have occurred.

Guiding Principles:

- The type of activities encouraged or permitted within various protected areas in the province depends entirely on the type of protected area and the rationality for its establishment
- Generally, all non-consumptive activities are permitted; educational activities and scientific research within protected areas generally require a permit and are encouraged
- In most protected areas, new development is prohibited such as mining activity, hydroelectric projects, forestry activity, agriculture activity, roads/trails, cabins and new structures.

- A 500 m no roads buffer is to be maintained around all existing and proposed protected areas to reduce access and minimize damage from motorized vehicles
- Where forestry operations are scheduled within one kilometer of provisional and ecological reserves, wilderness reserves or provincial parks, modified operations may be necessary, and any amendments to the forest plan may be required.

5.2.2.7 Outfitting

Characterization:

Since the early 1900's, the outfitting industry has been an integral component of the tourism industry in Central Newfoundland. This region has been a popular hunting and fishing destination because of the pristine environment and abundance of fish and wildlife species. There are outfitters operating within the boundaries of this forest management zone, which provides seasonal employment for many local individuals.

A significant number of traditional hunting and fishing facilities have diversified into the non-consumptive areas of the tourism industry. Such activities include snowmobiling, dog sledding, kayaking, canoeing, nature viewing, hiking, and wildlife photography. The ability to diversify has positively impacted on the viability of outfitting operations and as a result, increasing numbers of operators are considering these opportunities. Pristine wilderness settings are necessary for many of these types of diversification.

Critical Elements:

Some outfitting camps are considered remote, and construction of forest access roads close to a camp could have negative impacts on this remote appeal. Increasing accessibility through increased access roads has the potential for increased hunting and fishing pressures within each area. Increased pressure on the wildlife resource within a given area could potentially lead to decreased success rates of outfitter guests. With improved road access, there is also potential for increased cottage development, which can also impact both remoteness and wildlife availability.

Without proper application of best management practices, forest harvesting can negatively impact wildlife travel corridors, bear denning areas, and caribou feeding and calving areas. Removal of large areas of forest can simulate the same effect of reducing wildlife habitat, particularly in winter staging areas.

While clients of hunting and fishing outfitters are primarily interested in the actual hunting or fishing experiences, they also show great respect and admiration for pristine conditions and a healthy-looking landscape. The landscape view experienced by clients plays a large role in leaving a lasting impression of the province. The viewscape experience may also have a direct impact on repeat client bookings and recommending the destination to others. Viewscapes become even more important as outfitters begin diversification into non-consumptive tourism activities.

Prior to implementation of an Environmental Management System (EMS) on forestry operations, some poor past practices have resulted in increased levels of garbage (skidder tires, abandoned buses, used oil containers, etc.). This can be frustrating for outfitters who concentrate on not leaving permanent marks on the landscape.

Guiding Principles:

Through consultations with outfitters located within the zone, it may be deemed necessary to develop a managed forest area around the established main outfitting lodge.

- Where possible, and with consideration to minimizing any additional construction, new access roads routes may be kept away from the existing main outfitting camp.
- Consideration should be given to decommissioning roads and bridges (where possible) after harvesting is completed. This will eliminate damage to the hunting area by reducing the possibility of increased hunting pressure. When roads are in use actively for harvesting purposes, access to hunters could be restricted or limited.
- Where possible, conduct harvest activity in the winter and construct winter roads that are less passable in summer/fall and will help to reduce vehicular traffic.
- In consultation with the outfitter, forest harvesting can be restricted around hunting and fishing camps during their season of operation.

- In keeping with sound SFM ecosystem values, including consultation with the outfitter stakeholders, efforts should be made to ensure that the integrity of the view from the outfitter main lodge is considered when conducting forest operations.
- Forest operations must ensure all garbage is removed from the harvest area.

5.2.2.8 Recreation / Tourism

Characterization:

Non-timber recreational values such as hiking, skiing, canoeing/kayaking, ATV/UTV and snowmobiling constitute an important role within this Zone. The Avalon has outstanding scenery, varying topography and opportunities for viewing wildlife and flora in a natural setting.

Regardless of if you are canoeing/kayaking on the many rivers, walking the various hiking trails, utilizing forest access roads, or using snowmobile trails, this zone provides excellent opportunities for sport hunting/fishing and adventure tourism activity.

Critical Elements:

Wilderness

Some adventure tourism activities are captivated by the existence of wilderness areas. If best management techniques are not applied, forest harvesting may result in the alteration of this feeling of pristine wilderness, which could have some short-term adverse effects.

Accessibility

Construction and maintenance of Forest Access roads have both positive and negative effects. On the positive side, it provides the ability to increase vehicles and ATV/UTV traffic, allowing for more opportunities for this activity. However, on a negative side, it also has the potential to decrease the value of the experience for those individuals seeking a “remote” type setting.

Viewscapes

Either walking on a trail, snowmobiling on a groomed trail or canoeing down a river, the visual experience of the surrounding land base plays an important role in the overall pleasure of the

activity. Over the past number of years, viewscales have become an integral part of forest management planning.

Guiding Principles:

Wilderness

Established ecological reserve areas are not available for harvesting or road construction. Forestry, through the five-year planning process and EA registration consults with local stakeholders. In areas with high concentrations of recreational activities the five-year planning process and EA registration will engage and inform sufficient stakeholders of forest management activities with the goal of reducing conflicts and providing mitigations when identified.

Limiting Accessibility

Where possible in sensitive areas, forest harvesting will be scheduled during winter months to take advantage of winter road construction techniques. Winter roads usually restrict vehicular traffic and decommission naturally. In addition, decommissioning regular forest access roads near sensitive areas is a possible option when forest operations are completed.

Viewscape

Where possible within areas where high concentrations of recreational activities occur, negative impacts to viewscales may be managed using landscape design techniques. This could mean that forest harvesting operations employ tree buffers, tree retention methods or implement reforestation activity immediately to return the site to a forested condition.

This initiative has proven to be difficult due to the requirement for specific observer points that are the only vantage points the analysis is valid for. The resulting areas left unmanaged can also pose issues as the viewable forest left is always changing and may require intervention in

the future due to fire, wind, or insects. This delayed intervention period may be uneconomical due to the condition of the forest at that time.

It is important to remember that forests are dynamic, and a harvest is simply a reset of the forest age – not the loss of the forest. Harvests closely imitate natural disturbance and the green up will occur over a short time horizon.

The management of forest ecosystems utilizes strict requirements that require the landbase to retain 15% of the forest in the mature age class.

5.2.2.9 Tourism

Characterization:

The tourism industry in Newfoundland and Labrador has experienced significant growth over the years, which is largely based on our natural and cultural resources. Newfoundland and Labrador holds resources to compete nationally and internationally with tourist destinations. As such, protection of these resources is vital for continued growth and prosperity. Tourism is becoming a great economic driver for provincial revenue.

Critical Elements:

- Viewscape
- Accessibility
- Wilderness ambiance
- Remoteness

Guiding Principles:

As indicated in the Recreation Values section, the Forestry Branch will collaborate with other stakeholders in this five-year planning period, to implement strategies for minimizing the visual impact of harvesting operations near sensitive areas. This could mean that forest harvesting operations employ tree buffers, tree retention methods or implement reforestation activity immediately to return the site to a forested condition. Temporal changes in harvest scheduling could be used to minimize noise levels during busy seasons near adventure tourism locations.

SECTION 6 MITIGATIONS

6.1 General

SFM follows an adaptive management process. Mitigation is an integral part of adaptive management. As soon as information becomes available from previous activities mitigations are incorporated. These are generally incorporated into the Environmental Protection Guidelines yearly. The best management practices adopted from previous planning processes will be incorporated in this plan, several of these include:

- A 30 m buffer will be maintained on lakes and both sides of rivers or brooks that are shown on 1:50,000 topographic maps. Brooks that are found within proposed cut blocks that are not identified on 1:50,000 topographic maps will be evaluated as per the Environmental Protection Guidelines.
- There will be no cutting within 100 meters of the center of Newfoundland T'Railway.
- There will be no cutting buffer within 100 meters of a cabin development area and 30 meters from an approved cabin license.
- Scheduled salmon rivers will be evaluated on a site-by-site basis, and buffers will vary in width from 30 -100 meters.
- No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (March 15 to July 31) and 200 meters during the remainder of the year.
- Within protected water supplies, there will be no cutting within 150 meters of the intake pond or stream and no cutting within 75 meters of the main river channel. There will be no cutting within 50 meters of all ponds and streams flowing into the intake pond or stream.
- All forest activities, including, Road construction, harvesting and Silviculture will follow the most current Environmental Protection Guidelines for Forest Operations in Newfoundland and Labrador.

SECTION 7 STAKEHOLDER CONSULTATION

7.1 General

Beginning in the mid 1990's, the Forestry Services Branch embarked upon a rigorous public consultation process for Five-year Plans. This process involved a series of meetings spanning several months at an established venue, where interested stakeholders could discuss a range of forest management issues at an operational level.

Following SFM Adaptive Management Processes, the Forest Service now utilizes a list of known stakeholders and sends an electronic package showing proposed operating areas Silviculture and Roads. The stakeholders may provide input into the plans prior to the plan submission to EA.

Amendments to the Forestry Act in 2005 added a requirement for a Sustainable Forest Management Strategy every ten years and added the word Sustainable to plans. Consultation was required for Sustainable Forest Management Plans and the Sustainable Forest Management Strategy.

The Forestry Services Branch released the first 10-year Provincial Sustainable Forest Management Strategy (PSFMS) in 2003 and the second Strategy document in 2014. The third Strategy Document is under final review.

The Forestry Services Branch strives to improve its methods to garner advice from the public while also mitigating land-use conflicts. To this effect, as new five-year plans are being developed and implemented provincially, relevant issues raised from previous planning processes are considered the foundation of the new plans.

The Known stakeholders identified from previous planning processes, and an internal provincial department review were contacted directly through email. The Information regarding the proposed forest management plan and google earth files of proposed Commercial and Domestic areas and Roads were provided to:

- 4) Town Councils
- 4) Outfitters
- 4) Indigenous Leaders
- 4) MHA's

The list of stakeholder contacts, the comments received, and departmental responses are in the Appendix.

SECTION 8 MANAGEMENT OBJECTIVES AND STRATEGIES

8.1 The Working Forest

Forest Management District 1 has been subdivided into a series of separate forests that are described as working forests. Working Forest Areas are geographically defined regions of forested Crown land, closely linked to the communities that rely on them for economic, social, and environmental well-being.

These areas encompass all forested Crown lands within the designated boundaries, including those commercial and domestic areas under current active management within a five-year forest management plan, as well as lands that previously required or will require active management in the past or future.

These working forest areas are managed sustainably to deliver ongoing economic value through the production of sawlogs, firewood, and other forest products, while simultaneously supporting public recreation, conserving biodiversity, protecting watersheds, sequestering carbon, and implementing measures to reduce wildfire risks.

They are actively and sustainably managed to ensure continuous timber production alongside multiple ecological and societal benefits, prevent conversion to non-forest uses, and enhance overall resilience.

The primary objectives of our working forest areas are:

Sustainable Forest Management — Implementation of practices that maintain long-term forest health, productivity, and regeneration capacity through responsible harvesting, timely reforestation or natural regrowth, soil conservation, biodiversity protection, and equitable resource utilization to satisfy current needs without compromising those of future generations.

Recreational Benefits — Provision of public access for activities such as hiking, hunting, fishing, camping, and nature observation, while managing visual quality, trails, and access infrastructure to preserve aesthetic and amenity values for local communities and visitors.

Prevention of Conversion — Commitment to retaining forested land within the working forest designation and minimizing the conversion of high-value forest lands to industrial, residential, agricultural, quarry, or other non-forest uses, thereby safeguarding forest cover and the associated ecosystem services.

Wildfire Fuel Load and Risk Mitigation — Collaboration with communities to actively manage excess fuels through mechanical thinning, targeted harvesting of insect- or wind-damaged stands, maintenance of balanced age-class distributions, prescribed burning, and establishment of firebreaks. These measures reduce fuel accumulation, decrease fire intensity and rate of spread, safeguard communities and infrastructure, and foster healthier, more resilient forests in fire-prone landscapes.

Multiple Benefits Beyond Timber — Delivery of essential ecosystem services, including clean water filtration (frequently serving as sources of community drinking water), carbon sequestration and storage to support climate change mitigation, habitat for wildlife (including species at risk), biodiversity conservation, soil protection, and opportunities for recreation such as hiking and hunting.

8.2 Harvesting

The boreal forest is characterized by natural stand replacement following a disturbance, which results in the formation of relatively even aged stands. Harvesting systems, that are designed to emulate natural disturbance processes, can closely match the natural disturbance pattern.

The forest management harvesting and tending system, predominantly used in the boreal forest, is the Clearcut Silvicultural system. The clearcut harvest of this Silviculture system resembles natural disturbance patterns and provides harvesting economic effectiveness. The size, shape, arrangement, and juxtaposition of mature forest naturally vary across the Newfoundland boreal landscape topography and terrain conditions. Schedule stands for harvest in the Five -Year Plan therefore follow this natural fragmentation.

Following the SFM adaptive management strategy, Environmental Protection Guidelines (EPG's) have been implemented in Newfoundland and Labrador. Section 3 of the EP Guidelines directs that a minimum of 10 standing dead trees is to be left within each HA of clearcut.

Additionally, District Ecosystem Managers may adjust the cut block size or shape in an annual operational plan when their professional opinion such a modification is advisable.

8.2.1 Commercial

The older unalienated timber, considered in the worst condition, is targeted as a high harvest priority, followed by stands that have been damaged by insects and disease. In managed stands, this priority changes to allow for a faster rotation on sites that have been silviculturally treated.

Specific commercial strategies include:

- Design irregular cut blocks that follow contours and natural boundaries.
- Vary buffer widths to protect other values (i.e. larger buffers on salmon rivers).
- Utilize winter harvest on wet and sensitive sites.
- Maintain current size and distribution of clear cuts.
- Where possible, maintain unharvested strips between harvest blocks as wildlife utilization corridors.
- Use landscape design techniques to mitigate viewscales.
- Minimize timber utilization loss ($< 6 \text{ m}^3/\text{ha}$).

8.2.2 Domestic

The harvest of domestic fuelwood and sawlogs occurs from designated areas, recent commercial harvest areas and sporadically throughout the zone with the removal of blowdown trees. Utilization of cutover residue, dead timber, and non-productive forest areas do not form part of the wood supply analysis. Generally, domestic cutting areas are established near communities. However, within areas of the zone not covered by any operating areas, domestic permits may be issued to remote cabin owners for firewood as requested. The number of permits and volume associated with these permits will be extremely low and insignificant.

Specific domestic strategies include:

- Target low volume stands, having poor commercial opportunities.

- Encourage use of poor-quality hardwoods and non-commercial softwood (birch, aspen larch). In areas where there are future softwood commercial operations, domestic harvesting is limited to non-commercial hardwood.
- Target dead burnt and insect damaged stands that are beyond commercial salvage.
- Target alienation class 3 lands that have low commercial opportunity.
- In areas of high domestic demand, limit volume allocation in designated cutting areas and encourage alternate sources (cutovers, landings, noncommercial forest, etc.).

8.2.3 Hardwoods

Hardwoods are not a significant component in the Avalon Zone. Forest management objectives to increase hardwood occurrence on the landscape are beginning. This is especially true of the urban interface where the department is encouraging the establishment of hardwoods as a fire mitigation strategy.

8.3 Silviculture

As a rule, approximately 80% of the Boreal Forest regenerates naturally following a disturbance. Depending on management objectives, forest renewal programs are applied by forest managers to the remaining 20% that do not successfully regenerate naturally.

Exceptions to applying silviculture on areas that may be regenerating naturally are based upon the species that is regenerating and the value of this species. Values are subjective and may be economic, social, or cultural as to the species being selected to form the future forest, or part of the future forest.

Specific silviculture strategies include:

- Ensure regeneration of areas disturbed by harvest, insect, wind and fire to prevent loss of productive land base
- Use thinning techniques in young stands to promote enhanced stand development, reduce rotation age, and increase the percentage of sawlogs

- Leave hardwoods, where possible, in pre-commercially thinned areas to increase stand diversity
- Where possible, promote species mixes particularly with spruce and hardwood to reduce susceptibility to insect attack and increase biological diversity
- Where possible, use seedlings grown from local seed sources to protect genetic diversity
- Ensure levels of planting and thinning used in the wood supply analysis are achieved
- Work towards pre harvest planning to identify areas with potential silviculture problems so that optimal prescriptions can be promptly employed

8.3.1 Forest Renewal

Forest renewal silvicultural treatments are designed to help facilitate a new forest after disturbances caused by harvesting, insects, wind, or fire. These prescriptions can involve site preparation (scarification) followed by planting, or direct planting.

Following all commercial harvest disturbances, an assessment by trained NL Forest department staff is carried out on the harvested areas. An assessment of the stocking level is entered into a silviculture database along with a recommendation on a silviculture prescription for that area. When a site does not regenerate at all, a full planting program is required.

8.3.1.1 Site Preparation

In some cases, the site may need to be manually prepared to aid in the establishment and growth of the planted seedlings (generally black or white spruce and to a lesser extent, Norway spruce). Site preparation techniques can include:

- Mechanical site preparation (scarification) involves using heavy equipment (skidder) equipped with special attachments to reduce the thickness of the duff layer, and remove or disturb any kalmia that is present, which would restrict seedling growth.

- Prescribed burning is used to sanitize some sites where adelgid is present. This treatment reduces the slash loading and duff thickness to prepare the site for planting and kills any balsam fir which could potentially perpetuate the adelgid problem.
- Treatment to prepare sites that have been overgrown with hardwoods and other herbaceous species has been done with herbicides to reduce this competition, making the site more accessible and suitable for planting. Release herbicide treatment reduces the competition for a few years to allow planted seedlings to be established. In other instances, herbicides are used to control Kalmia either before or after planting. Herbicides, while used sparingly, are sometimes a necessary tool to help establish a new forest, particularly on better sites.

8.3.1.2 Planting

A full planting technique is required when no regeneration occurs to ensure regeneration of selected tree species is at acceptable levels. Gap planting is normally achieved with spruce seedlings, coupled with the natural regeneration already present on site to increase seedling density to acceptable levels.

Planting lets the forest manager control harvested sites to a specific major future crop species and get sites back to a fully function forest stand earlier than natural processes.

On adelgid sites partially regenerated to balsam fir, planting is done through the existing regeneration to obtain sufficient stocking level of an adelgid resistance species. However, where adelgid has been a problem, balsam fir regeneration is sometimes ignored, and the site is planted with spruce seedlings.

Where possible, seedlings used in the silviculture program are grown with seed from local sources. Seed orchards have been established at Pynns Brook and Wooddale to produce seeds from plus trees collected throughout the province. Plus-trees are normally selected because they have superior growth and physiological characteristics. It is hoped that once the orchard is in full production, most of the planting stock will be grown from this source. The goal is to plant seedlings that have superior growth characteristics and thus increase yield and maintain genetic diversity.

Exotic species have been planted in trials at some locations in the zone. However, it is not anticipated to form any substantive proportion of the planting program in the foreseeable future.

8.3.2 Forest Improvement

8.3.2.1 Thinning

To enhance development, silviculture thinning programs are designed to improve established forest stands. Pre-Commercial Thinning (PCT) involves partial removal of overstocked, generally balsam fir stands, at a young age of 10 -15 years. In areas which have high moose browsing potential, the age is increased to 20 – 25 years, so that crop trees are tall enough to be out of reach of moose.

PCT reduces density levels which facilitates maximizing volume increment and operability (piece size). Trees that are cut are not of merchantable size and remain on site, returning the nutrients back into the soil. The manual thinning procedure mimics the natural forest thinning process that will occur at a later period in the stand development. Thinning gets the trees to a larger piece size at an earlier age. The remaining trees are at a younger age when they take on the dimensional characteristics of an older forest.

In the zone, balsam fir is usually thinned to favor any spruce present within the stand. This prescription results in a mixed softwood stand (depending on the original density of spruce) which is more diverse and less susceptible to insect infestation. Also, any hardwood species that are not in direct competition with spruce or fir are left to increase the biodiversity of the stand.

Commercial and Diameter Limit thinning would occur at the intermediate age 25 - 35 years and is undertaken in older balsam fir stands (either natural or previously thinned). It is designed to capture any mortality that would normally occur in the stand through self-thinning. The trees removed from commercial thinning operations are extracted and utilized. The remaining trees are left to grow, free from competition and are harvested when they mature. As with PCT, spruce and hardwood are left where possible to increase stand diversity.

Thinning programs aim to shorten the rotation period of a stand and produce large diameter stems. This program should increase the percentage of merchantable volume considered suitable for sawlogs. Commercial thinning has not been completed in the zone, and diameter limit thinning has been done sparingly. In recent years, the pre-commercial thinning program has dropped significantly. This trend is expected to continue.

More information on the Silviculture Program can be found on Governments Forestry website using the following address:

[Forestry, Agriculture and Lands - Government of Newfoundland and Labrador](#)

8.4 Access Roads

Forest roads are required to gain access to scheduled commercial harvest areas. Access roads also provide opportunities for other recreational and commercial values such as hunting, fishing, skiing, berry picking, hiking, outfitting, cabin development and mineral exploration.

The minimal amount of access road is constructed to effectively and efficiently conduct commercial harvest operations. Access roads are constructed to specifications that minimize right-of-way and running surface width.

Modern low soil compaction and high payload forwarding equipment balance the overall amount of road construction. In sensitive and wet areas, winter harvesting and road construction are encouraged. Following these principles helps to ensure the minimum number of roads will be constructed, reducing the loss of productive forest land base and minimizing environmental disturbance. Road and bridge maintenance and/or decommissioning are considered depending on cost, and mitigation of conflicting uses for a particular road.

More information on the Roads Program can be found on Governments Forestry website using the following address:

<https://www.gov.nl.ca/ffa/>

Specific roads strategies include:

- Construct winter roads in sensitive and wet areas.
- Design roads utilizing the maximum economical forwarding distances.
- Use minimum road standards to safely and effectively match the logging chance.
- Consider road decommissioning on roads near remote outfitting lodges and other areas of concern when requested and where feasibly possible.
- Determine impacts and explore alternatives (cost sharing) in areas when road and bridge decommissioning impacts other stakeholders.
- Explore all avenues to secure funding for road construction and encourage operators to build their own roads in exchange for royalty reductions.

8.5 Forest Protection

8.5.1 Insects and Disease

- Insects have been considered a major natural disturbance within the zone. Balsam fir is susceptible to most of the major insects including spruce budworm, hemlock looper, and balsam woolly adelgid. In the event of a major insect infestation, salvage efforts may change harvest priorities. However, deviations from harvest schedules will be closely monitored to ensure that the validity of the AAC is not compromised.
- Monitoring and protection programs for insects and disease are coordinated by the forest protection division in Corner Brook. Local district staff aid in detection, monitoring, and protection of surveys against insects and disease.

Specific insect and disease strategies include:

- Use silvicultural techniques at the stand level to alter species mix and increase stand vigor to make stands less susceptible to insect attack.
- Where possible, use harvest scheduling techniques to alter species mix across the landscape to minimize potential for severe insect infestation.
- In conjunction with provincial and federal initiatives, use pertinent and approved insecticides.

More information on the Forest Insect Control Program can be found on Governments Forestry website using the following address:

<https://www.gov.nl.ca/ffa/>

8.5.2 Fire

There has been a cyclic fire history in the zone. A fire in an unusually dry year can have devastating effects on the forest and can exacerbate an established wood supply. The risk of a serious forest fire can be minimized by maintaining a highly trained, efficient and effective fire control program and by minimizing the risk in forest stands through maintenance of forest health and vigor.

Within the zone, there have been major forest fires in the past. In the previous 5-year plan, developed in 2021, it was noted that “wildfire has not been a major issue in recent years”. That statement certainly did not apply to the fires in 2025, which were significant.

Foresters use the term first coined in 1995 by UBC Biologist Daniel Pauley in a paper named **"Anecdotes and the shifting baseline syndrome of fisheries,"** published in the journal *Trends in Ecology and Evolution*.

The term is Shifting Baseline Syndrome. The term is used in forestry to explain that what is perceived as being normal over a human's experience may not be what is the longer-term norm was and for a forest ecosystem.

Shifting baseline may be very relevant to current memory as it relates to the fire history on the Avalon. Anthropogenic extreme fire effects were recorded when settlers first arrived and expanded when the railway was first constructed. With global warming effects, conditions for extreme fire events may occur more often.

The Department of Fisheries, Forestry and Agriculture is committed to protecting the resource and continues to invest in a fire suppression program to ensure any future losses are minimized. There are fire crews and equipment stationed at local forestry depots within the zone during the

forest fire season, whose direct responsibility is forest fire protection. In addition, support, equipment and manpower at both the regional and provincial level is available should the need arise. There are five air tankers stationed at Deer Lake, Gander, Goose Bay, and Wabush, as required and helicopters in Gander that are available for initial attacks. More information on the Forest Fire Program can be found on Governments Forestry website using the following address:

<https://www.gov.nl.ca/ffa/>

8.5.3 Windthrow

Wind throw usually occurs in older stands that have been predisposed by some other disturbance such as insects and disease. To minimize the effects of Windthrow (blowdown), stands will be managed to promote forest health and vigor mainly through silvicultural treatments and protection from insects.

Specific windthrow strategies include:

- avoid thinning in areas with high wind damage potential (hilltops on high elevations etc.)
- maintain forest in healthy vigorous condition through silvicultural treatments and protection from insects
- design cut blocks to follow contours and natural boundaries to minimize risk of windthrow to residual forest

8.6 Environmental Protection

8.6.1 General Environment

The Department of Forestry, Agriculture and Lands has developed an Environmental Management System (EMS) that is registered with the International Standards Organization (ISO). As part of this process, an EMS Policy was developed, and proper operating procedures were developed for various forest management activities. Initial registration was on December 17, 2015, and through regular monitoring and audits (internal and external), the EMS remains registered. Under the EMS, the department has developed stringent operating procedures for fuel handling, working around waterbodies, and overall pollution prevention. In addition,

inspection programs are implemented are implemented to evaluate forest operations and rectify any deviations from established protocols.

To ensure forestry activity is conducted to minimize any potential negative impacts to the environment, operating procedures and best management practices called Environmental Protection Guidelines (EPG's) have been developed and implemented across the province. Highlights of measures to avoid these impacts include no activity buffer zones, modification of harvesting design and equipment, avoidance of sensitive site during critical periods, consultation with other regulatory agencies, and monitoring.

Through implementation of the EMS and the EPG's, the department strives to be responsible stewards of the land base. Also, the programs illustrated in this document relating to forest protection from Insects and Fires, help to maintain a forested land base. As indicated in previous sections, harvested sites are evaluated for regeneration potential, and proper reforestation techniques are implemented to facilitate tree growth. Maintaining and achieving a stocked forest at the earliest timeframe helps provide carbon storage.

8.6.2 Surveys

Utilization surveys will be conducted on both commercial and domestic cutovers to ensure loss of merchantable timber is minimized. The results of these surveys will be used to evaluate the expected volume in an operating area compared to those attained. The results of this survey will help refine inventory deductions in future wood supply analysis.

Reconnaissance and intensive regeneration surveys will be conducted on commercial cutovers in this upcoming five-year period, as well as those created in the past five years to determine the requirement for silvicultural activity. Reconnaissance surveys will be completed on regenerating stands to determine the suitability for pre-commercial thinning.

8.7 Information and Education

8.7.1 General

Information and education are key elements to providing active and effective participation in the planning process at all levels. Through interaction with various user groups and the public, a better understanding of one's values and positions is gained. The more we know about other values and their location, the better the ability to mitigate any potential negative impacts. Districts within the zone will continue to educate the public and engage in meaningful consultations with interested stakeholders where applicable. Annual National Forest Week activities provide a great opportunity for interested individuals to gain a greater understanding of the Provinces Forest.

Sources of information can include:

- Government website
- Field trips
- School visits
- General day-to-day contact

SECTION 9 PROPOSED ACTIVITIES

9.1 General

This section will outline all forest activities that will occur on crown land in the zone from 2027 to 2031 including proposed commercial and domestic harvesting, silviculture, access road construction, and activities proposed within protected water supply areas.

To present a more comprehensive overview of proposed activities, a map overview of the zone is presented in Appendix 1. These maps show all proposed operating areas with each operating area name so that operations can be viewed from a district landscape perspective. Summary sheets of each of these operating areas are presented in Appendix 2. The summary sheets give a brief description of each of the operating areas identified on the overview maps, the type of activities that will occur, and any issues raised and mitigative measures employed.

9.1.1 Allocation of Timber Supply

9.1.1.1 Commercial

The timber scheduled for commercial harvest in the district is over mature with some small pockets of mature dispersed throughout. This proposed harvest approximates the harvest schedule that was used to determine the AAC. The allocated operating area and associated harvest volumes represent as much as two times the actual proposed harvest. The purpose of including more volume than is proposed is to allow for operational flexibility and inventory deviations within operating areas without having to constantly amend the plan. These operations occur manually or mechanically using conventional harvesting equipment such as chainsaws, short wood harvesters, skidders, and forwarders and are conducted year-round. The more sensitive sites are usually harvested in winter, and most operations are integrated utilizing sawlogs, pulpwood and fuelwood.

While the total volume identified may be over the final AAC for the management district, when scheduling activity, the maximum sustainable harvest over the five-year period will not be exceeded.

Proposed commercial harvesting is summarized in table 10 below.

Table 9: FMD 1 Proposed Commercial Harvesting

Operating Area FMD 1				Proposed Commercial Harvest Volume (m3)					
				SOFTWOOD			HARDWOOD		
Name	OA	Tenure	Productive	Core	Operationally Constrained	Total	Core HW	Operationally Constrained	Total
			Area (ha)					HW	
Avondale Access	CC01002	Crown	439	1,600	0	1,600	0	0	0
Mackinsons	CC01003	Crown	56	250	0	250	0	0	0
Middle Gull Pond	CC01004	Crown	395	500	0	500	0	0	0
Island Pond Ridge	CC01005	Crown	249	250	0	250	0	0	0
Markland Road	CC01006	Crown	931	250	0	250	0	0	0
Henders	CC01007	Crown	691	2,500	0	2,500	0	0	0
Tower Road	CC01008	Crown	919	1,500	0	1,500	0	0	0
Fox Marsh	CC01009	Crown	1,743	7,500	0	7,500	0	0	0
Old Witless Bay Line	CC01010	Crown	285	500	0	500	0	0	0
Gully Pond Road	CC01011	Crown	1,213	6,000	0	6,000	0	0	0
Tors Cove Ridge	CC01012	Crown	345	650	0	650	0	0	0
Forth Pond	CC01013	Crown	63	500	0	500	0	0	0
Murphys Pond	CC01014	Crown	268	600	0	600	0	0	0
Peytons Pond	CC01015	Crown	52	250	0	250	0	0	0
Axes Pond	CC01016	Crown	95	500	0	500	0	0	0
Wych Hazel Pond	CC01017	Crown	296	650	0	650	0	0	0
Paddys Pond	CC01018	Crown	150	500	0	500	0	0	0
Foxtrap Pasture	CC01019	Crown	1,096	3,500	0	3,500	0	0	0
Long Harbour Road	CC01020	Crown	54	750	0	750	0	0	0
Fox Harbour Valley	CC01021	Crown	269	500	0	500	0	0	0
White Hill Pond	CC01022	Crown	755	5,000	0	5,000	0	0	0
Suttons Pond	CC01023	Crown	1,297	7,500	0	7,500	0	0	0
Tilton Barrens	CC01024	Crown	104	250	0	250	0	0	0
Fadders Pond	CC01025	Crown	97	500	0	500	0	0	0
Hearts Delight Brook	CC01026	Crown	144	250	0	250	0	0	0
Pitchers Pond	CC01027	Crown	1,763	1,000	0	1,000	0	0	0
Coopers Pond	CC01028	Crown	406	500	0	500	0	0	0
Southern Cove Pond	CC01029	Crown	427	500	0	500	0	0	0
Dildo Pond	CC01030	Crown	1,267	1,000	0	1,000	0	0	0
Goulds Brook	CC01031	Crown	162	250	0	250	0	0	0
Carbonear	CC01032	Crown	369	500	0	500	0	0	0
Snows Ridge	CC01033	Crown	737	7,500	0	7,500	0	0	0
Spread Eagle	CC01034	Crown	1,450	1,500	0	1,500	0	0	0

Long Harbour	CC01035	Crown	1,023	500	0	500	0	0	0
Rantem Cove	CC01036	Crown	252	500	0	500	0	0	0
Blaketown	CC01037	Crown	115	500	0	500	0	0	0
Argentia Agriculture Block	CC01038	Crown	1,151	5,000	0	5,000	0	0	0
Healeys Pond	CC01039	Crown	30	250	0	250	0	0	0
Old Cabot Highway	CC01040	Crown	758	8,500	0	8,500	0	0	0
Bellevue	CC01041	Crown	194	650	0	650	0	0	0
TOTAL:			22,111	71,400	0	71,400	0	0	0

9.1.1.2 Domestic

Harvesting will occur in designated domestic cutting areas and is generally conducted on a small patch cut system. All domestic cutting is done under permit which has conditions attached that outline the species, volume, location and utilization standards to be employed. Most cutting occurs in fall and winter with extraction by snowmobile or ATV. Roadside blowdown areas have also been included within this plan period. This includes a roadside corridor along major roadways (with some exceptions) west of Paddy's Pond. The roadside blowdown corridor allows for removal of deadwood and blowdown timber within 100m from the centerline on either side of the road. This does not allow for creating new access, and only existing access is permitted to reach the site for removal of dead timber. Permitted volume associated with these permits is a maximum of 11 m³. Domestic operating area summaries are shown in the appendix.

The domestic AAC in the Zone at 91,500 is well over four times as large as the commercial AAC of 19,500. The domestic AAC is calculated from forest inventory data and utilizes the Woodstock model - harvesting areas are extensive. Domestic overview maps are shown in the appendix.

9.1.1.3 Hardwoods

This domestic harvest of birch occurs as a mixture in softwood stands and is utilized as fuelwood. A commercial hardwood harvest is not permitted unless under approved by district ecosystem manager.

9.1.2 Silviculture

Potential silvicultural treatment areas need to undergo reconnaissance and / or intensive surveys to determine the regeneration level and severity of adelgid attacks. Silviculture prescriptions have been developed for implementation on specific site conditions. Areas that are scheduled for commercial harvest or have been harvested are identified on operating area maps and are candidates for planting or gap planting to black or white spruce. These areas will undergo reconnaissance and intensive regeneration surveys to determine the need for planting and the presence of adelgid.

Site preparation using either mechanical methods or prescribed burning will be employed on suitable sites having impediments to planting. On black spruce cutovers where kalmia is present, mechanical site preparation (row scarification) or prescribed burning will be used to disturb the kalmia and create suitable microsites to plant black spruce. In balsam fir areas, burning is a preferred treatment to sanitize the site of any existing adelgid infested trees.

Anticipated Silviculture levels over the 5-yr planning period are identified in Section 3. Specific locations will be identified in the Annual Operating Plan.

Additional zones are also identified for Silviculture and are listed below, and an overview map is shown in the appendix.

Table 10 Silviculture Areas

Silviculture Operating Areas FMD 1			
Name	OA	Tenure	Area (ha)
Witless Bay West	CC01401	Crown	Recon to assess
West of Deer Park	CC01402	Crown	Recon to assess
West of Deer Park	CC01403	Crown	Recon to assess
Line / Forest Road	CC01404	Crown	Recon to assess
Line / Forest Road	CC01405	Crown	Recon to assess
New Chelsea / Melbourne	CC01406	Crown	Recon to assess
Avondale Access Road	CC01407	Crown	Recon to assess
Hearts Desire	CC01408	Crown	Recon to assess

9.1.3 Primary Access Roads and Bridges

There are 20.9 km of new forest access roads scheduled to be constructed within the zone for the next five years to access timber for commercial purposes. All roads will be built to the specifications of the Class C, C-2 standards, and all pertinent Environmental Protection Guidelines (EPG's) for Forestry Operations in Newfoundland and Labrador will be followed. In addition, secondary, operational and winter access roads and upgrading of existing roads will be required and will be submitted in the annual operating plan prior to the year that they are planned to be built. Also, referrals will be sent to all relevant agencies (including DFO and Water Resources Division) before any construction is initiated.

TABLE 11: PROPOSED ROAD CONSTRUCTION

Area Name	OA #	Construction (Length km)	Reconstruction (Length Km)	Water Crossings	
				Culverts	Bridges
Tower Road	CC01008	3.00			
Gully Pond Road	CC01011	5.00			
White Hill Pond	CC01022	1.00			
Suttons Pond	CC01023	2.70		6	
Fadders Pond	CC01025	0.00		3	
Southern Cove Pond	CC01029	1.56			
Dildo Pond	CC01030	4.30			
Carbonear	CC01032	0.80			
Snows Ridge	CC01033	2.50		1	
Bellevue	CC01041	0.08			
	Total:	20.94		10	0

9.1.4 Activities in Protected Water Supply Areas

Larger buffers are established inside PWSA, and the pertinent EPG's will be attached to any commercial or domestic permits issued for these areas. There will be continuous monitoring inside these areas and buffers will be flagged to ensure compliance with the guidelines. All activity within PPWSA must be approved by the Department of Environment.

SECTION 10 PLAN ADMINISTRATION

10.1 Monitoring

Monitoring planned activities is critical to ensure objectives and operations are carried out in a manner consistent with various guidelines and provincial and federal legislation. Monitoring occurs at the operational level and the planning level. Forest harvesting activity is regulated using a permitting system and all activities are inspected and monitored on the ground by conservation officers to ensure compliance with applicable legislation, cutting permit conditions, and Environmental Protection Guidelines. Permit holders and contractors are also subject to financial penalties if deviations occur.

10.2 Amendments

Changes to an approved Operating Plan may be required occasionally resulting from operational challenges or unforeseen circumstances. These changes are submitted as amendments and must be approved by the Forest Ecosystem Management Division prior to implementation.

There are two types of possible amendments:

- 2) Internally within the Department of Fisheries, Forestry and Agriculture, where approval is required by the Forest Ecosystem Management Division. Internal amendments are governed by the following conditions:
 - a. Within one kilometer of an operating area described in the five-year operating plan, an additional area for timber harvesting that is, in total, not more than 50 hectares in each year of the plan

- b. Within a forest management district, an additional area for silviculture treatment of not more than 20 percent of the total operating area, described in the five-year operating plan, over the five-year term of the plan
 - c. Within an operating area described in the five-year operating plan, not more than one kilometer, in total, of new primary forest access road in addition to existing and proposed primary forest access road in each year of the plan
 - d. Adjacent to an operating area described in the five-year operating plan, not more than half a kilometer in total, of new primary forest access roads in each year of that plan.
- 2) Externally, through the Department of Environment and Wildlife. Any required revisions which are not covered by the above internal requirements must be submitted for Environmental Assessment (EA) in the form of an amendment to the five-year operating plan

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Appendix 1A – Commercial Overview Map

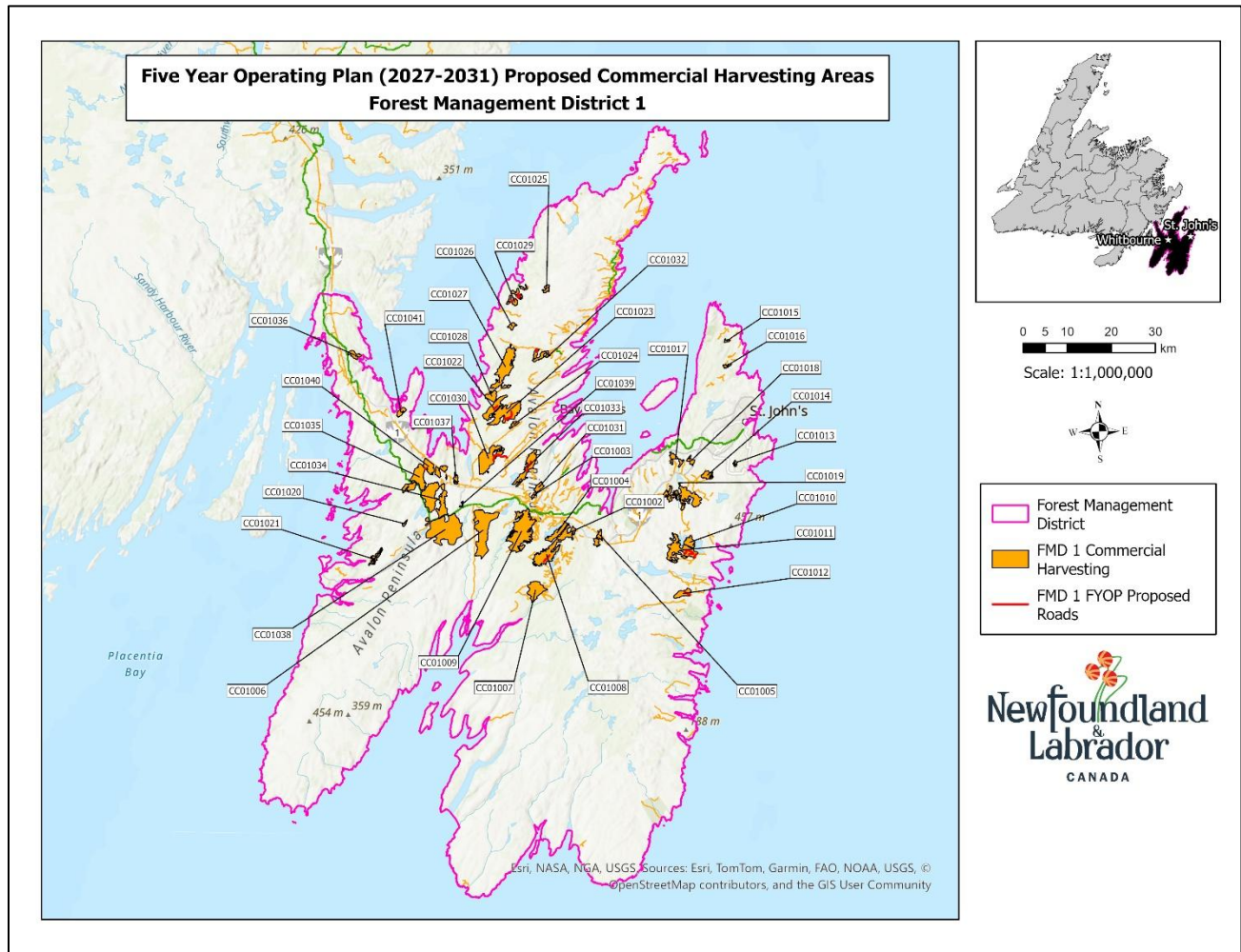


FIGURE 11: COMMERCIAL OVERVIEW MAP

Appendix 1B - Domestic Overview Map

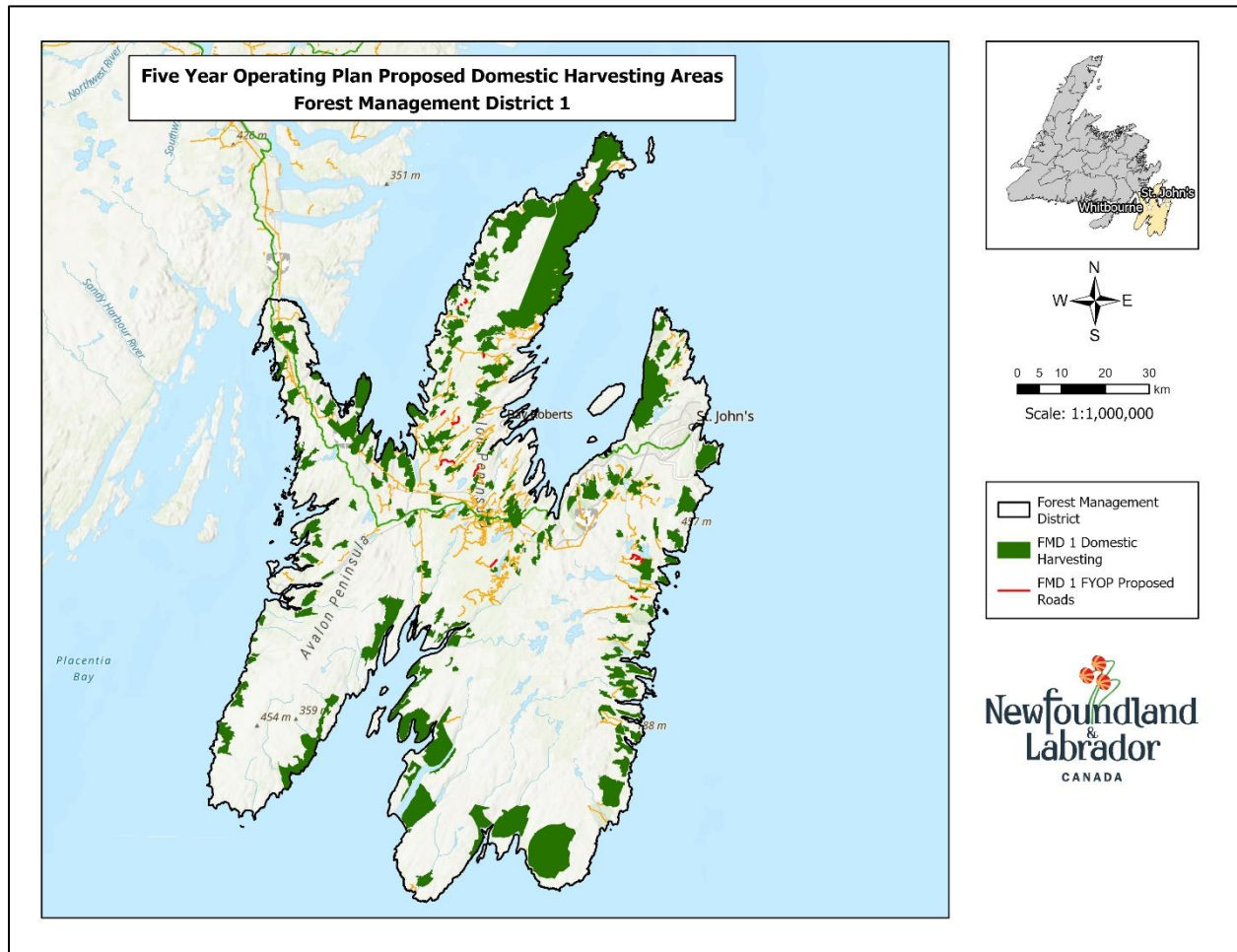


FIGURE 12: DOMESTIC OVERVIEW MAP

Appendix 1C - Working Forest Overview Map

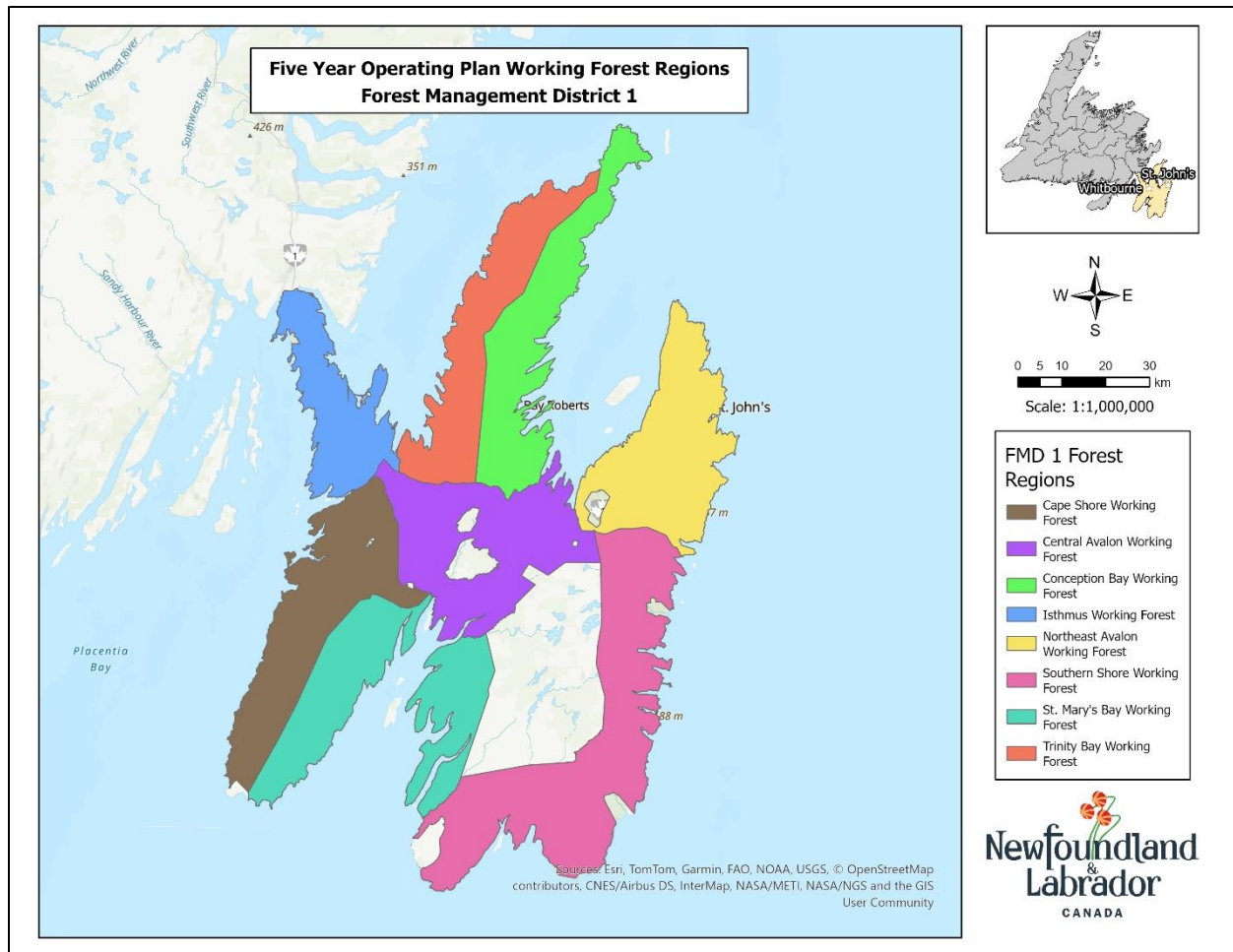


FIGURE 13: WORKING FORESTS

Appendix 1D - Silviculture Overview Map

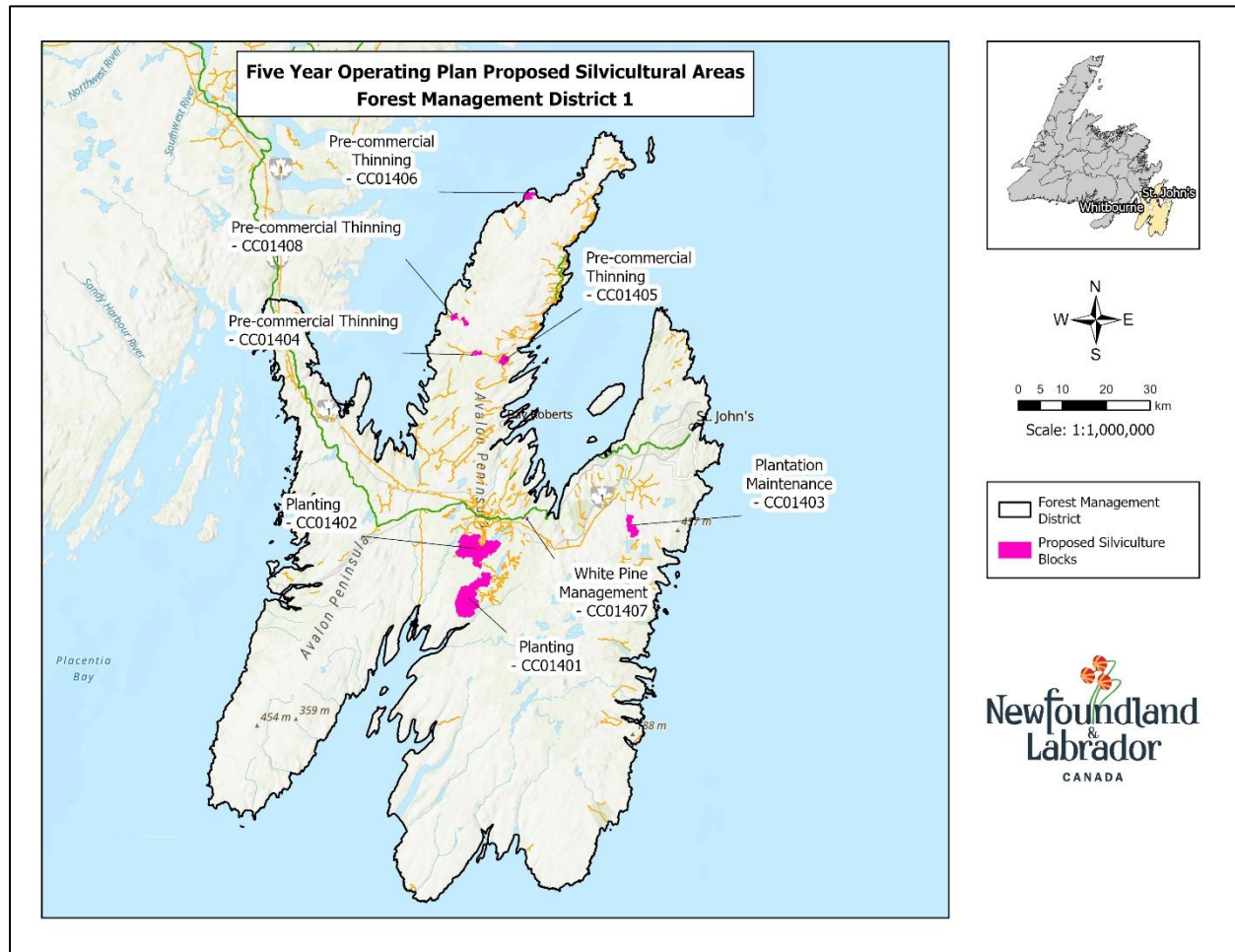


FIGURE 14 SILVICULTURE AREAS

Appendix 2 – Commercial Operating Area Summaries

Operating Area Name: Argentia Agriculture Block	Operating Area: CC01038
NFS Inventory Map #: 2441, 2442, 2473, 2474	NTS Map #: 1 N/5

Description of Area: This area of crown land is located along the Argentia access road. The area is located in the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 40785

Inventory Hardwood Volume: 1925

Planned Softwood Volume: 5000

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Avondale Access	Operating Area: CC01002
NFS Inventory Map #: 2470, 2471	NTS Map #: 1 N/6

Description of Area: This area of crown land is located south of the Avondale Access Road off the TCH. The area is located in the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 10450

Inventory Hardwood Volume: 425

Planned Softwood Volume: 1600

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Axes Pond	Operating Area Name: Operating Area: CC01016
NFS Inventory Map #:	NTS Map #: 1 N/10

Description of Area: This area of crown land is located in Torbay. This area is located within the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 1230

Inventory Hardwood Volume: 35

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Old Cabot Highway	Operating Area Name: Operating Area: CC01040
NFS Inventory Map #: 2409, 2410	NTS Map #: 1N/ 5

Description of Area: This area of crown land is located west of the community of Whitbourne. It is East of Beaver Pond and accessed off the TCH to the North. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder.

Inventory Softwood Volume: 30455

Inventory Hardwood Volume: 1305

Planned Softwood Volume: 8500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Bellevue	Operating Area Name: Operating Area: CC01041
NFS Inventory Map #:	NTS Map #: 1 N/12

Description of Area: This area of crown land is located near the town of Bellevue. This area is located within the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 1440

Inventory Hardwood Volume: 35

Planned Softwood Volume: 650

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a 80m Resource road pull off will take place off the TCH.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Blaketown	Operating Area Name: Operating Area: CC01037
NFS Inventory Map #: 2409	NTS Map #: 1N/ 5

Description of Area: This area of crown land is located west of the community of Blaketown and Whitbourne and Northeast of Peak Pond. It is accessed off the TCH to the North. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 4875

Inventory Hardwood Volume: 190

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Carbonear	Operating Area: CC01032
NFS Inventory Map #:	NTS Map #: 1 N/11

Description of Area: This area of crown land is located just west of the town of Carbonear. It is located within the Maritime Barrens ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 6330

Inventory Hardwood Volume: 350

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of 800m of resource road will be built off Line Road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Coopers Pond	Operating Area Name: Operating Area: CC01028
NFS Inventory Map #:	NTS Map #: 1 N/11

Description of Area: This area of crown land is located just east of the town of Greens Harbour. It is located within the maritime barrens ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 10705

Inventory Hardwood Volume: 480

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Gully Pond Road	Operating Area Name: Operating Area: CC01011
NFS Inventory Map #: 2468, 2499, 2500	NTS Map #: 1N/ 7

Description of Area: This area of crown land is located west of the communities of Bay Bulls and Witless Bay. It is accessed off the Southern Shore highway on the Gully Pond Forest Access Road. The area is located in the Maritime Barrens Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 46805

Inventory Hardwood Volume: 2875

Planned Softwood Volume: 6000

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a combined 5 km Resource road will take place off of Gully Pond Resource Road

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Dildo Pond	Operating Area Name: Operating Area: CC01030
NFS Inventory Map #:	NTS Map #: 1 N/11, 1N/6

Description of Area: This area of crown land is located east of the town of Blaketown. It is located within the maritime barrens ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 49150

Inventory Hardwood Volume: 1785

Planned Softwood Volume: 1000

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Reconstruction of a combined 4.3 km Resource road will take place off of Shearstown agriculture road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Fadders Pond	Operating Area Name: Operating Area: CC01025
NFS Inventory Map #: 2078	NTS Map #: 1 N/14

Description of Area: This area of crown land is located on the Hearts Content Barrens. The area is located in the Maritime Barrens Northeastern Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 4570

Inventory Hardwood Volume: 245

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Forth Pond	Operating Area Name: Operating Area: CC01013
NFS Inventory Map #: 24,022,403	NTS Map #: 1 N/7

Description of Area: This area of crown land is located west of the Goulds. This is located in the maritime barren ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 3380

Inventory Hardwood Volume: 235

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Foxtrap Pasture	Operating Area Name: Operating Area: CC01019
NFS Inventory Map #: 2404, 2435, 2436	NTS Map #: 1N/ 6

Description of Area: This area of crown land is located east of the community of Seal cove and east of the TCH. The area is located in the Maritime Barren Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 31605

Inventory Hardwood Volume: 1155

Planned Softwood Volume: 3500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Fox Harbour Valley	Operating Area Name: Operating Area: CC01021
NFS Inventory Map #:	NTS Map #: 1 N/4

Description of Area: This area of crown land is located

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 8040

Inventory Hardwood Volume: 260

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Fox Marsh	Operating Area Name: Operating Area: CC01009
NFS Inventory Map #:	NTS Map #: 1 N/6

Description of Area: This area of crown land is located near Villa Marie. It is located within the Maritime Barrens ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 41085

Inventory Hardwood Volume: 1570

Planned Softwood Volume: 7500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Goulds Brook	Operating Area Name: Operating Area: CC01031
NFS Inventory Map #: 2407, 2439	NTS Map #: 1N/6

Description of Area: This area of crown land is located to north of the TCH and south of Makinsons. It is accessed from the TCH. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 4350

Inventory Hardwood Volume: 220

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Healeys Pond	Operating Area Name: Operating Area: CC01039
NFS Inventory Map #: 2441	NTS Map #: 1N/5

Description of Area: This area of crown land is located to the west of the community of Whitbourne. Access is from the Placentia Junction road. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 820

Inventory Hardwood Volume: 40

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Hearts Delight Brook	Operating Area Name: Operating Area: CC01026
NFS Inventory Map #:	NTS Map #: 1 N/14

Description of Area: This area of crown land is located near the community of Heart's Delight. It is located within the Maritime Barren ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 1715

Inventory Hardwood Volume: 55

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Henders	Operating Area Name: Operating Area: CC01007
NFS Inventory Map #: 2503, 2504, 2535, 2536	NTS Map #: 1N/3 – 1N/6

Description of Area: This area of crown land is located to the west of the Deer Park Vineland Road Local Service District. It is accessed off the Salmonier Line road using the Henders road network. It encompasses a large area of previously managed secondary cycle forests. Th

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 39300

Inventory Hardwood Volume: 1295

Planned Softwood Volume: 2500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Island Pond Ridge	Operating Area Name: Operating Area: CC01005
NFS Inventory Map #: 2360, 2362	NTS Map #: 1N/11

Description of Area: This area of crown land is located on the East of the community of Dildo. It is near Island Pond and to the Northwest of Big Gull pond. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 5890

Inventory Hardwood Volume: 115

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood	Operating	Operating Area: CC01035
Area Name: Long Harbour		
NFS Inventory Map #: 2410, 2411		NTS Map #: 1N/ 5

Description of Area: This area of crown land is located northeast of the community of Community of Long Harbour. It is accessed of the Long Harbour road to the east. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 37370

Inventory Hardwood Volume: 1965

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Long Harbour Road	Operating Area Name: Operating Area: CC01020
NFS Inventory Map #:	NTS Map #: 1 N/5

Description of Area: This area of crown land is located along the Placentia Junction road to Long Harbour. It is located within the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 3815

Inventory Hardwood Volume: 235

Planned Softwood Volume: 750

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Mackinsons	Operating Area: CC01003
NFS Inventory Map #: 2439	NTS Map #: 1 N/6

Description of Area: This area of crown land is located just west of Whitbourne. Access to this area is from the Goulds Pond Cabin road. The area is located in the Maritime Barrens Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 4655

Inventory Hardwood Volume: 290

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Markland Road	Operating Area: CC01006
NFS Inventory Map #: 2440, 2441, 2472, 2473, 2505	NTS Map #: 1 N/5-1/N6

Description of Area: This area of crown land is located along the east side of Markland road, just west of Whitbourne. The area is located in the Maritime Barrens and Avalon Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 34425

Inventory Hardwood Volume: 2250

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Middle Gull Pond	Operating Area Name: Operating Area: CC01004
NFS Inventory Map #:	NTS Map #: 1 N/6

Description of Area: This area of crown land is located southwest of the community of Avondale. This is located in the Avalon Forest ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 5900

Inventory Hardwood Volume: 255

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood	Operating Area Name:	Operating Area: CC01014
Murphys Pond		
NFS Inventory Map #: 2403		NTS Map #: 1N/7

Description of Area: This area of crown land is located to the west of the town of the Goulds and South of the City of Mount Pearl and St. John's. It is accessed from powers road/ northern pond road. It is located near Murphys Pond, Big Northern Pond and to the Southeast of C

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 1435

Inventory Hardwood Volume: 65

Planned Softwood Volume: 600

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Nord Pond	Operating Area Name: Operating Area: CC01001
NFS Inventory Map #: 2470	NTS Map #: 1N/6

Description of Area: This area of crown land is located to north of the TCH and west of Salmonier. It is accessed from Avondale Access Road. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 3780

Inventory Hardwood Volume: 220

Planned Softwood Volume: 0

Planned Hardwood Volume:

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Old Witless Bay Line	Operating Area: CC01010
NFS Inventory Map #: 2468, 2500	NTS Map #: 1N/7

Description of Area: This area of crown land is located off the Witless Bay Line Road. It is between Country Pond to the west and Gull Pond to the East. Access is off the Witless Bay Line to the south. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 3245

Inventory Hardwood Volume: 70

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Paddys Pond	Operating Area Name: Operating Area: CC01018
NFS Inventory Map #: 2403, 2404	NTS Map #: 1N/ 7

Description of Area: This area of crown land is located south of the community of Paradise, north of Paddy's Pond and east of the TCH. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 8960

Inventory Hardwood Volume: 675

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Peytons Pond	Operating Area Name: Operating Area: CC01015
NFS Inventory Map #:	NTS Map #: 1 N/10

Description of Area: This area of crown land is located Northwest of the community of Flatrock. It is located within the Maritime Barrens ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 3015

Inventory Hardwood Volume: 110

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Pitchers Pond	Operating Area Name: Operating Area: CC01027
NFS Inventory Map #: 2192, 2247	NTS Map #: 1N/ 11

Description of Area: This area of crown land is located east of the community of Whiteway. It is located within the Maritime Barren ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 6780

Inventory Hardwood Volume: 1860

Planned Softwood Volume: 1000

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Rantem Cove	Operating Area: CC01036
NFS Inventory Map #: 2198, 2200	NTS Map #: 1N/12

Description of Area: This area of crown land is located on the Isthmus of the Avalon near Rantem Cove and Little Southern Harbour. It is accessed to the East of the TCH. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 8905

Inventory Hardwood Volume: 665

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood	Operating Area Name:	Operating Area: CC01029
Southern Cove Pond		
NFS Inventory Map #:		NTS Map #: 1 N/14

Description of Area: This area of crown land is located near the community of Heart's Delight. It is located within the Maritime Barren ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 14285

Inventory Hardwood Volume: 565

Planned Softwood Volume: 500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of 1.56 km of combined Resource road (0.1km, 0.2km and 1.2km) will take place in the Seal Cove Pond area.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Operating Area Name: Snows Ridge	Operating Area: CC01033
NFS Inventory Map #: 2358, 2360, 2407, 2408	NTS Map #: 1N/ 6

Description of Area: This area of crown land is located off Veterans Memorial Highway just north of the TCH. It is accessed on the Penny's Pit Forest Access Road. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 25500

Inventory Hardwood Volume: 915

Planned Softwood Volume: 7500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a 2.5 km Resource road will take place off Snows Ridge Resource Road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Spread Eagle	Operating Area Name: Operating Area: CC01034
NFS Inventory Map #: 2409, 2410, 2441, 2442	NTS Map #: 1N/ 6

Description of Area: This area of crown land is located West of the community of Whitbourne. It is West of Spread Eagle Peak and East of Second Island Pond. It is accessed off the TCH on the Spread Eagle Forest Access Road. The area is located in the Maritime Forest Ecoregion

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 40215

Inventory Hardwood Volume: 2825

Planned Softwood Volume: 1500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Suttons Pond	Operating Area Name: Operating Area: CC01023
NFS Inventory Map #: 2304	NTS Map #: 1N/ 11

Description of Area: This area of crown land is located east of the community of Dildo and Hopeall. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 51215

Inventory Hardwood Volume: 3540

Planned Softwood Volume: 7500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of 2 Resource Roads (Total 2.7 km combined) Resource road will take place off Rocky Pond Road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Tilton Barrens	Operating Area Name: Operating Area: CC01024
NFS Inventory Map #: 2304	NTS Map #: 1 N/11

Description of Area: This area of crown land is located along the Tilton Barrens. The area is located in the Maritime Barrens Northeastern Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 1780

Inventory Hardwood Volume: 80

Planned Softwood Volume: 250

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Tors Cove Ridge	Operating Area Name: Operating Area: CC01012
NFS Inventory Map #: 2532	NTS Map #: 1N/ 7

Description of Area: This area of crown land is located west of the community of Tor's Cove. It is accessed off the Southern Shore highway. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 16375

Inventory Hardwood Volume: 930

Planned Softwood Volume: 650

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a 1.5 km Resource road will take place in Tors Cove Pond area.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood Tower Road	Operating Area Name: Operating Area: CC01008
NFS Inventory Map #: 2471, 2503	NTS Map #: 1N/6

Description of Area: This area of crown land is located to the west of the Deer Park Vineland Road Local Service District. It is accessed off the Salmonier Line road using the Henders/ tower road. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 33550

Inventory Hardwood Volume: 1390

Planned Softwood Volume: 1500

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a 3 km Resource road will take place off Tower Road Resource Road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood White Hill Pond	Operating Area Name: Operating Area: CC01022
NFS Inventory Map #: 2247, 2304, 2306	NTS Map #: 1N/ 11

Description of Area: This area of crown land is located east of the communities of Dildo, Hopeall and Greens Harbour. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 34315

Inventory Hardwood Volume: 2500

Planned Softwood Volume: 5000

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: Construction of a 1 km Resource road will take place off White Hills Pond Resource Road.

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood

Operating Area Name: Wych Hazel Pond	Operating Area: CC01017
NFS Inventory Map #: 2352, 2404	NTS Map #: 1N/ 7

Description of Area: This area of crown land is located south of the community of Manuels and Conception Bay and North of Wych Hazel Pond. The area is located in the Maritime Forest Ecoregion.

Harvesting Activities: Commercial activity will include manual or mechanical harvesting of sawlogs and fuelwood with extraction by forwarder or ATV.

Inventory Softwood Volume: 10520

Inventory Hardwood Volume: 625

Planned Softwood Volume: 650

Planned Hardwood Volume: 0

Difference from Inventory to Proposed Volume:

Rationale for Difference:

Silviculture Activities: Reconnaissance surveys will be carried out on areas harvested and regenerating stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and/or planting and/or gap planting and suitable regenerating stands will be candidates for thinning.

Primary Forest Access Road Construction: None

Non-Timber Considerations and Mitigations: A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

Appendix 3A – 11m³ - Domestic Operating Area Summaries

Operating Area Name:	Operating Area #
Admiral's Beach	CC01520
Aquaforte	CC01527
Argentia Access	CC01560
Arnold's Cove / Southern Harbour	CC01591
Back River	CC01519
Barasway	CC01553
Bellevue	CC01594
Big Pond Valley	CC01546
Biscay Bay	CC01599
Black Ridge	CC01511
Blaketown	CC01596
Branch	CC01551
Brien's Pond	CC01509
Brigus Junction	CC01508
Broad Lake	CC01593
Calvert	CC01525
Cape Broyle	CC01524
Cappahayden	CC01598
CBS	CC01547
Chapel Arm	CC01595
Colinet River	CC01513
Deer Park	CC01516
Eagle Ridge Road	CC01505
Fair Haven	CC01589
Forest Field	CC01518
Gaskiers	CC01522
Goose Pond	CC01506
Hennesseys Pond	CC01548
Holyrood	CC01549
Hooper's Pond	CC01507
Island Pond Ridge	CC01502
Lees Gully	CC01510

Little Harbour	CC01592
Long Harbour	CC01556
Mahers	CC01501
Mall Bay	CC01521
Merrymeeting Pond	CC01526
Mount Carmel	CC01517
North Harbour	CC01550
Ocean Pond	CC01504
Patrick's Cove	CC01554
Peak Pond	CC01503
Peter's River	CC01597
Point Verde	CC01552
Rattling Brook	CC01558
Renews	CC01528
Ship Harbour	CC01557
Southeast Placentia	CC01561
Spread Eagle Peak	CC01590
St. Brides	CC01555
St. Mary's	CC01523
St. Shott's	CC01600
Three Mast Pond	CC01515
Tors Cove	CC01530
Tower Road	CC01512
Ville Marie	CC01559
White Heart	CC01514
Witless Bay	CC01529
Wych Hazel Pond	CC01544
NFS Inventory Map #:	NTS Map #:

Description of Area:

These listed parcels of crown land are located throughout forest management district (FMD) 1. The domestic harvesting areas are located in close proximity to various communities and cabin areas throughout the Zone in order to accommodate the fuelwood/sawlog requirements of the general public. These areas are located in the Avalon Forest, Maritime Barrens and Eastern Hyper Oceanic Barrens Ecoregions.

Harvesting Activities:

Domestic activity will include sawlog and fuelwood harvesting by chainsaw with extraction by snowmobile or ATV primarily during the winter months. Harvesting of hardwoods and softwoods will be permitted in these areas for domestic use with the exception of any treated stands. Total volume permitted for domestic harvest within these areas is <11m³/permit.

Proposed Softwood Volume: 15,444 m³

Proposed Hardwood Volume: 1716 m³

Silviculture Activities:

Reconnaissance surveys will be carried out on existing and new cutovers and regeneration stands to determine the need for planting. Generally, natural regeneration, following domestic wood harvesting is successful in producing a viable future forest. Harvest areas are periodically monitored to ensure regeneration is satisfactory. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and planting and /or gap planting.

Primary Forest Access Road Construction:

None

Proposed 5-year access road construction: 0

Proposed 5-year stream crossings: 0

Non timber Considerations and Mitigations:

Deadwood and Blowdowns: The cutting of deadwood and blowdown is permitted within the boundary of the domestic harvesting site. Harvesting of roadside blowdown and deadwood is permitted under the roadside deadwood and blowdown guidelines.

Highway Buffer: No domestic cutting permitted within 100 m of highway

Scheduled Salmon Rivers: 100 meter no cut buffer

Water bodies: A minimum 20 metre buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 Topographic maps.

Trails: There will be no cutting within 100 meters of Newfoundland Trailway. There will be no cutting within 30 meters of a recreational trail identified on the domestic area map.

Cottage Areas: There will be no cutting within 100 meters of a cabin development area and 20 meters of a registered legal cabin. Domestic cutting permits can be obtained to allow the cutting of timber on valid "license to occupy" by the license holder.

Raptor Nest: No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

Protected Public Water Supply Areas: Within protected water supplies, there will be no cutting within 150 meters of the intake pond or stream and no cutting within 75 meters of the main river channel. There will be no cutting within 50 meters of all ponds and streams flowing into the intake pond or stream. FSB has additionally agreed to a 300 m no cut buffer around intake pond.

Appendix 3B – 9m³ - Domestic Operating Area Summaries

Operating Area Name:	Operating Area #
Backside Pond	CC01574
Bay de Verde	CC01568
Cavendish	CC01572
Dark Hills	CC01565
Denny's Pond	CC01564
Glover Road	CC01562
Hanging Hill Pond	CC01571
Heart's Delight	CC01576
Heart's Desire	CC01575
Hopeall	CC01563
Mizzen Hill	CC01570
New Perlican River	CC01573
Seymour's Gullies	CC01567
Shearstown Agric.Road	CC01566
Turk's Cove	CC01569
Valley Ponds	CC01577
NFS Inventory Map #:	NTS Map #:

Description of Area:

These listed parcels of crown land are located throughout forest management district (FMD) 1. The domestic harvesting areas are located in close proximity to various communities and cabin areas throughout the Zone in order to accommodate the fuelwood/sawlog requirements of the general public. These areas are located in the Maritime Barrens Ecoregion.

Harvesting Activities:

Domestic activity will include sawlog and fuelwood harvesting by chainsaw with extraction by snowmobile or ATV primarily during the winter months. Harvesting of hardwoods and softwoods will be permitted in these areas for domestic use with the exception of any treated stands. Total volume permitted for domestic harvest within these areas is <9m³/permit of green timber and an additional 3m³ of deadwood/blowdown to equal <11m³ max total harvested.

Proposed Softwood Volume: 7,605m³

Proposed Hardwood Volume: 845m³

Silviculture Activities:

Reconnaissance surveys will be carried out on existing and new cutovers and regeneration stands to determine the need for planting. Generally, natural regeneration, following domestic wood harvesting is successful in producing a viable future forest. Harvest areas are periodically monitored to ensure regeneration is satisfactory. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and planting and /or gap planting.

Primary Forest Access Road Construction:

None

Proposed 5-year access road construction: 0

Proposed 5-year stream crossings: 0

Non timber Considerations and Mitigations:

Deadwood and Blowdowns: The cutting of deadwood and blowdown is permitted within the boundary of the domestic harvesting site. Harvesting of roadside blowdown and deadwood is permitted under the roadside deadwood and blowdown guidelines.

Highway Buffer: No domestic cutting permitted within 100 m of highway

Scheduled Salmon Rivers: 100 meter no cut buffer

Water bodies: A minimum 20 metre buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 Topographic maps.

Trails: There will be no cutting within 100 meters of Newfoundland Trailway. There will be no cutting within 30 meters of a recreational trail identified on the domestic area map.

Cottage Areas: There will be no cutting within 100 meters of a cabin development area and 20 meters of a registered legal cabin. Domestic cutting permits can be obtained to allow the cutting of timber on valid "license to occupy" by the license holder.

Raptor Nest: No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

Protected Public Water Supply Areas: Within protected water supplies, there will be no cutting within 150 meters of the intake pond or stream and no cutting within 75 meters of the main river channel. There will be no cutting within 50 meters of all ponds and streams flowing into the intake pond or stream. FSB has additionally agreed to a 300 m no cut buffer around intake pond.

Appendix 3C – 7m³ - Domestic Operating Area Summaries

Operating Area Name:	Operating Area #
Bauline Line	CC01532
Bay Bulls	CC01539
Biscayne Cove	CC01538
Blackhead	CC01534
Butlerville	CC01587
Cat Hills	CC01586
Crown Hill	CC01542
Cupids Long Pond	CC01583
Fling's Long Pond	CC01582
Goulds Brook	CC01580
Goulds Farmland	CC01537
Lady Lake	CC01584
Moon Pond	CC01535
North River	CC01588
North Shore	CC01578
Patrick's Path	CC01543
Shoal Bay Road	CC01541
Snow's Ridge	CC01579
Spider Pond	CC01585
Stiles Cove	CC01533
Swansea	CC01581
Thomas Pond	CC01531
Western Island Pond	CC01536
Witless Bay Line	CC01540
NFS Inventory Map #:	NTS Map #:

Description of Area:

These listed parcels of crown land are located throughout forest management district (FMD) 1. The domestic harvesting areas are located in close proximity to various communities and cabin areas throughout the Zone in order to accommodate the fuelwood/sawlog requirements of the general public. These areas are located in the Maritime Barrens Ecoregion.

Harvesting Activities:

Domestic activity will include sawlog and fuelwood harvesting by chainsaw with extraction by snowmobile or ATV primarily during the winter months. Harvesting of hardwoods and softwoods will be permitted in these areas for domestic use with the exception of any treated stands. Total volume permitted for domestic harvest within these areas is <7m³/permit of green timber and an additional 4m³ of deadwood/blowdown to equal <11m³ max total harvested.

Proposed Softwood Volume: 6,715m³

Proposed Hardwood Volume: 746m³

Silviculture Activities:

Reconnaissance surveys will be carried out on existing and new cutovers and regeneration stands to determine the need for planting. Generally, natural regeneration, following domestic wood harvesting is successful in producing a viable future forest. Harvest areas are periodically monitored to ensure regeneration is satisfactory. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and planting and /or gap planting.

Primary Forest Access Road Construction:

None

Proposed 5-year access road construction: 0

Proposed 5-year stream crossings: 0

Non timber Considerations and Mitigations:

Deadwood and Blowdowns: The cutting of deadwood and blowdown is permitted within the boundary of the domestic harvesting site. Harvesting of roadside blowdown and deadwood is permitted under the roadside deadwood and blowdown guidelines.

Highway Buffer: No domestic cutting permitted within 100 m of highway

Scheduled Salmon Rivers: 100 meter no cut buffer

Water bodies: A minimum 20 metre buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 Topographic maps.

Trails: There will be no cutting within 100 meters of Newfoundland Trailway. There will be no cutting within 30 meters of a recreational trail identified on the domestic area map.

Cottage Areas: There will be no cutting within 100 meters of a cabin development area and 20 meters of a registered legal cabin. Domestic cutting permits can be obtained to allow the cutting of timber on valid "license to occupy" by the license holder.

Raptor Nest: No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

Protected Public Water Supply Areas: Within protected water supplies, there will be no cutting within 150 meters of the intake pond or stream and no cutting within 75 meters of the main river channel. There will be

no cutting within 50 meters of all ponds and streams flowing into the intake pond or stream. FSB has additionally agreed to a 300 m no cut buffer around intake pond.

Appendix 3D – Roadside - Domestic Operating Area Summaries

Operating Area Name: Domestic Roadside Deadwood and Blowdown	Operating Area #
NFS Inventory Map #:	NTS Map #:

Description of Area:

Various provincial highway locations on the Avalon Peninsula.

Harvesting Activities:

Roadside Deadwood and Blowdown Domestic activity will include only the harvest of dead and/or blowdown timber; no standing green timber is to be cut or damaged. Harvesting is only permitted within 100m (328 feet) from the center of a Provincial highway which has a route number assigned or a Nalcor Transmission line corridor. No cutting is to occur within the boundaries of any provincial, municipal or private parks. Harvesting is only permitted on Crown Land and absolutely no cutting within a designated protected water supply area. Only existing access may be used to reach the site and no new access routes can be created off the highway. Harvesting of fuelwood can be conducted by chainsaw with extraction by snowmobile or ATV. Total volume permitted for domestic harvest within these areas is <11m³/permit.

No harvesting is permitted along the TransCanada Highway east of Paddy's Pond, along route 10 north of Bay Bulls, or along Pitts Memorial Highway, Peace Keepers Way, Foxtrap Access Road or along route 90; Salmonier Line North of St. Joesph's to Holyrood.

Silviculture Activities:

Not applicable for Roadside Deadwood and Blowdown.

Primary Forest Access Road Construction:

Not applicable for Roadside Deadwood and Blowdown

Proposed 5-year access road construction: 0

Proposed 5-year stream crossings: 0

Non timber Considerations and Mitigations:

Roadside Deadwood and Blowdowns: The cutting of deadwood and blowdown is permitted within 100m (328 feet) of the center line of provincial highway which has a route number assigned or a Nalcor Transmission Line corridor. Only dead and/or blowdown timber may be harvested; no standing green timber is to be cut or damaged.

Scheduled Salmon Rivers: 100 meter no cut buffer

Water bodies: A minimum 20 metre buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 Topographic maps.

Trails: There will be no cutting within 100 meters of Newfoundland Trailway. There will be no cutting within 30 meters of a recreational trail identified on the domestic area map.

Cottage Areas: There will be no cutting within 100 meters of a cabin development area and 20 meters of a registered legal cabin. Domestic cutting permits can be obtained to allow the cutting of timber on valid “license to occupy” by the license holder.

Raptor Nest: No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

Protected Public Water Supply Areas: Within protected water supplies, there will be no cutting within 150 meters of the intake pond or stream and no cutting within 75 meters of the main river channel. There will be no cutting within 50 meters of all ponds and streams flowing into the intake pond or stream. FSB has additionally agreed to a 300 m no cut buffer around intake pond.

Appendix 4 Silviculture Areas

Operating Area Name: Silviculture Areas	Operating Area # CC01401, CC01402, CC01403, CC01404, CC01405, CC01406, CC01407, CC01408
NFS Inventory Map #: 1N/7, 1N/6, 1 N/14, 2 C/3	NTS Map #:

Description of Area:

Silviculture Management Zones were created to focus on regeneration of both harvested sites; both domestic and commercially harvested, and natural disturbance sites that are not adequately regenerating on their own. The objective is to sustain ecological functions, promote vegetation types characteristic of the Boreal Forest and to create a sustainable balance of healthy forests and viable forest products. These silviculture zones encompass a large area of previously managed secondary cycle forests as well as naturally disturbed sites.

These are multiple areas of crown land designated for silviculture prescriptions or reforestation projects. Silviculture area CC01403 is This area of crown land is located west of the community of Witless Bay. Access is off the Old Witless Bay line and along Joyces Trail. The area is located in the Maritime Forest Ecoregion. Silviculture areas CC01401 and CC01403 are areas of crown land located to the west of the Deer Park Vineland Road Local Service District. It is accessed off the Salmonier Line road using the Henders/ tower road. These areas are both located in the Maritime Forest Ecoregion. Silviculture area CC01404 and CC01405 area areas of crown land located off Line road and Forest road in Carbonear. Silviculture area CC01406 is an area of crown land located between New Chelsea and New Melbourne. Silviculture area CC01407 is an area of crown land located off the Avondale Access road. Silviculture area CC01408 is an area of crown land located to the east of Hearts Desire.

Harvesting Activities:

Commercial activity will include pulpwood, sawlog and fuelwood harvesting using chainsaws and mechanical harvester with extraction by forwarder or ATV.

Inventory Softwood Volume: XXXXX m³

Inventory Hardwood Volume: XXXXX m³

Proposed Softwood Volume: XXXXX m³

Proposed Hardwood Volume: XXXXX m³

Difference from Inventory to Proposed Volume: XXXXXX%

Rationale for Difference: Inventory / blocking adjustment from woodsupply calculations and operational criteria of age class 4 and greater with minimal 60 m³/ha and greater

Silviculture Activities:

Reconnaissance surveys will be carried out on existing and new cutovers and regeneration stands to determine the need for planting and/or thinning. Suitable cutovers that are not satisfactorily regenerated will be candidates for site preparation and planting and /or gap planting and suitable regeneration stands will be candidates for thinning. All potential silviculture areas are identified on the operations area maps.

Primary Forest Access Road Construction:

Access road construction in this area will typically be carried out under government contract primarily utilizing excavators. The majority of the fill requirements will come from the road right of (ROW). In the event that material is required from outside the ROW (i.e. gravel pits), it will be done under permit from the Mines Branch of the Department of Natural Resources. No stream crossings will be required.

Proposed 5 year access road construction: 0

Proposed 5 year stream crossings: 0

Non timber Considerations and Mitigations:

A 30 meter buffer will be maintained on both sides of all rivers, brooks, ponds or other water bodies that are shown on 1:50,000 topographic maps.

On water bodies where an approved cabin development area exists, a 105 meter buffer must be maintained along the shoreline.

Where an approved license to occupy for a cabin exists, a 20 meter buffer is to be maintained.

No forestry activity is to occur within 800 meters of a bald eagle or osprey nest during the nesting season (Mar 15 to July 31) and 200 meters during the remainder of the year.

All activities will be carried out under strict monitoring ensuring operations are compliant with Environmental Protection Guidelines.

Pre-harvest plans will be conducted to identify any wildlife / non timber considerations

Rare Lichen surveys will be completed pre-harvest

No harvesting of hardwood

Appendix 5 – Stakeholders Consulted

1) Municipalities listing

'ADMIRALS BEACH' <townadmiralsbeach@outlook.com>;
'Arnold's Cove' <townofarnoldscove@nf.aibn.com>;
'Avondale' <townofavondale@eastlink.ca>;
'Bauline' <manager@townofbauline.ca>;
'Bay Bulls' <jaspell@townofbaybulls.com>;
'Bay de Verde' <towncouncilbdv@persona.ca>;
'Broad Cove' <townofsmallpoint-adamscove@bellaliant.com>;
'Bryant's Cove' <bryantscove@eastlink.ca>;
'Cape Broyle' <townofcapebroyle@nf.aibn.com>;
'Carbonear' <carboneyear@nf.aibn.com>; 'Chance Cove' <townofchancecove1998@gmail.com>;
'Chapel Arm' <town@chapelarm.ca>; 'Clarke's Beach' <joanwilcox@nf.aibn.com>;
'Colinet' <colinet@eastlink.ca>;
'Colliers' <townofcolliers@eastlink.ca>;
'Conception Bay South' <gpomroy@conceptionbaysouth.ca>;
'Conception Harbour' <charbour@eastlink.ca>;
'Fermeuse' <townoffermeuse@gmail.com>;
'Ferryland' <town.ferryland@nf.aibn.com>;
'Flatrock' <info@townofflatrock.com>;
'Fox Harbour' <townoffoxharbour@gmail.com>;
'Hant's Harbour' <townofhantsharbour@hotmail.ca>;
'Harbour Grace' <thg@nf.sympatico.ca>;
'Harbour Main' <hmcouncil@eastlink.ca>;
'Heart's Content' <heartscontent@persona.ca>;
'Heart's Delight-Islington' <heartsdelightislington@persona.ca>;
'Heart's Desire' <townofheartsdesire@persona.ca>;
'Holyrood' <info@holyrood.ca>;
'Long Harbour' <towncouncil@longharbour.net>;
'Mount Carmel' <townclerk@townofmountcarmel.ca>;
'Mount Pearl' <info@mountpearl.ca>;
'New Perlican' <townofnewperlican@persona.ca>;
'Norman's Cove' <townofnclc@eastlink.ca>;
'Old Perlican' <townofoldperlican@persona.ca>;

'Paradise' <info@paradise.ca>;
'Petty Harbour' <sstack@phmc.nf.net>;
'Placentia' <townofplacentia@placentia.ca>;
'Port Kirwan' <dana.boland@yahoo.ca>;
'Portugal Cove - St. Philip's' <pcsp@pcsp.ca>;
'Pouch Cove' <info@pouchcove.ca>;
'Renews-Cappahayden' <townofrenewscappahayden@nf.aibn.com>;
'Salmon Cove' <townofsalmoncove@nf.aibn.com>;
'Southern Harbour' <twnsouthernhr@nf.aibn.com>;
'Spaniard's Bay' <spaniardsbay@persona.ca>;
'St. John's' <cityclerk@stjohns.ca>;
'St. Joseph's' <towncouncilstjosephs@gmail.com>;
'St. Mary's' <townofstmarys@nf.aibn.com>;
'St. Mary's' <townofgaskiers@nf.aibn.com>;
'St. Mary's' townofriverhead@hotmail.com;
'St. Vincent's' <svstpr@nf.aibn.com>;
'Torbay' <dchaplin@torbay.ca>; 'Trepassey' <townoftrepassey2@hotmail.com>;
'Upper Island Cove' <townoffice@upperislandcove.ca>; 'Victoria' <townofvictoria@nf.aibn.com>;
'Whitbourne' <whit.towncouncil@eastlink.ca>;
'Whiteway' <townofwhiteway@eastlink.ca>;
'Winterton' <clerk@winterton.ca>;
'Witless Bay' townofwitlessbay@nl.rogers.com

2) Listing sent to Indigenous groups:

Qalipou First Nation – Corner Brook, NL

Miawpukek First Nation Conne River, NL

3) Listing sent to Outfitters & Other

Newfoundland and Labrador Outfitters Association <info@nloa.ca>;
Newfoundland and Labrador Snowmobile Federation <info@nlsf.org>;
Legendary Coasts of Eastern Newfoundland <info@legendarycoasts.com>;
East Coast Trail Association <randy.murphy@eastcoasttrail.com>;
Newfoundland T'Railway Council <jwarren@railway.ca>;
Destination St. John's <pbugge@destinationstjohns.com>;
Mistaken Point Cape Race Heritage Inc gertie.molloy@cbdc.ca

4) Listing sent to Internal Departments

- 1) Department of Forestry, Agriculture and Lands
 - a. Wildlife Division
 - b. Crown Lands Division
 - c. Land Management Division
- 2) Department of Environment, Conservation and Climate Change
 - a. Policy, Planning and Natural Areas Division
 - b. Water Resources Management Division
- 3) Tourism Culture, Arts and Recreation
 - a. Tourism Product Development Division
- 4) Department of Energy and Mines
 - a. Mineral Lands Division

Appendix 6 – Summary of External Outreach

Department / Agency	Contact Date	Response Date	Issue / Concern	Action / Comments from Forestry
Town of MT. Carmel-Mitchell's Brook-St. Catherine's	March 12, 2026	April 15, 2026	April 15, 2026 Mr. Jason Glode District 1 Forester Avalon, NL Dear Mr. Glode: The town office has received your request for input to its preliminary proposed forestry activities in the St. Mary's Bay area as part of its preparation for its new 5-year forest management plan for 2027-2031. The polygon shape files provided encompass a significant area within the town boundaries. Under the Rural and Urban Planning Act, forestry activities, including commercial and silviculture operations, are defined as developments, and require a permit from the town. Therefore the Town of MC-MB-SC requests that you submit a more detailed description of activities proposed to occur within the community boundaries. Once the town council has reviewed this information, we will be able to provide further input into your process. The spatial information provided that we reviewed on Google Earth does not identify specific proposed operational areas in the St. Marys Bay polygon. It may also be the case, that proposed activities are outside of our town planning area.	Thank you for your response to our five-year forest management plan consultation. We acknowledge the requirement under the Rural and Urban Planning Act for forestry to obtain the necessary development permit to conduct any forestry work within the town boundaries. Apart from our long standing domestic cutting areas which provide residents access for fuelwood we currently have no plans for any other forestry operations within the boundaries of the town. Should this change over the next five years of this new plan we will engage the town with detailed plans and submit application for permitting prior to any work commencing. If you still wish to discuss our five year forest management plan you can reach out to me at any time. Thank you.
	March 12, 2025	June 29, 2026	Hi Jason, Please note that Nina has retired. Could you please clarify that there are no initiatives planned not solely within town boundaries but within the Municipal Planning Area. Thanks in advance, Keyona Walsh	Correct. Besides domestic cutting areas that have been historically in place.

Department / Agency	Contact Date	Response Date	Issue / Concern	Action / Comments from Forestry
Town of Portugal Cove-St. Philip's	March 12, 2026	May 25, 2026	Hi Jason, At their May 13, 2026 meeting, Council discussed the Five-Year Forest Operating Management Plan Review and resolved to correspond with the Department of Forestry, Agriculture and Lands requesting that the Forest Operating Management Plan allow issuance of provincial cutting permits for removal of windfalls on Crown Lands located within the Town's boundaries. Regards, Ashley Ashley Linehan P. Tech, PMP Director of Planning & Development Town of Portugal Cove-St. Philip's ashley.linehan@pcsp.ca 709-895-8000 ext. 269	Forestry District Ecosystem Manager will add a special area to the plan

Appendix 7 – Summary of Internal Outreach

Tourism		Action / Comments from Forestry
Contact Date February 2, 2026	Response Date March 5, 2026	
Issue / Concern		
TCAR recommends that any development near key touring corridors be managed to minimize negative visual impacts on scenic settings. The Trans-Canada Highway (Route 1) is a strategically important touring route for the province. Several additional highways also play a major role in connecting visitors to tourism operators, gateways, and emerging destinations. These include Route 201, Route 202, Route 101, Route 100, Route 81, Route 75, Route 80, Route 74, Route 73, Route 90, Route 13, Route 2, and Route 10. Cut blocks along these routes should be designed and developed using landscape design techniques to minimize visibility of harvesting for travellers. o Applicable cut blocks (CC_) include: CC01036, CC01041, CC01035, CC01040, CC01034, CC01037, CC01033, CC01031, CC01003, CC01004, CC01002, CC01001, CC01005, CC01018, CC01025, CC01029, CC01028, CC01022, CC01023, CC01024, CC01006, CC0100, CC01038, CC01039, CC01020, CC01012, CC01010, CC01011.		Forest management harvesting activities are designed to mimic natural disturbance patterns. Forestry activities are carried out on a small percentage of the landscape and natural regeneration occurs soon after, or reforestation is managed with silviculture treatments. While there may be specific special areas where viewscapes may be designed, it is not reasonable to carry viewscapes design on large planning areas
Rivers and trails are key tourism assets, relied on by operators who depend on their pristine settings, remoteness, and ambiance to create and deliver premium tour experiences. ▣ The East Coast Trail (ECT) is one of Newfoundland and Labrador’s signature tourism assets. Managed by the East Coast Trail Association for more than 30 years, it includes 336 kilometres of developed coastal routes on the Avalon Peninsula. The ECT showcases dramatic seascapes, cultural heritage, and natural environments that strongly appeal to both residents and non-resident visitors. Hiking and walking rank among the top interests of travellers, and the ECT plays a significant role in attracting visitors who are seeking memorable coastal scenery, wildlife viewing opportunities, and experiences that reflect the province’s people, culture, and environment. o The value of the ECT is dependent on its surrounding natural environment and unobstructed viewscapes, both of which can be compromised by nearby development. The Provincial Land Use Atlas identifies buffers of 50 metres on each side of the ECT in forested areas and 250 metres on each side in high visibility areas such as barrens and open landscapes. Any development within or adjacent to these areas should be managed to reduce negative visual impacts and protect the wilderness qualities that remain key drivers of visitation and sustainable tourism growth. o Applicable cut blocks (commercial and domestic) include: CC01013, CC01598, CC01528, CC01527, CC01526, CC01525, CC01524, CC01530, CC01529, CC01539, CC01541, CC01542, CC01533, CC01534, CC01538, CC01545. ▣ The T’Railway Provincial Park is an 890-kilometre multi-use trail providing year-round recreational opportunities and is another high value tourism asset. Protection of its natural surroundings is essential for maintaining visitor appeal and the quality of experience it provides. Development within or adjacent to the Park should be managed in consultation with the Parks NL Division (TCAR) to minimize visual impacts and support the wilderness qualities that drive visitation. o Applicable cut blocks (commercial) include: CC01017, CC01009, CC01006, CC01039, CC01034, CC01038, CC01035.		Forestry will follow all Trail buffer requirements

Tourism		Action / Comments from Forestry
Contact Date February 2, 2026	Response Date March 5, 2026	
Issue / Concern		
Recommendations ☑ Mitigation measures should be implemented to preserve visitor experience and viewsapes along identified Routes and highways. Forestry harvesting should be kept out of view where possible, and harvest blocks should be designed using landscape techniques that reduce the visual effects of clear cuts. ☑ Forest harvesting and new access roads have the potential to negatively affect tourism businesses. Forestry should coordinate with outfitters during the big game season (September 15 to December 31) and spring bear harvest (May 1 to July 15). ☑ The proponent should prepare and submit a Tourism Stakeholder Consultation Plan that identifies potential impacts of forestry operations and outlines how harvesting, road construction, and silviculture activities will be adapted to reduce those impacts. Considerations should include wildlife populations, hunting success rates, wilderness settings, and potential increases in resident access. TCAR must review this plan before operations begin. 4 ☑ Commercial forest harvesting near Provincial Parks, including the T’Railway Provincial Park, should be carried out in consultation with the Parks NL Division (TCAR) to ensure cut blocks are not visible to park visitors and that activities occur outside park operating seasons. ☑ It is recommended that the proponent engage with Julia Penney (JuliaPenney@gov.nl.ca, 709 729 6588) regarding forestry activities in Zone 1 and preparation for Environmental Assessment.		Forest management harvesting activities are designed to follow natural disturbance patterns. Forestry activities are carried out on a small percentage of the landscape and natural regeneration occurs soon after, or reforestation is managed with silviculture treatments. While there may be specific special areas where viewsapes may be designed, it is not reasonable to carry viewscape design on large planning areas
Outfitting ☑ Outfitting is an iconic and high yield tourism product for Newfoundland and Labrador. Each year, outfitters attract high end hunting and angling visitors whose spending supports local communities, guides, transportation providers, and private operators. These adventure experiences, combined with the natural environment of the Eastern Region, generate ongoing content shared through social media, photography, and other visitor-generated channels. The following outfitter should be contacted regarding potential impacts. 3 ☑ Fishing Buddies Unlimited For contact information, please contact AlexanderWilliams@gov.nl.ca. Tourism Stakeholders ☑ TCAR recommends consultations with the following stakeholders in efforts to mitigate conflict: ☑ Newfoundland and Labrador Outfitters Association Email: info@nloa.ca Phone: (709) 639 5926 ☑ Newfoundland and Labrador Snowmobile Federation Email: info@nlsf.org Phone: (709) 635 4395 ☑ Legendary Coasts of Eastern Newfoundland Email: info@legendarycoasts.com Phone: (709) 687 7068 ☑ East Coast Trail Association Email: randy.murphy@eastcoasttrail.com Phone: (709) 725 9811 ☑ Newfoundland T’Railway Council Email: jwarren@trailway.ca Phone: (709) 700 0218 ☑ Destination St. John’s Email: pbugge@destinationstjohns.com Phone: (709) 739 8899		Forest management activities in the Avalon Boreal forest use the clearcut silviculture harvesting system. These Forest management activities mimic the natural disturbance patterns of the boreal. While disturbance can have negative effects - forest managed disturbance is generally short term, and include successional silviculture applicaion. Managed forests contribute to a resilient and healthy forest ecosystem. Outfitters are contacted as part of the Public participation process and through EA registration.

Mines		Action / Comments from Forestry
Contact Date February 2, 2026	Response Date March 17, 2026	
Issue / Concern		
Specific comments for FMD 1 Proposed domestic harvest areas overlap a number of areas corresponding to quarry permits and in some cases, quarry leases, including some very large quarry sites, such as located near Incinerator Road near the Foxtrap Access Road-TCH interchange and located near White Hill Pond Road near Seal Cove. Proposed commercial harvest areas overlap a number of areas corresponding to quarry permits. Proposed domestic harvest areas and commercial harvest areas also overlap a number of areas covered by mineral licences, representing areas where mineral exploration is a land use that should be expected to take place. Proposed commercial harvest area CC01018 (Paddy’s Pond) overlaps an area corresponding to an illegal quarry subject to a court order requiring rehabilitation (immediately east of Three Arm Pond). Forestry should ensure that commercial operators avoid this area, outlined in yellow below.		Forestry will consult and work with mines on all aspects and avoid operations on three arm pond site.
Proposed commercial harvest area CC01018 (Paddy’s Pond) also overlaps an area that has, for a number of years, been identified by our Department for potential southward expansion of the Harbour Arterial Mineral Workings Area (HAMWA), a large area (current size approximately 245 hectares) set aside for long-term quarrying to supply the northeast Avalon with bedrock-sourced construction aggregate. The potential expansion area is known as the “Old MUN Woodlot” and is depicted on the Land Use Atlas (pink area below). In order for potential future quarry expansion into this area to be viable, a band of trees must be left uncut so that quarrying would remain screened from view of the travelling public along the Trans-Canada Highway. The band of trees should be at least 50 m thick. Having considered topography and the visibility upslope when proceeding north along the highway, we assess that the tree buffer should correspond approximately to the area outlined in green, below. We ask that Forestry please consult with us while preparing the FYOP to confirm the location for the tree buffer		
Proposed silviculture area Joyce’s Trail Forest Management Area (CC01403) located north of the Witless Bay Line overlaps two areas covered by a quarry permit, as depicted below (purple and yellow outlines, available from the quarry boundaries KMZ file). We request that no silviculture treatments be planned for these two areas covered by a quarry permit in addition to a buffer of at least 15 m from the boundaries and existing workings to accommodate any discrepancies in plotting and to facilitate avoidance.		Forestry will not propose and silviculture treatments on these sites

Mines		Action / Comments from Forestry
Contact Date February 2, 2026	Response Date March 17, 2026	
Issue / Concern		
General comments Table of values We ask that the most recent version of the Table of Values for Mining, Mineral Exploration and Quarrying be included in the FYOP document.		Forestry will include the Table of Values for Mining, Mineral Exploration, and Quarrying
Overlap of harvesting areas with quarry sites Parties engaged in domestic and commercial harvesting should not enter or closely approach quarry sites and should be advised of the potential hazards that would be associated with entering a quarry site. In addition, domestic and commercial harvesters should be advised that they are not permitted to use quarry sites for staging, laydown or wood storage areas. In addition, domestic and commercial harvesters should be advised that trees located between woods roads and quarry sites are not to be harvested. Where a quarry exists alongside a woods road, the trees located between the access road and the quarry should not be harvested but rather left in place to serve as a natural barrier to help to prevent unauthorized access into the quarry. Each quarry operator is required to prevent unauthorized access into their quarry. New quarries are not permitted within 15 m of a woods road and the site boundaries accepted by the Department of Energy and Mines reflect this buffer. Some established quarries also have a treed buffer between the woods road and their workings. While gating, berms, or boulders may be used to restrict access at the entrance point, the preservation of natural tree screens is a very effective and convenient means of restricting access along the wider boundary. Quarry sites are potentially hazardous and government cannot condone the unauthorized entry of parties involved in harvesting wood into quarry sites. Areas subject to quarry operations may present a variety of safety hazards, including moving heavy equipment, large pieces of stationary equipment, loading ramps, changing site topography, steep drops, and excavated faces. Furthermore, it must be emphasized that areas subject to quarrying remain hazardous even when quarry operations are idle or after the quarry site becomes inactive or is abandoned.		Forestry will identify any Quarry boundaries that are on the Land Use Atlas, or any mapping files provided by Mines. Forestry requests that mines provide signage for any areas that reasonably are required for public safety. Quarry boundaries for Mines for operations should be clearly marked, bermed, or fenced for the prevention of trespass as per requirements under the Lands Act Section 28 (1). Forested areas that may be required by Mines for screens, or other purposes may be established following consultation with the District Ecosystem Manager.
Overlap with mineral licences Mineral exploration activity should be expected within areas covered by mineral licences. Parties engaged in domestic or commercial harvesting should be advised of the potential to encounter mineral exploration activity and of potential hazards that may be associated with mineral exploration activity. Mineral exploration activities may include traditional prospecting, geochemical sampling, geophysical surveys carried out on foot, airborne geophysical surveys, the cutting of survey lines, the excavation of trenches and exposure of bedrock, and the drilling of cores of rock, and may be accompanied by the creation of new (temporary) access trails and equipment laydown areas. Certain potential future mineral exploration activities within domestic or commercial cutting areas may present hazards to human safety, such as the excavation of trenches (potential fall hazards, sudden drop hazards) and the drilling of core (potential hazards associated with the active use of machinery and large equipment).		Forestry advises the safe work practices for all work on public lands wher the public has a right of access should be followed.

Water Resources		Action / Comments from Forestry
Contact Date February 2, 2026	Response Date February 24, 2026	
Issue / Concern		
Based on the 5-year plan, Section 39 permits would be required before activities occur inside the following PPWSAs: • Roads: - o Dildo (+South Dildo) – Broad Cove Pond PPWSA - o Carbonear – Little Island Pond PPWSA - o Heart’s Content – Southern Cove Pond (note road plan is approximately 1.5 km from intake) • Silviculture: - o Avondale – Lees Pond PPWSA - o Carbonear – Little Island Pond PPWSA - o Heart’s Desire – Terrence Pond PPWSA • Commercial Harvesting: - o Harbour Main–Chapel’s Cove-Lakeview – Maloney’s River PPWSA - o Spaniard’s Bay – Kelly’s Pond (Spider’s Pond) PPWSA - o Carbonear – Island Pond PPWSA - o Heart’s Content – Southern Cove Pond PPWSA - o Dildo (+South Dildo) - Broad Cove Pond PPWSA - o Bellevue – Big Pond PPWSA • Domestic Harvesting - o Section 39 application required for any domestic harvesting developments within a Protected Public Water Supply Area (PPWSA). The plan for domestic harvesting essentially overlaps each PPWSA.		Forestry will obtain all apliable permits from WR

Land Management		Action / Comments from Forestry
Contact Date February 12, 2026	Response Date February 26, 2026	
Issue / Concern		
The proposed domestic forestry activities overlaps with the 3km zone of the development freeze - Directive 045-99-E (ILUC #832) Development Freeze "The Spout", consultation with East Coast Trail Association may be required. The proposed forestry plan boundary overlaps with numerous Cottage Planning Area Freeze, Cottage Development Areas, Crown Reserves, Open Space Reserves and Infilling Limits. The proposed activities are not to encroach on existing titles, and the proponent should keep the safety of cottage owners and other recreational users in mind during the proposed activities. Approximate locations of these titles can be viewed on the Provincial Land Use Atlas on the website at www.gov.nl.ca/landuseatlas/details/. No other concerns from an LMD Planning perspective.		Forestry will not encroach on any Land identified on the Land Use Atlas as a freeze area that is not Crown land. Harvesting will not be knowingly carried out on any land that has boundaries marked on the ground as per section 28 (1) of the Lands Act

Agriculture		Action / Comments from Forestry
Contact Date February 12, 2026	Response Date February 26, 2026	
Issue / Concern		
The area of application overlaps several Agriculture properties, Agriculture Development Areas (ADA) and Agriculture Areas of Interest. In general, the Agriculture Lands Section does not have concern with the proposed activities at this time. If activities should interfere with the agriculture properties and future production in this area, the Land Management Division will work with the proponent to mitigate any potential issues.		Forestry will work with Agriculture on any issues

Natural Areas		Action / Comments from Forestry
Contact Date February 26, 2026	Response Date March 4, 2026	
Issue / Concern		
In review of the proposed FMD/Zone 1 forest management plan we did notice a couple of areas along the eastern boundaries of the Ripple Pond reserve area where the potential silviculture areas, Tower Road FMA and Henders FMA specifically, overlap it. It may simply be a GIS artifact error as there is generally a buffer maintained around the boundary, but we wanted to point those overlapping areas out. The screen grab below highlights the areas mentioned. Otherwise, the proposed areas and roads do not seem to conflict with our work in the region currently.		Forestry will ensure no boundaries intrude into the reserve

Crown Lands		Action / Comments from Forestry
Contact Date February 26, 2026	Response Date March 4, 2026	
Issue / Concern		
•The Crown Lands Administration Division advises that the proponent is to operate under the established legislation and regulations of the Lands Act. It is the proponent's responsibility to identify Crown lands required for their undertaking. •The project area overlaps Crown lands issued titles. It is recommended that the proponent advise title holders of their proposed activities and the associated timelines. Approximate locations of these titles can be viewed on the Provincial Land Use Atlas viewer here: https://www.gov.nl.ca/landuseatlas/details/. All activities within the proposed boundary should take into consideration the titles that have been issued to ensure the proposed activities does not conflict with the approved/existing uses, as well as appropriate buffers around existing developments. Title holders must be permitted to develop their property for the intended use. •There may be private land located within this area which may not be on record with the Crown Lands Office. If work is planned on private lands, permission is required from the land owners. •Identify areas where cottage application can be accepted withing the five-year operating plan boundaries. •Any activities that occur within the 15m Shoreline Reserve of any water body must strictly adhere to the regulations in Section 7 of the Lands Act. •All constructed resource roads for this project are to remain open for public access. •All roads constructed for the purposes within the operating plan, the Land Management Division requires consultations before any roads become decommissioned and/or removal of infrastructure (roads/culverts).		Forestry will not encroach on any Land identified on the Land Use Atlas that is not considered available Crown land. Forest access roads are designerd under several time period classes - some roads are for short periods and the removal of culverts and bridges are planned soon after harvest. Forest access roads are public roads and are available for public use, subject to reasonable safety and maintenance restrictions deamed necessary. Forestry requests that Lands inquire on specific forestry roads for other use cases. Any private land, identified in the LUA, will not be shown on Forestry Maps as available for harvest. Harvesting will not be carried out on any land, not in the LUA, that forestry becomes aware of that may be private. If forestry becomes aware of boundaries (not in the LUA), however, are marked on the ground as per section 28 (1) of the Lands Act, harvesting will not be permitted without approval from Lands. Forestry management activities do not generally impact any areas that would be within the 15 meter reservation. Foret access roads, constructed under an approved Forest Management plan and cross a reserve are not grants, leases, licenses, or Quitclaims and are are not considered subject to the Lands Act Section 7. Cottage applications should follow the current referral process to forestry for a forestry analysis of impacts.

Wildlife		Action / Comments from Forestry
Contact Date February 26, 2026	June 23, 2026	
Issue / Concern		
Proposed harvest overlaps two Municipal Stewardship Agreement Areas, Crown would have to engage with those Town Councils to ensure that harvesting is an activity that they would support within the Stewardship Areas.		Forestry has reached out to various municipalities as part of the community outreach portion of the 5 year plan development. While there were no issues raised during the community outreach phase of any activity within municipal stewardship areas, forestry is required to develop annual operating plans and obtain proper permits for forestry activity within Protected Watershed Areas. Forest activity would not occur without required permits and appropriate discussions with both the community (as part of the permit process) and Wildlife Division.
Some overlap with known listed lichen locations - In Fox Marsh (CC01014), Tower Road (CC01002 + new area), Middle Gull Pond (new), Argentia Agri Block (CC01064), and Carbonear (new) - Av ondale Access (CC01063) has confirmed lichen presence (Erioderma mollissimum, listed as Endangered under NLESA) and Pectenaria plumbea (listed as Vulnerable). Overlapping portions in southern extent of block must be removed to ensure no impacts to E. mollissimum).		Forestry will work with Wildlife Division to implement required surveys
Some overlap with Caribou SWAs - F adders Pond (CC01060). WD requests the same condition as the last 5 yr plan (i.e., Forestry will maintain at least 100 m of forest along northern/eastern boundary at the eastern and northern (to Easternmost Rocky Pond) boundary). - C arbonear. This proposed harvest is within the Bay de Verde SWA for caribou		Forestry would consult with wildlife division prior to scheduling of any harvest within this block to allow for analysis in determining the extent of caribou use and potential mitigations during the annual plan development

PAO		Action / Comments from Forestry
Contact Date March 17, 2026	No Reply	
Issue / Concern		