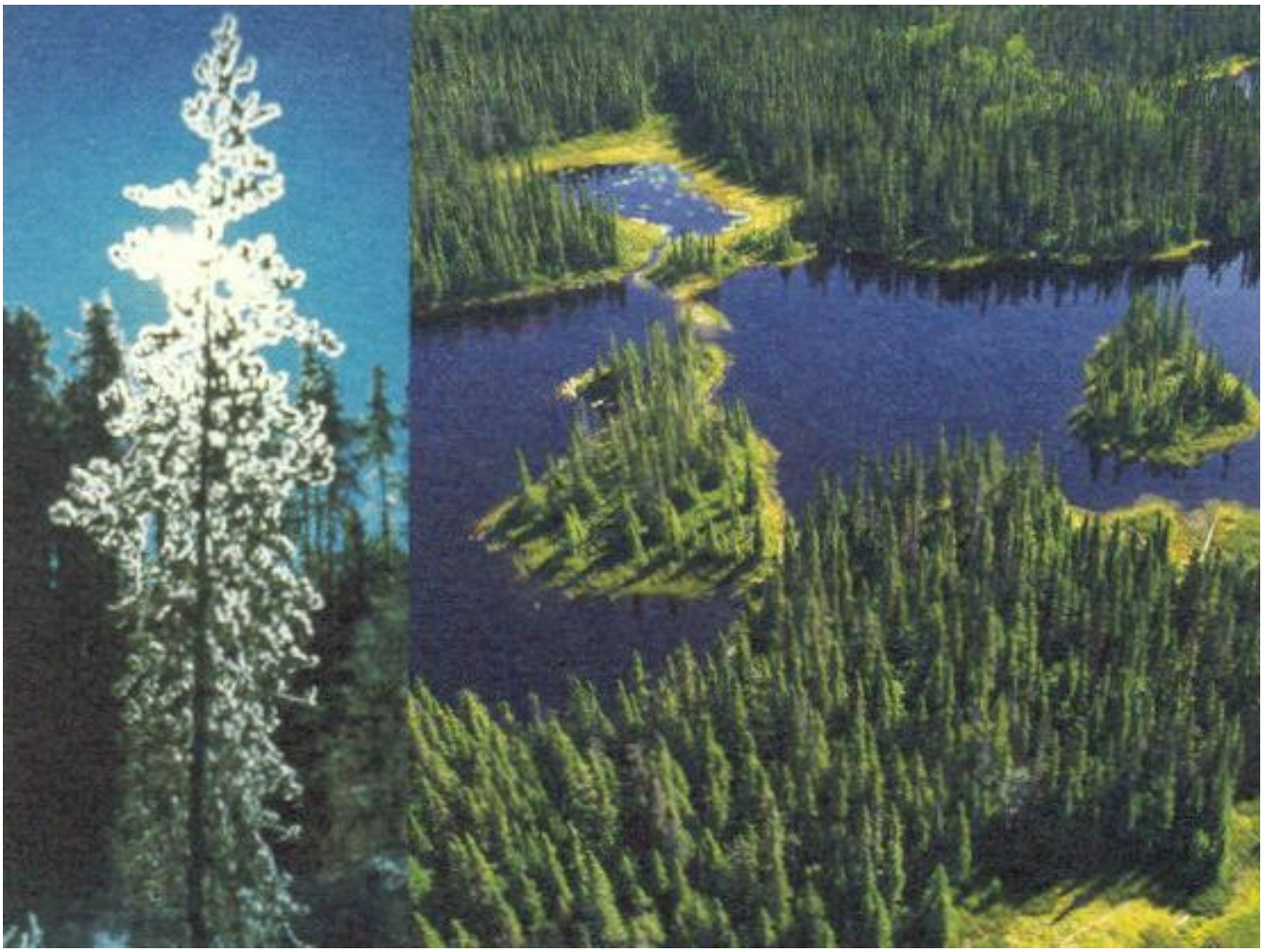
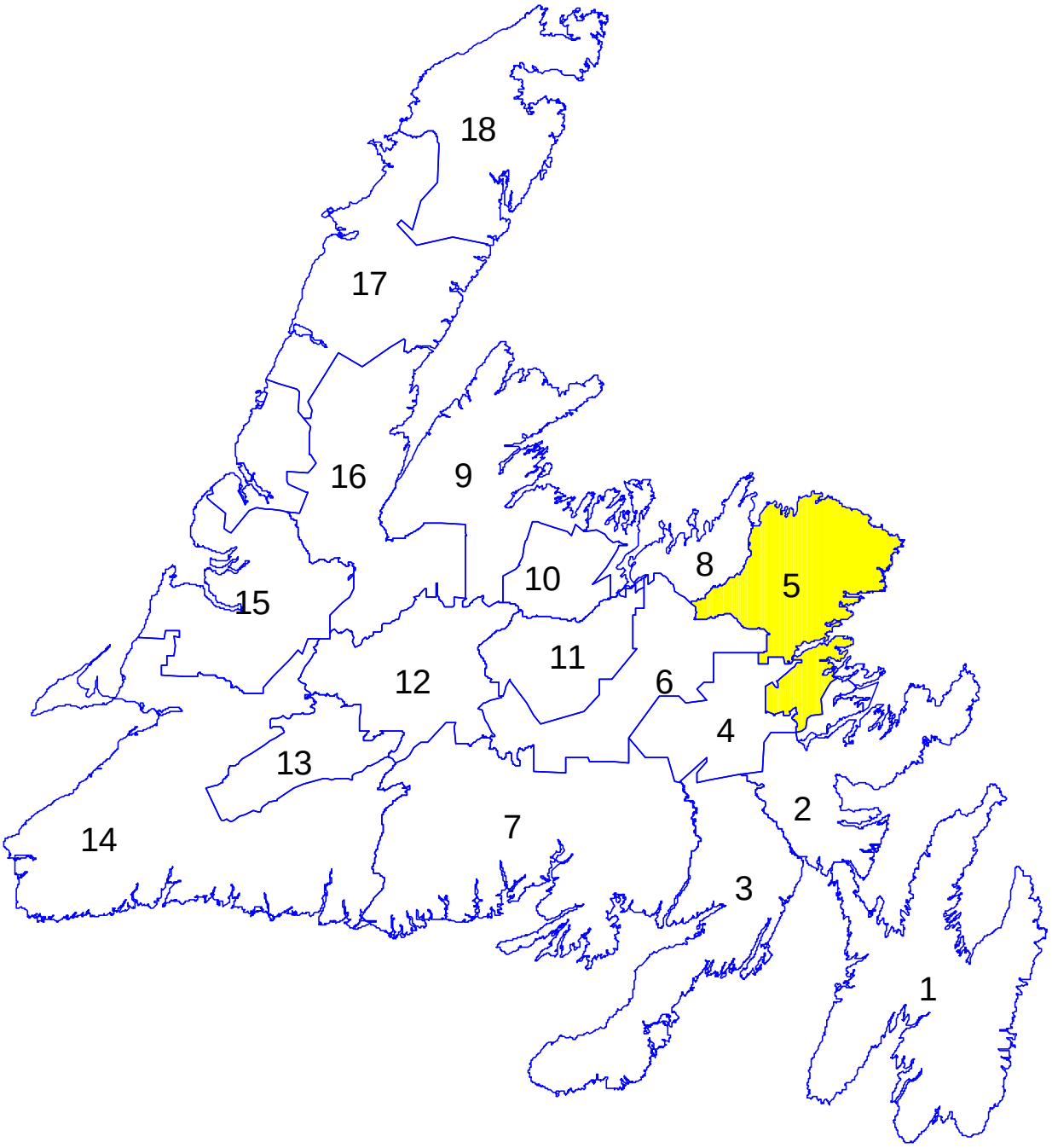
FIVE-YEAR OPERATING PLAN

ABITIBI-CONSOLIDATED LIMITS



FOREST MANAGEMENT DISTRICT 05

2007 - 2011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FIVE-YEAR OPERATING PLAN

FOR ABITIBI-CONSOLIDATED LIMITS

FOREST MANAGEMENT DISTRICT 05

OPERATING PERIOD

JANUARY 1st, 2007 TO DECEMBER 31st, 2011

Prepared By:

Planning Forester — Date: Sept. 07/06

Authorized By:

Superintendent of Forestry & Continuous Improvement — Date: Sept 07/06

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Recommended By:

Woodlands Manager — Date: Sept 11/06

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INTRODUCTION

This forest management plan outlines the forest activities conducted by Newfoundland Woodlands during the past five-year planning period and describes the proposed forest activities for the next planning period (January 1st, 2007 to December 31st, 2011), which include: harvesting, road building, silviculture and forest protection. A description of the public consultation process and input from government agencies is also included, where mitigative measures identified by government agencies have been incorporated and the concerns expressed by the general public have been noted. The responses to identified concerns form part of this plan.

With interested parties, stakeholders, and government agencies having input into the planning process, Newfoundland Woodlands overall goal was to develop and implement an operational forest management plan within its jurisdiction, providing for multiple use and sustainability of the resource, which takes into account the social, economic and environmental benefits of the present and future generations. "Ecosystem Management" and "Adaptive Management" are probably the better descriptive phrases to describe the goals, processes and procedures that were part of this development and form an integral part of this five (5) year operating plan for Abitibi-Consolidated's limits in Forest Management District 05.

Abitibi-Consolidated recognizes that the integrity of the ecosystem under its jurisdication must be maintained. Therefore, a "Landscape Management Approach" has been developed and incorporated into this plan, which requires maintaining ecosystem, species, and genetic diversity. This plan will outline areas proposed for harvesting and silviculture activities, which will provide for such diversity. Strategies in this plan fall under the umbrella of Newfoundland Woodlands twenty-year Sustainable Forest Management Plan, which outlines Abitibi-Consolidated's long term objectives and strategies with respect to forest management.

Not only in Canada, but also worldwide, the general public will not accept forestry practices having a significant negative impact on either the environment or the species that live within. They demand that values, other than timber products, must be taken into account during the planning process and when any forest activity is operational. As a company, it is our responsibility to ensure that the environment in which we operate is managed for such values, for the benefit of present and future generations. Some values are difficult to put a dollar figure on, while some of the more traditional values, such as hunting and fishing are not as difficult. It is no doubt that intrinsic values exists such as: the feeling of walking through the forest and listening to birds chirping in the background, or the satisfaction of knowing that a species is not on the rare, threatened or endangered list. These values have worth and must be maintained.

The Socio-economic impacts of activities undertaken in our forest have also been considered in the development of this plan. The timber harvested from this forest Management district will be transported to the Abitibi-Consolidated mill in Grand Falls-Windsor for production into newsprint. The employees who work

in the harvesting of the timber, building of the extraction roads, silviculture activities, and in the paper mill, help to maintain the fabric of the towns in which they live.

Our challenge, as a company, is to conduct on those activities in a manner that maintains the integrity of the environment. Largely, Abitibi-Consolidated has also developed and implemented a Forest and Environmental Management system for its Nfld. Woodlands Division. In January 1999, our division was successful in obtaining ISO 14001 registration. This achievement was in line with our corporate mandate to have all Abitibi-Consolidated woodlands divisions certified by year-end 2002. Realizing the ISO standard is focused on Environmental issues and that it does not specifically apply to Sustainable Forest Management, our commitment is aimed at making sure that our management system includes the six sustainable forest management criteria defined by the Canadian Council of Forest Ministers (CCFM) including:

- conservation of biological diversity
- ecosystem condition and productivity
- forest ecosystem contributions to global ecological cycles
- conservation of soil and water resources
- global benefits of the forest for society
- accepting society's responsibility in sustainable development.

To complement our Forest Management initiatives, a sustainable forest management system was developed and registered to the Canadian Standards Association (CSA) Z809 Standard in 2003. With respect the Environmental and Forest Environmental Management Systems; yearly external audits are conducted on our operations to ensure compliance with the above noted standards.

Newfoundland Woodlands Policy

Newfoundland Woodlands is committed to achieving and maintaining a Forest and Environment Management System (FEMS) under the ISO 14001 standards through the integration of environmental, economic, social and cultural values. Our Environmental and Sustainable Forest Management Policy is coherent with Abitibi-Consolidated's Vision & Values, Environmental Health & Safety Policy, and the Sustainable Forest Management Policy.

Implementation of this FEMS ensures the interests of concerned stakeholders, while providing a sustained supply of quality wood fibre at a competitive cost.

Environmental and Sustainable Forest Management Policy

We Value.....	Our Policy
The Law & Leadership	Meet or exceed applicable legislative, regulatory and policy requirements within all aspects of its operations.
Public Participation	Open dialogue through representative public advisory groups to participate in the development of Sustainable Forest Management (SFM) Plans.
Prevention of Pollution	Undertake effective management techniques within our operations to minimize negative impacts on the environment.
Competence of our Employees	Provide employees with training, assistance and supervision to make them aware of their roles and responsibilities including the environmental benefits of improved personal performance.
Partnerships	Nfld. Woodlands will honour commitments to other organizations, including: Canadian Pulp & Paper Association and Western Newfoundland Model Forest.
Research & Development	Participate in research that advances understanding of forest science and best management practices.
Continual Improvement	Measure our progress and periodically assess our performance through system and compliance audits, ensuring continual improvement of SFM and FEMS. In addition, provide a framework for setting and reviewing environmental objectives and targets.
Sustainable Forest Management (SFM)	A) Manage our forests to contribute to: 1. conservation of biological diversity, 2. maintenance & enhancement of ecosystem condition and productivity, 3. conservation of soil and water resources, and 4. maintenance of global ecological cycles B) Manage our forests, taking into account: 5. multiple benefits to society, and 6. responsibility of all members of society for sustainability.

1.0 DESCRIPTION OF MANAGEMENT DISTRICT

Planning Zone 3 encompasses Forest Management Districts 4, 5, 6 and 8. It extends from Seal Bay in the northwest, easterly along the coast to New-Wes-Valley in the northeast, then southerly to Terra Nova National Park in the east and then west along the northern edge of the Bay du Nord Wilderness Area to the general area of the Bay D'Espoir Highway near Great Gull Lake.

The boundaries for these districts were originally proclaimed in Newfoundland Regulation 72/79 and filed on May 18, 1979 and revised under Consolidated Newfoundland Regulation 777/96

Abitibi-Consolidated Company of Canada holds various responsibilities within Management District 05 as follows:

Table 1. ACCC's responsibility in FMD 05

District	Description	Area	Expiry Date
5	99-year special grants	21,108 ha.	2010
	Leased Reid Lot 241	15,333 ha.	2010
	Leased Reid Lot 242	10,295 ha.	2010
	Private Land	825 ha.	N/A

Easements for power lines have been conveyed to Newfoundland Light & Power Co. Ltd. and Newfoundland Hydro, and some freehold property has been sold to various agencies and individuals.

District 5

Forest Management District 5, known as Bonavista North Management District, is located on the north side of Bonavista Bay. Its boundaries include the Gander River to the west and Gander Lake, Gambo Pond, and Terra Nova Lake to the south. To the east, the district is marked by Bonavista Bay and Terra Nova National Park. To the north, it ends at the Atlantic Ocean. The district also includes Fogo Island. The district is comprised of multi-ownerships with Crown being the largest holder, followed by Corner Brook Pulp & Paper and then Abitibi-Consolidated.

Graph illustrating ACCC's distribution of landbase by percent for District 5.

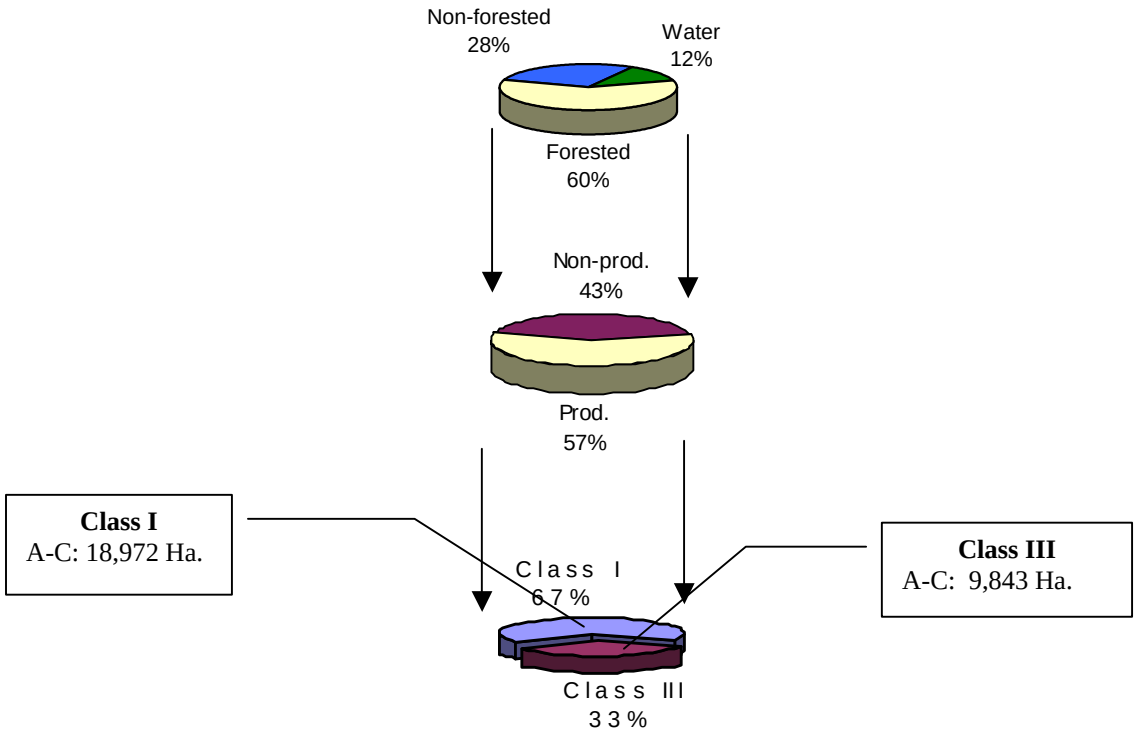

Figure 1 ACCC's distribution of landbase by percent in FMD 05
Note: Class percentages only represents A-C Limits, not other landuse holders.

1.1 History

With the exception of Gander, the major communities within the planning area were built around the fishery, the railway and lumbering. Approximately 62,200 people live here and most are located in communities of various sizes that follow the coastline; however, the largest, single concentration is found inland at Gander where the population is around 9,500.

These districts have a history which is both rich and varied. In District 5, Gander's existence stems from the need of a stopover point for transatlantic flights in the mid 1930s. Its development took on major importance during World War II when, because of the town's strategic location, as many as 10,000 military personnel were stationed there. Still, in spite of its contribution on the global and local scene, the Town of Gander was not established until 1951. This is a stark contrast to centers like Fogo Island which were used in the 16th and 17th centuries as French, Spanish, and Portuguese summer fishing stations, and which began to be settled around 1680. The Wesleyville-Badgers Quay area is the birth place of many great sealing captains. Gambo, whose heyday centered around the now defunct Newfoundland railway, is the birthplace of the last Father of Confederation, the late Premier Joseph R. Smallwood. Gambo was also the site of extensive lumbering activities in the 1800's.

1.2 Physical Features

The planning zone is a large area covering much of northeastern Newfoundland. Physical features vary a great deal over such a large landscape. The following descriptions apply generally to the Districts in the planning area.

1.2.1 Topography & Physiography

Planning Zone 3 contains a diversity of terrain types. The area has generally rolling topography dissected by several large valleys, including Southwest Gander River, Northwest Gander River and Gander River valleys. These rolling hills are commonly between 100 and 200 metres (asl), and rarely extending above 300 metres (asl). Hillsides drop steeply into the major valleys. A broad lowland, below 100 m elevation, is found between the Exploits River and Botwood, and north of Norris Arm. The area has an extensive coastline dominated by bedrock with scattered pocket beaches. Another exception is the area west of Wesleyville, which is generally low relief lowland (less than 100 m asl) dominated by numerous lakes and wetland areas.

The physiography is largely controlled by bedrock structure, and hills are commonly orientated northeastward, reflecting bedrock lineations.

This region contains one of the largest lakes in the province; Gander Lake. The lake is 47 km long, an average of 2.0 km wide, has a surface area of 11,200 ha (EDM et. al., 1996), and a surface elevation of 25m asl. A bathymetry survey of the lake was completed in 1995 during the development of a watershed management plan for the Gander Lake Watershed Monitoring Committee (EDM et.al., 1996). Soundings in the Fifteen Mile Brook area recorded depths of 274 m (249 m below present sea level) and depths of 250 m off Little Harbour, decreasing to 60 m off King's point and 27 m at the extreme eastern end of the lake. The field survey confirmed the maximum Lake depth at 290 metres.

In general, the drainage is in a northerly direction and is characteristically poor with many large peat bogs throughout. The main rivers are the Gander, Gambo, and Terra Nova. Other rivers (Indian Bay and Ragged Harbour), while smaller in size, drain large watersheds. In the past, many of these rivers were important transportation routes for water-driven sawlogs and pulpwood. This is evident by the remnants of a number of large dams as well as the occasional man-made channel.

1.2.2 Quaternary Geology

The area was completely glaciated during the last glacial period (Late Wisconsinan). Mapping of ice flow indicators record three major flows. The first was generally eastward (100±20E) and is found across the whole area. In sites where two flows are encountered, the east flow is always preserved in the lee of, or crosscut by, a later ice flow that is generally north-northeastward (020±20E) (Batterson and Vatcher, 1991; Proudfoot *et al.*, 1988; St. Croix and Taylor, 1990; Scott, 1994; Taylor and St. Croix, 1989). This ice flow was likely from an ice divide in the Middle Ridge area, and towards the coast was topographically-controlled along the major valleys. A relatively recent eastward ice flow was identified in the Mount Peyton area (Batterson and Taylor, 1998). This flow is recorded by fine striations overprinting those striations produced by the regional flow event. This late eastward flow did not mould bedrock outcrops. The source of the late eastward ice flow is uncertain. Gander Lake was likely a conduit for local ice flow. Ice contact gravel and eskers at the eastern end of the lake show that ice flowed through this area and into the sea at Freshwater Bay.

Glaciation has moulded bedrock and deposited a range of glacial deposits, which have been commonly reworked in the post-glacial period. Surficial geology mapping has been completed on parts of the area at scales of 1:50,000 (Batterson, 1991, 1999 a, b; Mackenzie, 1993; Munro, M., 1993) and 1:250,000 (Liverman and Taylor, 1993, 1994 a, b). Areas adjacent to the coast show large area of bedrock exposure, particularly west of Wesleyville and north of Gander. Much of the area is covered by glacial diamicton (till), commonly as a veneer (less than 1.5 m thick) or as a blanket (thicker than 1.5 m). Moraines are generally rare, although some are found near Sunday Pond and Frozen Ocean Lake, deposited by north to northeastward flowing ice, consistent with the regional ice flow direction.

Areas of non-glacial sediment are generally confined to the valleys. The Great Rattling Brook, Southwest Gander River, Northwest Gander River, and Gander River valleys all contain moderately to well-sorted, stratified, sand and gravel deposited in a glaciofluvial or fluvial environment. These systems were the routes of meltwater during deglaciation. The Southwest and Northwest Gander River Valleys are up to 6 km wide, with flat valley floors. They contain sand and gravel deposited by glaciofluvial outwash. Some sediment has been reworked by the present channel into an alluvial plan up to 1 km wide. Meltwater outflow from the Southwest Gander and Careless Brook valley and from the Northwest Gander River valley flowed northward through The Outflow into the modern Gander River valley.

Evidence of higher water levels were found in the Gander Lake valley (Batterson and Vatcher, 1991). Beach sediments up to 39 m above Gander Lake have been identified. It is possible that higher water levels were the result of marine incursion. Raised marine features on the coast have not been examined in detail, but Munro and Catto (1993) reports Late Wisconsinan marine limits near Carmanville on the north coast at 43 m asl. Marine limit at the coast at the eastern end of the lake has been reported at about 30 m asl (Jenness, 1960; Grant, 1980). Undated marine shells have also been reported from the Gander River valley, north of Gander Lake. Higher water levels drained through the modern Gander River valley.

During the Holocene, organic deposits developed in the poorer drained areas, and colluvial deposits formed at the base of the steeper slopes. Both these processes continue today, although vegetated slopes have retarded the rate of colluviation.

1.2.3 Bedrock Geology

Districts 4, 5, and 6 are situated in northeastern Newfoundland and the areas straddle three technostratigraphic zones of the Newfoundland Appalachians. These are from east to west, the Avalon, Gander and Dunnage zones.

The Avalon Zone lies in District 5 east of a line drawn from Terra Nova Lake northward to the Dover area. This zone is characterized by thick successions of upper Precambrian volcanic, plutonic and sedimentary rocks that are overlain by fossiliferous mudstone, quartzite, limestone and shale of Cambrian age. These various rock types are well exposed in the areas around Bonavista Bay. Granitic and gabbroic rocks of late Precambrian age occur east of Traytown. Granitic rocks of Devonian age occur in the Terra Nova Lake area.

The Gander Zone lies in parts of all three districts. Its western boundary lies roughly along a line that extends from Great Gull Lake northeastward to the Ragged Harbour area. The western part of the Gander Zone consists of a thick sequence of quartz grewacke, quartzite, siltstone, and shale. This grades eastward into metamorphic rocks consisting of schist, gneiss and migmatite. These rocks were intruded by massive and foliated biotite granites and by massive and foliated two-mica, garnet-bearing granites. The age of the sedimentary and metamorphic rocks is early Ordovician and older. The granitic rocks are as young as Devonian.

The Dunnage zone is situated in the western part of District 5 and most of District 6. Rocks within the Dunnage zone are composed of Ordovician marine mafic volcanic, intrusive and sedimentary rocks that represent remnants of oceanic crust. These are overlain by oceanic basalts and subaerial felsic volcanic rocks. The volcanics are interlayered with and grade laterally into clastic sedimentary rocks. As is the case in the other zones, intrusive rocks of middle Paleozoic age intrude rocks of the Dunnage Zone and consist of granite, granodiorite, diorite and gabbro.

1.2.4 Soils

Portions of the districts have been surveyed with respect to soil profile but information is lacking in other areas, particularly near the coast. A soil survey was conducted in the Gander/Gambo area and the following information relates to that location. The remainder of the districts should not vary greatly with regard to these soil types due to similar parent materials mentioned above.

The survey concluded that the soils developed from glacial till. These include mainly ground terrain deposits ranging from a few inches to over 20 feet thick and are composed largely of material derived from locally underlying rock. Podzolic soils are the main soils in the area with some orthic gleysoils which are characterized by the lack of aeration and poor drainage.

There are some large areas of organic soils which may be broadly divided by the degree of decomposition and the vegetation apparent on the site. Sphagnum peat is the predominant type of organic deposit. Other types of organic soils found in the districts would be ericaceous peat and muck peat, both of which are less shallow in depth when compared to sphagnum peat.

In relation to tree growth, the podzolic soils support the following species: black spruce - *Picea mariana* (Mill.) B.S.P.; balsam fir - *Abies balsamea* (L.) Mill.; white birch - *Betula papyrifera* (Marsh); and others of lesser importance than the three mentioned. The orthic gleysoils support mostly black spruce, the growth of which is somewhat retarded due to the lack of available nutrients. Little, if any, tree growth is supported by the organic soils. The organic mucks support some vegetation depending on growth. Some shallow mucks occur on lower slopes under mixed forest and alder.

1.2.5 Climate

The climate of the three districts can be broken down into two main categories, in accordance with the two larger ecoregions of this area. The Central Newfoundland Ecoregion has the most continental climate on the island. As a result it has the warmest summers and the coldest winters. The mean daily temperatures for July and February are +15E to 16EC and -4EC to -8EC, respectively. The precipitation ranges from 900 mm to 1300 mm annually with 3.0 m to 5.3 m of snowfall. This ecoregion also has the least wind and fog for the island. Due to the warm summers and the highest rates of evapo-transpiration, the soil moisture in this area is considered one of the driest on the island. A result of this is the high frequency of fire in this ecoregion due to its summer dryness. The North Shore Ecoregion has the warmest summers of all the coastal regions on the island, and the winters are cool. The mean July temperatures range from +15EC to 16EC, while the February mean temperatures range from -5EC to -7EC. The precipitation for this area is between 900 mm and 1200 mm with snowfall amounts ranging from 2.5 m to 3.5 m. Due to its exposure, the high winds and high summer temperatures the high evapo-transpiration rates cause the soil in this ecoregion to be the driest for the island. This region is also influenced by the cold Labrador Current flowing from the north, especially with its pack ice in the spring. This causes the growing season to be delayed when the ice is heavy. For additional information about the climate of the three districts refer to Meades and Moores, 1994.

1.3 ECOSYSTEMS

An ecosystem is a community of interacting and interdependent plants, animals and microorganisms, together with the physical environment within which they exist. It is important to remember that within an ecosystem the interactions between the biotic and abiotic components are at least as important as the component themselves. Another critical characteristic of ecosystems is their overlapping boundaries. While each is definable in time and space, and distinguishable from adjacent ecosystems, each is

intimately integrated with other local ecosystems. Additionally, each local ecosystem is nested within increasingly larger ecosystems. The scale at which an ecosystem is viewed is contingent on the species or abiotic characteristic under consideration. While planet Earth represents the ultimate global ecosystem, complex ecosystems also exist under fallen logs and rocks.

1.3.1 The Forest Ecosystem

Forest ecosystems are comprised of many components interacting with one another in a given environment. These components appear to be dominated by trees; however, we must remember that other values (e.g. wildlife, water, & recreation) are also important. The forests of Newfoundland and Labrador form the eastern extent of North America's boreal forest region, which is characterized mainly by conifers intermixed with hardwoods, all of which are relatively small in relation to height and diameter. In addition to lakes, ponds, streams and rivers; barrens and bogs account for a significant portion of the boreal forest ecosystem.

Black spruce is the most prevalent species in District 05 under the company's jurisdiction, which comprise some 56 % of the total productive land area of the district. The occurrence of black spruce stands is largely due to the result of fire, except on the poorer wet sites or the dryer rocky sites. In such areas, trees are stunted and have many branches. Balsam fir is found as the second major commercial forest type under the company's jurisdiction, representing approximately 13 % of the total district's landbase. The stands are mainly mature to overmature and are often subject to wind damage. The damage levied by insects over the years has left much of the species unsuitable for sawlog material, and in its weakened state, coupled with its age, provides the conditions that promote advanced rot and stain. With respect to other softwood species, white pine and larch can be found scattered throughout this district. Red pine is found in four separate stands located in the Gambo-Glovertown area. Three of these stands have a relatively small number of trees. The largest is found adjacent to the Trans Canada Highway, east of the Gambo intersection. In addition, lakes, ponds, streams, rivers, as well as bogs account for a proportion of the ecosystem found in this district.

Soils of the boreal forests in District 4, 5, 6 & 8 are predominantly classed as podzols although brunisols are also present. Throughout the contrasting areas of exposed bedrock, morainal deposits and low lying sphagnum bogs, this mosaic of soils and non-soils tends to be occupied by a range of plant communities dominated by lichens, shrubs and forbs.

Climatic conditions of this region are heavily influenced by the proximity to cold Arctic air masses and the Labrador Current in the north and warm moist air and the Gulf Stream in the south. The interaction of these phenomena results in moderate annual

precipitation, high evapotranspiration rates during warm summers and overall the most continental climate on the Island of Newfoundland; with the warmest summers, coldest winters and the least wind and fog.

The primary natural disturbance factors attributed to boreal forests are fire and insects. Forest fires are frequent and extensive in north-central Newfoundland and result in specific successional trends depending on site type. More often than not, the spruce component is increased following fire, whereas other disturbance types such as insects and cutting often results in an increase in the fir component. Repeated burning and cutting of dry, coarse-textured black spruce-feather moss site types can result in ericaceous species such as sheep laurel *Kalmia angustifolia* invading the site to produce heath-like conditions. Successional patterns on other forest cover types vary with site and type of disturbance. These are discussed in greater detail in subsequent sections of this report.

Forest development class, successional pattern and site influence the understory plant community present throughout the district. The species composition and structure of these plants significantly impact on the suitability of a site as wildlife habitat for various species. Some animals are very general in terms of habitat requirements and can occupy a wide range of site conditions, yet have specific seasonal requirements that can determine habitat quality. For example, the moose requires wintering areas with suitable combinations of available cover and browse. It is widely accepted that a variety of forest age classes can provide increased habitat and sustainability for many wildlife species. On the other hand, some species require a specific age class or habitat condition to maintain healthy populations (e.g., Newfoundland marten (*Martes americana atrata*)).

Aquatic ecosystems of the boreal forest are heavily dependant on forest cover for temperature regulation, nutrient cycling and stream flow regulation. Consequently, forest harvesting activities adjacent to riparian areas are critical to sustainability of fish habitat and maintenance of fish migration routes. Suitability of various streams and ponds as waterfowl breeding, feeding and resting areas are also dependant on adjacent forest cover. Biological production in streams is based on a combination of internal and external nutrient and energy pathways. Stream side vegetation has a strong influence on both since they are so closely linked to surrounding terrestrial events. Small streams in forested areas receive much of their materials from the surrounding terrestrial ecosystem. Detritus in the form of needle and leaf litter, twigs and branches, forms the major energy base for consumer organisms. In highly shaded headwater streams, algae production is often low and yields only a small and seasonally variable contribution to the overall energy budget. As streams become larger further downstream, sufficient light penetrates the forest canopy, and consumer populations can take advantage of both particulate detritus and algae (Toews and Brownlee 1981). For these reasons, maintenance of suitable riparian zones for protection of aquatic ecosystems, as well as providing wildlife travel corridors is a primary consideration of any forest management strategy.

Major watersheds within the Zone include portions of the Gander River, Exploits River, Indian Arm Brook, Jumpers Brook, Ten Mile Lake, Big Lake, Campbellton River, Dog Bay River, Indian Bay River, Terra Nova River, Ragged Harbour River, Mint Brook and

Traverse Brook. Many of these are associated with protected water supplies for communities within the districts. Small to medium sized lakes are common throughout the zone.

1.3.2 Ecoregions and Subregions

In Ecoregions and Subregions of Insular Newfoundland (1983), Damman defined ecoregions as areas where comparable vegetation and soil can be found on sites occupying similar topographic portions on the same parent material, provided that these sites have experienced a similar history of disturbance. An ecoregion cannot be defined in isolation from the physical landscape; however, vegetation toposequence , vegetation structure, floristic composition and distributions can provide the primary criteria (Damman 1979).

According to Damman, Newfoundland has nine ecoregions, which are further divided into subregions (figure 2). However, Labrador has ten ecoregions. Each ecoregion and subregion contains many of the same ecosystem variables. It is the dominance and variance of these variables that determine the ecoregion and subregion classifications.

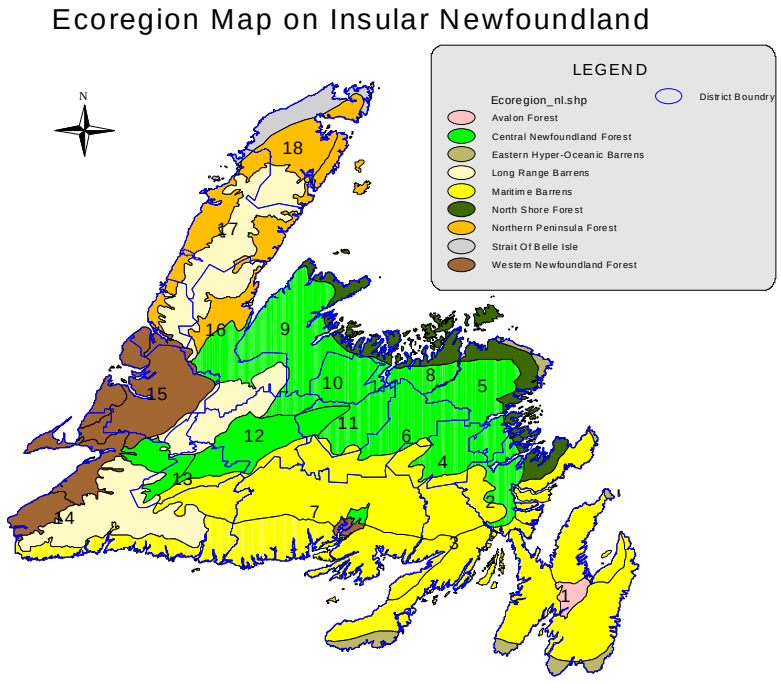

Figure 2 Ecoregion Map on Insular Newfoundland

1.3.2.1 Central Newfoundland Ecoregion

This Ecoregion has the most continental climate of insular Newfoundland. It has the highest summer and lowest winter temperatures. Because of the warm summers and the high evapo-transpiration losses, soils in the northern section of this ecoregion have a soil moisture deficiency.

The Hylocomium-Balsam Fir forest type occupies the zonal soils of this area. These soils are generally lighter in color and have lower organic matter content compared to other ecoregions. Forest fires have had an important role in the natural history of this region. Many sites have been converted to black spruce, while some of the richer sites are occupied by white birch and aspen. Yellow birch is absent from this region primarily because of the short frost-free period. Alders, rather than Mountain Maple are the most common problem on wet seepage slopes.

Northcentral Subregion

This subregion has the highest maximum temperatures, lowest rainfall and highest forest fire frequency than anywhere else in Newfoundland. The subregion extends from Clarenville to Deer Lake with a mostly rolling topography below 200 meters. The history of fire is evident by the pure black spruce forest and aspen stands which dominate the region. Relatively low moisture, coarse soils and the prevalence of black spruce cover types make this subregion particularly susceptible to regeneration failure. In addition, where regeneration is lacking, succession to dwarf shrub heath dominated by *Kalmia angustifolia* occurs on the nutrient-poor coarse textured till that is prevalent through much of this area. This subregion is characterized by rolling to undulating topography which supports shallow, medium till with a soil texture range from sandy loam to loam. There are also local areas covered by poor sandy till over glacio-fluvial deposits and outwash deposits along some of the major river systems such as the Terra Nova. It is in these landtypes that succession of productive black spruce forest types to ericaceous heath dominated by *Kalmia angustifolia* is most prevalent.

1.3.2.2 North Shore Ecoregion

This ecoregion represents a narrow coastal zone 20-25 kilometers in width, extending from Bonavista Bay to the Baie Verte Peninsula. Black spruce and balsam fir form a continuous forest except where barrens dominate on the coastal headlands. White spruce is more common than in central Newfoundland and trembling aspen is sporadic and will rarely form pure stands.

The vegetation season is shorter and cooler than in Central Newfoundland. However, the frost-free period is several weeks longer. Summers are relatively dry and warm and soil moisture deficiencies may occur. Encroachment of ericaceous shrubs on dry nutrient poor sites after cutting and fire is a serious silvicultural problem. In addition, the quality of growth diminishes with proximity to the coastline. There are no subregions within this ecoregion.

1.4 Forest Characterization

1.4.1 Land Classification

Table 3 displays the land classification broken down by ownership and district for Planning Zone 3. The total mapped land area in the zone is approximately 1.6 million hectares. There are four basic categories that currently represent how the land is classified; productive, non productive, non-forest and fresh water. The ratios across ownerships in each district are fairly consistent with some minor variations. Individual breakouts by district and owner are shown in Table 2.

The distribution of this land in each of Districts 4, 5, 6 and 8 are shown in the Table 2, below. The productive forest land base is divided among seven ownerships: Corner Brook Pulp and Paper Ltd (C.B.P.P.), Abitibi-Consolidated Inc. (A.-C.), Provincial Crown (Crown.), Federal Crown, Municipal Crown, Private Land, and Provincial Parks.The four Districts have a total productive forest land of approximately 458 800 ha.

Table 2. Breakdown of area in hectares by tenure owner for Districts 4, 5, 6 and 8.

	C.B.P.P.		**A.-C.**		**Crown**		**Other***		**Total**
District	Area	%	Area	%	Area	%	Area	%	**Area**
4	N/A	N/A	80,479	*92*	2,378	*3*	4,722	*5*	87,579
05	56,905	*28*	28,383	*14*	112,267	*56*	4,718	*2*	202,274
6	148,000	*88*	12,100	*7*	8,761	*5*	67	*1*	168,927
8	23,611	*14*	3,904	2	134,959	*81*	3,262	*2*	165,736
Total	228,516	*37*	124,866	*20*	258,365	*41*	12,769	*2*	624,516

Other* *Consists of Federal Crown, Municipal Crown, Private Land, and Provincial Parks. These owners make up a small percentage of the land base and were grouped together as a result.*

1.4.2 Age Class

Individual tree ages in a stand can all be the same after disturbance such as fire or harvesting; however in most cases the ages vary. Forest managers describe stand ages in terms of age classes, which generally encompass 20 years. The age classes present in the zone are:

Class		Age (years)
1	0 - 20	regenerating
2	21 – 40	immature
3	41 – 60	semi-mature
4	61 – 80	mature
5	81 - 100	over mature
6	100 - 120	“
7	120 +	“

The combined age class distribution in each district for the entire productive forest is shown below in figure 3. In general terms, the more balanced the age class distribution in a district, the higher the potential for an even flow sustained harvest of timber, because continuous timber supply is limited by the age class with the lowest frequency of occurrence. A balanced age distribution in the forest would also allow for the highest biodiversity by making habitat available at all stages of development, with the equivalent proportions of the forest to moving from one stage of development to the next over time. This would result in an ongoing renewal of habitat.

Figure 3 Age Class of Planning Zone 3

District 5 does not have a balanced aged class structure (below figure) as is the goal to maximize sustainable harvest levels. The breakdown for age class for District 5 is as follows: Class 2 (34%), followed by Class 4 (28%), followed by Class 1 (23%), followed by Class 5 (10%), and finally Class 3 (3%). Again, a similar situation is presented here when compared to District 4. The bulk of the area is available in Class 4 with just under half as much in Class 5. With the oldest first management policy, Class 5 should be able to support some harvesting for commercial and domestic operations until Class 4 areas are needed. This Class 4 area should be able to support the drain when the age classes advance to the next development stage as the forest ages. This will provide more time for the development of the current Class 3 component. Following that, what is now Class 1 and 2 appear to be in capable of supporting current drain levels when the trees in these areas become merchantable. As with District 4, stands that have been thinned are hoped to lessen the impact when less area becomes available by reaching merchantable sizes at earlier ages. The Forest Service's management goal is to implement management strategies which will ultimately result in balanced age class structure over a period of time (i.e. 1-2 rotations).

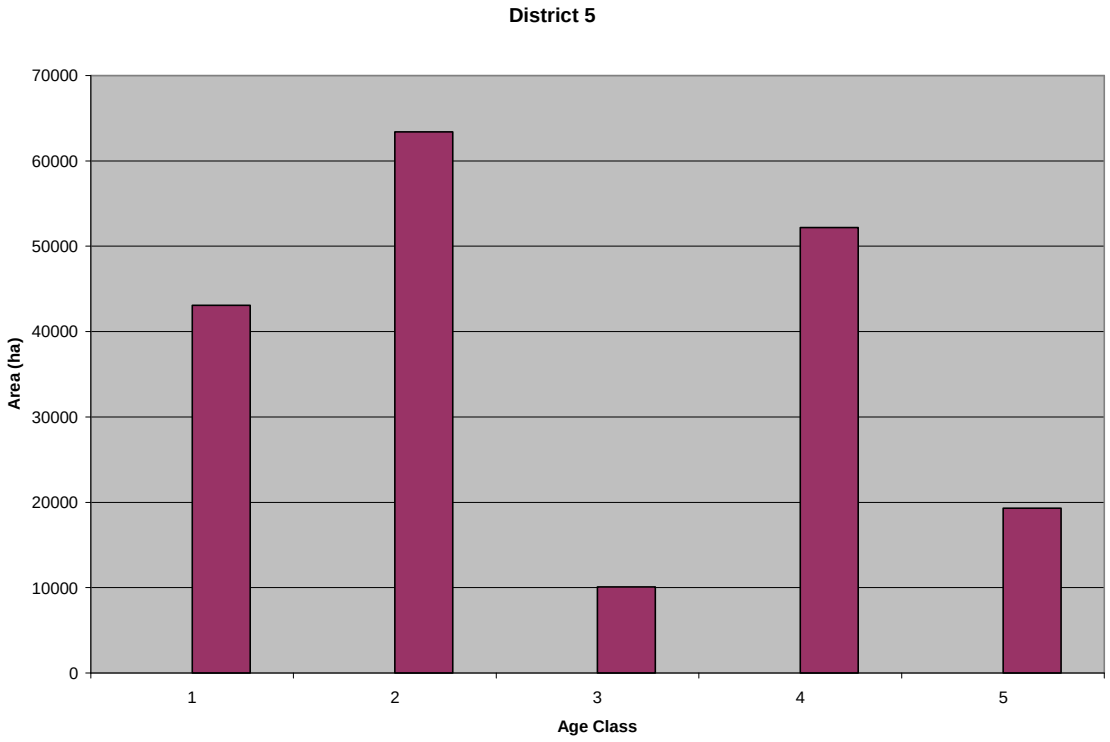

Figure 4 Age Class in FMD 05

1.4.3 Site Class

The Newfoundland Forest Service has identified four site classes that refer to the potential of a given site to produce timber. These are high, good, medium and poor. The classes are based on a number of factors, some of which are soil type, moisture content, slope, and fertility. Site class is determined through air photo interpretation supplemented with field checks. The classes indicate the volume of wood fiber a site has the capability of producing under natural conditions by the time the trees reach their rotation age (which averages, generally, between 60 and 80 years depending on the species and the location). On average, good sites are capable of producing > 2.6 m3/ha/yr, medium sites 1.7 m3/ha/yr, and poor sites 0.8 m3/ha/yr.

The following table indicates the average potential in cubic meters per hectare for each site class at maturity (based on the provincial average).

Class	**m^3/ha**
High	200+
Good	150
Medium	120
Poor	80

The medium site class is by far the largest in the district 05, holding 64% of the total productive area found in the three major landowners. The next largest class is poor (23%), followed by good (13%).

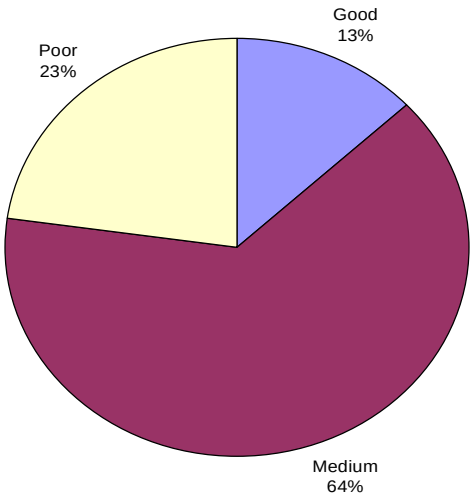

Figure 5 Site Class in FMD 05

2.1 SUMMARY OF PAST ACTIVITIES

Over the past five years (2001-2005), forestry activity conducted by Abitibi-Consolidated Company of Canada in Forest Management District 05 included: harvesting of timber, road and bridge building activities to access the timber and silviculture activities.

2.1.1 Harvesting Activity

The past five years harvesting results are included in Table 3. The previous maximum allowable harvest for the period 2001-2005 was 92,000 m³ for ACCC limits in Forest Management District 05.

The level of harvesting activity proposed within this plan will reflect current AAC calculations and, if required, will be adjusted to meet any revisions.

Operations in this district were carried out utilizing a mechanical shortwood cut-to-length system. This type of operations is very efficient and has minimal environmental impacts to the forest floor. The mechanical operation allows for the safe harvesting of roads during all seasons and is not negatively impacted by winter conditions.

Table 3
Summary of Past Five Years Harvesting Results
for the period January 1, 2001 to December 31, 2005
(Net Cubic Metres)

Year	Proposed Volume District 05	Actual Volume District 05
2001	21, 325	22, 186
2002	18, 400	15, 600
2003	28, 200	24, 304
2004	18, 700	16, 010
*2005**	*18, 900*	*12, 858*
Total	105, 525	90, 958

** Year 2005 is an estimate of volume. Actual numbers will be identified during the fall of 2006, during the completion of the Past Annual Report.*

2.1.2 Forest Access Road Activity

A summary of the roads that were constructed over the past five years are included in Table 4. There were 17.26 km and 1.23 km of Class "C" & "B", respectively forest access roads constructed in District 05, along with numerous steel culvert installations. The trend on Abitibi-Consolidated limits over the past five year period in road building has been to construct roads using tracked excavators rather than rely on tractors, as was the past practice. This move to excavators has meant a reduction in the loss of productive forest land during road construction. More importantly, is the resulting reduction in the amount of silt and sediment which flow into rivers and streams. The positive impacts are related to water quality and improved fish habitat.

The criteria regarding application for permission to construct bridges and install culverts was followed, i.e. if a brook was shown on a 1:50,000 scale topographic map then approval must be obtained from the Federal Department of Fisheries and Oceans, the Transport Canada, and from the Provincial Government's Water Resources Division. Recommendations from all parties regarding bridge openings and culvert sizes were followed, as were other mitigative measures that may have been recommended for construction and/or installation.

All forest access roads and cross drainage culverts were also approved and mitigative measures proposed. Those mitigative measures and approvals came from the federal department of Fisheries and Oceans.

The competence of our employees is foremost for Abitibi-Consolidated. To ensure all installations are carried out to consistently minimize negative impacts to the environment, a detailed training program was initiated. All personnel who were actively involved with culvert/bridge installation have undergone specific training that targets best management practices. These detailed working instructions outline procedures all employees must follow while working around any waterbody. Continual improvement programs such as the dedicated training helps ensure Abitibi-Consolidated meets or exceeds all regulations associated with good forest management.

Table 4 Summary of Forest Access Road Construction (primary & operational) for the period January 1st, 2001 to December 31st, 2005

Road Class	2001 Roads (km) Dist. 5	2002 Roads (km) Dist. 5	2003 Roads (km) Dist. 5	2004 Roads (km) Dist. 5	2005 Roads (km) Dist. 5	Total Roads (km)
B	0	1.23	0	0	0	1.23
C	4.2	1.22	4.84	7.0	0	17.26
Total	4.2	2.45	4.84	7.0	0	18.49

** Year 2005 is an estimate of road construction. Actual numbers will be identified during the fall of 2006, during the completion of the Past Annual Report.*

2.1.3 Silviculture Activities

The past five years silviculture activities are summarized in Table 5. The activities included planting, site preparation, and assessment surveys. A total of 778.3 hectares of area were silviculturally treated in the past five years.

Site preparation was carried out throughout the district on older cutovers and on burned areas that had a thick organic (duff) layer and were not regenerating naturally to acceptable stocking levels. Through scarification, the thick duff layer was broken up mixing it with the underlying mineral soil. This created ideal microsites for young seedlings to be planted, allowing them to grow vigorously.

Planting for the most part used black spruce container stock seedlings and was carried out on site prepared (scarified) ground. Young seedlings were planted at a spacing of 2.2 metres apart, giving a density of 2100 stems/hectare.

Table 5 Summary of Silviculture Treatments in Forest Management District 05 (2001-2005)

YEAR	AREA (Hectares)		
	Site Preparation	Planting	Gap Planting
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	363.67	0	0
2005	0	359.7	54.9
TOTAL	363.7	359.7	54.9

3.0 TIMBER SUPPLY ANALYSIS

Abitibi-Consolidated manages 1,677,563 million hectares of forested land within its Defined Forested Area (DFA). These limits range from Terra Nova in the eastern portion to Portage Lake area in the western portion. The company has long-term tenure on these limits with a common expiry date set for 2010. Of the 1,677,563 million hectares of total land area, only 45% is productive land available for the production of pulpwood for the Grand Falls-Windsor mill. The remainder consists of bog, barren, water and scrub-land.

A primary objective of Abitibi-Consolidated's forest management activity is to provide a sustainable supply of high quality raw material to the mill at a competitive cost while ensuring other sustainable activities are being considered. Abitibi-Consolidated (in conjunction with the Dept. of Natural Resources), uses a computer simulation model to analyse the future wood supply for the mill in Grand Falls - Windsor. The model projects forest growth and depletion based on the current state of the forest, assumptions in the rate of harvest, silviculture treatments, and forest development curves derived from measurements taken in the forest.

A new wood supply has been developed for Forest Management District 05, where the annual level of harvest runs indicate that annual allowable cuts will be consistent with previous forecasts. In any case, annual operating plans within the five-year planning horizon will be adjusted to reflect any changes. The AAC on Abitibi-Consolidated limits is 22, 900 m^3 within Forest Management District 5, for a total maximum allowable harvest of 114, 500 m^3. A discussion of ACCC's harvest levels can be found in chapter 6.2

4.1 Guiding Principles of Sustainability

There are five guiding principles of overall sustainability; environmental, economic, political, social, and cultural sustainability.

Environmental sustainability looks directly at ecosystem health, both now and in the long run. Ecosystem health is determined by such factors as ecosystem integrity, biodiversity, productive capacity, and resiliency. The five-year operating plan must ensure that these factors are intact or there would be very few values left to manage.

Economic sustainability demands that forest resources be managed and distributed efficiently and equitably among the stakeholders, within the capacity and limits of the forest ecosystem. Economic development has been given top priority by many of Newfoundland's people and their representative, the government. This will probably remain the case until the economy improves. However, economic development should not proceed without the incorporation of the other factors into the decision making process.

Political sustainability refers to the goals and management objectives being applicable, administrable, and practical. These goals and objectives must then maintain these qualities well into the future with the aid of public input and support.

Social sustainability means fairness and equity to all stakeholders. The forest management strategy should not jeopardize the basic needs of the public; therefore, public involvement and some decision awareness, participation, and decision-making clout are a necessity.

Cultural sustainability is attained by applying Newfoundland'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, many of Newfoundland's public has had free range in our pristine wilderness, a fact that the forest management strategy for the district cannot ignore.

All are key interlocking components and each must be maintained if sustainable development is to be achieved. A guiding principle is 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 the resource value;
2. methods for negotiation or inclusion of other stakeholders in resolving potential conflicts;
3. special management provisions/strategies - such as buffer zone consideration, temporal operating periods, modified harvesting, or a best management policy; and/or
4. models and/or forecasting strategies to determine economic contribution, biodiversity impact, or community sustainability

4.2 Value Description

The forest ecosystems of the zone provide a wide range of values to different individuals and groups. These include consumptive values such as timber products, hunting, trapping, sport fishing, and berry picking, and non-consumptive values like skiing, snowmobiling, hiking, and bird watching. Also, there are 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, these spiritual values are considered to be a product or an accumulation of all values. Other values such as water quality, parks and protected areas etc. provide for the protection of the forest ecosystems, which can enhance the other values listed above.

Many of the values in the zone were identified either directly or indirectly by this or previous or planning teams. Presentations of pertinent information on each value by knowledgeable individuals or groups provided stakeholders with relevant information to make informed decisions. Other values, while not specifically outlined by the planning team, are also identified and discussed to provide a more complete description of the range of values found in the zone. 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 (viewscapes, adjacency to water, mountains, habitat, wilderness ambiance, road access, etc.)

c) Guiding Principles

- Policies and rules of conduct that will protect or enhance the resource value (negotiation, buffer zone consideration, tools and strategies to resolve conflict, modified harvesting, etc.

Each individual value was discussed both at the strategic and operational level. Strategic level information (characterization, critical elements, and guiding principles) are the focus of discussion in this document. They provide a mechanism to resolve conflicts that might arise in the five-year planning process. Where possible, the physical location of the value on the landscape (operational level) was also identified during the discussion of each value. This will help facilitate the preparation of the five-year operating plan by identifying potential areas of conflicting use early into the process.

In many instances, the Environmental Protection Guidelines form the guiding principles for a value. Quite often the spatial extent or location of all values is not known (eg., raptor nests). Specific guidelines are still listed in order to provide a direction or course of action when and if these values are encountered.

4.2.1 Biotic Values

4.2.1.1 Big Game

4.2.1.1.1 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. Today, moose are distributed throughout the Island and the population is estimated to be about 125 - 140,000.

Currently, moose are managed on an area/quota system in the province. The Island is divided into 50 management areas and license quotas are set annually for each area. Quotas are set based upon the management objective for each area (i.e., whether it is desired that the population increase, decrease or stabilize). Generally, if an area has too high of a moose population, managers will increase quotas to bring down the population in order 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. Portions of moose management areas 21, 23, 25, 27 & 42 are located within FMD 05 of this zone.

Critical Elements:

Harvesting is not expected to have a negative impact on moose populations in the district because moose prefer the early seral stages of a forest and generally do well in areas a few years post harvesting

4.2.1.1.2 Caribou

Characterization:

Caribou is the only native ungulate species on the island. Biologists estimate that prior to the railway being built in 1898 the population on the Island was approximately 100,000 animals but by 1930 the population had declined to about 2,000 animals. Between 1980 and 2000 the number of caribou has increased considerably on the Island with a population estimated at 70,000+ animals. In the past few years however populations have declined significantly with planning zone being no exception.

Critical Elements:

Given that there is limited information about the distribution, movements, and habits of caribou in the zone area, it is hard to determine what impact timber harvesting will have on these animals. Past studies have shown that forestry activities in the immediate vicinity of calving areas during the calving period have an impact on caribou populations. Recent studies and anecdotal information has indicated that the harvesting restriction zone around caribou calving zones may be significantly larger that first thought. It has also been shown that as roads are constructed and access is improved into remote areas, there is generally an increase in the number of animals, which are killed due to road-kill and poaching. The abundance and distribution of arboreal lichens has also been shown to impact caribou populations.Portions of caribou management areas 64 & 68 are located in FMD 05 of this zone.

4.2.1.1.3 Black Bear

Characterization:

The black bear is native to the Island and is found in forested areas. Currently, the number of black bears occurring on the Island is not known (due to difficulty in conducting a census) but is crudely estimated to about 6 - 10,000. Portions of black bear management areas 23, 27, & 42 are located within FMD 05 of this zone.

Critical Elements:

- den sites for winter hibernation;
- forest cover

Guiding Principles:

Big Game Management Strategy (moose, caribou and black bear)

Management of big game species in the Province is accomplished by a planning process in which a Big Game Management Plan is prepared annually by the Inland Fish and Wildlife Division (IFWD) of the Department of Tourism Culture and Recreation. This process takes into consideration information provided by the public and wildlife and forestry staff. Each year the IFWD reviews all relevant data, such as recent census work, information provided on license returns, and jawbone or skull data and makes decisions on types and numbers of licenses of each species in each management area. Management of big game in the zone will continue to be addressed through this process.

Environmental Protection Guidelines (EPG)

Moose

Where mature stands of timber required for moose shelter and moose yards are required, they will be identified in consultation with the Wildlife Division.

Caribou

To ensure the continued protection of these animals the following EPG's will be followed during forestry activities:

- In areas where caribou utilize lichens, a minimum amount of lichen forest must be maintained for caribou. (This amount is to be determined);

- Harvesting and road construction should be minimized during the May 15 to July 30 calving period.

- Forest access roads, borrow pits and quarries shall avoid: known sensitive wildlife areas such as, calving grounds, post calving areas, caribou migration routes, caribou rutting areas and wintering areas.

Because the caribou population is in decline, the IFWD is in the process of identifying critical caribou habitat areas and is currently reviewing its guidelines for forestry activities within these areas. These guidelines will be developed cooperatively through the input of the wildlife division, forestry division, ACCC, & CBPPL. Once finalized, they will replace and/or enhance those listed above.

Bear

A 50-metre, no-cut, treed buffer must be maintained around known bear den sites (winter) or those encountered during harvesting. Den sites must be reported to the IFWD.

4.2.1.2 Furbearers

Characterization:

Ten species of furbearers occur in the zone; lynx, red fox, beaver, otter, muskrat, short-tailed weasel, red squirrel, mink, coyote, and pine marten (will be discussed in more detail in next section). Of these, red squirrel, mink and coyote are not native.

Critical Elements:

- forest cover for protection;
- water quality maintenance;
- riparian buffer zones along aquatic areas;
- snags and coarse woody debris (denning, nesting sites, etc.)

Guiding Principles:

Fur Bearer Management Strategy:

Recommendations concerning the management of furbearer species are developed annually, upon consultation with provincial trappers, Newfoundland and Labrador Trappers Association, general public, and DNR staff. Like the small game management plan, the fur management plan, reviews the status of each fur bearer species annually and addresses the season dates and lengths, and if necessary closure of areas (or no open season). Management of all fur bearing species in the zone will continue to be managed through this process.

Environmental Protection Guidelines:

To protect beaver habitat, all hardwoods within 30 metres of a waterbody occupied by beaver are to be left standing during harvesting operations.

4.2.1.3 Pine Marten

Characterization:

Before 1900, marten ranged over most of the forested areas of the island but, unfortunately, today is listed as an endangered species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Habitat loss, predation, disease and accidental trapping and snaring are thought to be the primary reasons for the marten population decline in Newfoundland.

Since the initiation of the live-trapping program, it has been revealed that the Main River watershed is a high-density marten area (on the island) and densities are comparable to those found in the Little Grand Lake and Red-Indian Lake areas. Marten have also been recorded in isolated pockets of Districts 4,5 & 6. Based on this information, it is important that marten habitat be protected in this area. Furthermore, it is important that some remnant stands of old growth (80+) forests be left throughout the zone and provision made to have connectivity (i.e., unbroken corridors of forest) between such stands. To accomplish this, a landscape approach to habitat management was initiated by the Forest Service in 1999. This involved working with stakeholders to identify critical or potential marten habitat, locating possible corridors, and identifying areas which would not be cut in the near future. This initiative has been ongoing since that time. To identify all factors affecting marten survival, stakeholders from the Forest Service, IFWD and both paper companies sit on a recovery team for Newfoundland marten. The purpose of this team is to set short-term and long-term population goals for the species, and to recommend ways which this may be accomplished. The Team is now in the process of identifying critical and recovery marten habitat and determining which forest activities can take place within these areas.

Critical Elements:

- sufficient habitat to support a viable population of marten;
- areas of known marten populations remain closed to snaring and trapping

Guiding Principles:

The basic unit for evaluation will be home range size for male ($30km^2$) and female ($15km^2$) . All forest types can be considered marten habitat if they meet the following requirements:

- sufficient habitat to support a viable population of marten;
- core marten area in Main River (i.e., the marten study area) remain closed to snaring and trapping

- 70% or greater of that unit must be suitable habitat;
- 40% or greater of the unit should have trees greater than or equal to 9.6m in height;
- The remaining portion of the 70% (30% or less) should have trees between 6.6 and 9.5m;
- 50% of the unit should be contiguous; Stands will have to be within 50 m of an adjacent habitat to be considered contiguous.
- A qualifying stand will have to be within 150 m of another stand or habitat patch to be considered as habitat.
- Minimum patch size equals 20 ha;
- Basal area requirement equals 40 m^3/ha (~18 m^2);
- Hardwood stands (insect kill, wind throw) will be considered where crown closure is greater than or equal to 30%;
- Softwood scrub meeting the minimum requirements (6.5 m) will be considered habitat. Where height is not known, softwood scrub within 50 m and adjacent to a qualifying stand is considered as habitat

As stated, critical and recovery pine marten habitat is being or has been identified. The development and evolution of the marten habitat suitability model in recent years has been a useful tool in identifying potential marten habitat and evaluating impacts of harvesting on this habitat and resultant changes to population levels. Continued development and refinement of this model will provide more a reliable means of evaluating impacts on harvesting on marten habitat in the future. Pine marten is also being evaluated as part of an ongoing biodiversity assessment project (BAP). ACCC is a cooperative partner in this project and progress is closely monitored. There is also ongoing research into a variety of aspects of marten dynamics through the Model Forest, Canadian Forest Service, and University of Maine. Recommendations resulting from any of these ongoing initiatives will be incorporated into harvesting prescriptions as required.

4.2.1.4 Water Resources

Characterization:

The protection of water resources has emerged as a major issue in recent years both nationally and provincially. Events such as the E.coli 0157 outbreak in Walkerton, Ontario, our own Triahlomethane (THM) controversy, and numerous incidents of

giradiasis in community water supplies have heightened public awareness on water issues. While much of the current focus is directed toward drinking water, it is also recognized that an equal importance must be attached to waters, which have other beneficial uses. Human impacts both locally and globally have the potential to impair water for future uses.

In planning zone 3, water is used beneficially for numerous purposes. There are numerous communities within the zone, which have water supplies, which maybe protected under the province's Protected Water Supply Program. Recreational waters within this zone are used for activities such as fishing, boating and as a 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 the predominant activity and occurs throughout the zone. There are numerous roads associated with the harvesting, traditional access routes as well as newly constructed roads, which are visible throughout the zone.

Critical Elements:

Forest management activities such as road construction, use and maintenance, timber harvesting, and silviculture may substantially alter the quality of water draining from watersheds as well as other defining characteristics such as stream hydrology, sediment loadings, stream characteristics, and aquatic discharges from municipalities. 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 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.

4.2.2 Human Values

4.2.2.1 Timber Resource

Characterization:

One of the major resource values of the forest ecosystem is the harvesting of timber to provide forest products. Historically timber has been harvested since the first inhabitants

settled in the zone. Initial uses were mainly domestic in nature to supply timber to build houses, fishing sheds and equipment and for heating and cooking. With the increase in population, more commercial uses have arisen to supply lumber and pulp and paper products. The zone supports an annual allowable cut (AAC) on ACCC Limits of 22, 900 cubic meters in District 5.

Domestic harvesting still provides fuelwood to heat many homes in the zone. Commercial activities provide many jobs in harvesting, sawmilling, trucking, pulp and paper manufacturing and related spin off industries for local residents.

Silviculture treatments are important to the forest resource of the zone because they ensure a vigorous and healthy forest is maintained. Forest renewal activities are critical because they ensure that the productive land base is maintained by 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.

Timely access to timber is critical to planning any forestry operations. Primary, secondary and tertiary roads form an integral part of operating areas and are used after timber extraction is completed for recreational purposes.

Protection of the forest from various disturbances is also a major characteristic of resource management. Because of the long insect history in the district, protection through integrated pest management techniques is an important activity. While fire has not been a major disturbance in recent years, protection is still critical since a large fire can potentially be devastating. Protection of other resource values through modification of activities and enforcement is also important.

Critical Elements:

The overall objective is to ensure the AAC is maximized while taking into account 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 age classes through thinning to correct age class imbalance
- maintain both a sawlog and pulpwood industry in the zone through timber exchanges

Guiding Principles:

- enforcement of 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 (public, ACCC Operators)
- aggressively conduct silviculture, access road, and protection activities
- implement best management practices. The *Environmental Protection Guidelines for Ecologically Based Forest Resource Management* (EPG) outline courses of action and mitigative measures for forest activities. Items included in the EPG's include:
- garbage disposal
- fuel storage
- mineral soil exposure
- buffer requirements
- road and bridge construction
- silviculture and harvesting activities

4.2.2.2 Agriculture

Critical Elements:

Surveys indicate that approximately five percent of the soils in the province are suitable for agriculture. It is not possible to identify and plan all sites for future agriculture use and often there is a 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 must be given for the agriculture industry to expand. This is particularly important for areas outside established agriculture areas.

Guiding Principles:

Lands designated for forest management can include areas with high potential for agriculture. Consequently, the forest landholders will work with the Department of Agriculture to determine if opportunities exist for an exchange between agriculturally viable forest areas with unsuitable agriculture land within the Agriculture Development areas.

The agriculture leasing policy initiated in 1976 ensures that new or existing land allocated for agriculture continues to be used for agriculture. The leases have no provision for fee simple grants and must be used exclusively for agriculture purposes.

The following will provide guidance for the development of agriculture within District5:

- *Home gardening leases be confined to areas already developed for this activity.*
- *Any increases to agriculture leases should be adjacent to existing leases.*
- *New agriculture leases should include a business plan approved by the Agrifoods Division of the Dept. of Natural Resources.*
- *Wood harvested on agriculture leases shall be completed under a crown cutting permit. Where possible, existing commercial forest operators should be encouraged to work with farmers to clear new land for development.*

4.2.2.3 Mining

Characterization:

In planning zone 3 there is a diverse geological environment which may host a variety of both metallic and industrial minerals.

Critical Elements:

Location of deposits close to markets is vital in controlling aggregate costs, which often increase dramatically with increased transportation distances.

Guiding Principles:

Harvesting timber for prospecting lines must meet the same rigor as commercial harvesting.

- Every attempt will be made to extract timber harvested as part of mining exploration and development.

- 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.

- Infractions by mining companies will be dealt with through warnings and/or charges as necessary.

- Potential mining exploration will follow ACCC's mining policy

- Non-compliance with exploration permits will be passed to the District Manager and then submitted to Mines Division, Dept. of Natural Resources.

4.2.2.4 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 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. It is important to professionally record as much information as possible at an archaeological site in order that one may fully understand its history. In order to do this properly the site must not be disturbed. Very often, archaeological sites are small, spatially bounded units, therefore protecting these resources usually do not have an adverse impact on forestry activities. Archaeology is very important for our tourist industry. Archaeological excavations and interpretive sites draw thousands of visitors each year to this province. The preservation and interpretation of archaeological sites will continue to benefit the tourism industry in this province for years to come. Thousands of tourists from all over the world visit our archaeological sites each year.

Each year archaeology projects provide many seasonal jobs. Many of these people are successful in obtaining employment in archaeology and conservation for longer periods of time. By calling for archaeological impact assessments on projects, which have potential to negatively impact historic resources the PAO is providing jobs for consulting archaeologists in the province. New businesses are created as a result of archaeological projects. These businesses include bed and breakfasts, boat tours, restaurants and gift shops.

Critical Elements:

Major threats to historic resources are projects involving activities, which disturb soil layers and/or provide unintended public access to the archaeological resources. 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 there are also beneficial effects. Where impact assessments are carried out and new sites found, this 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 upon historic resources, therefore it is important that the Provincial Archaeology Office be involved at the planning stage in order to ensure that mitigative measures to protect historic resources are developed at the earliest possible stage. In order that known archaeological sites and potential unknown sites are protected from forestry activities buffer zones will be necessary in some areas whereas archaeological assessments may be required in others. Known archaeological sites must be avoided and buffers will be required around them.

Occasionally there are accidental discoveries made of historic resources. In the event that this does happen, activities should cease in this area and contact be made immediately with the Provincial Archaeologists at 729-2462

4.2.2.5 Newfoundland T'Railway

Characterization:

A section of the Newfoundland T'Railway Provincial Park lies in the zone and has an impact on forestry operations. The former CNR right of way, which is 25 feet each side of the center line, is the main route for the T'Railway with some minor deviations. It provides for an all season, multi use recreation corridor developed and managed with community partners to maximize adventure tourism and recreational opportunities.

The T'Railway is protected for the present and future enjoyment of the public as part of the system of provincially designated parks and natural areas. The Provincial Parks Act provides the legislative framework for the administration and management of the T'Railway.

The T'Railway constitutes the Province's contribution to the Trans Canada Trail System. It is the largest provincial park in the Province with the most users. It is used primarily for snowmobiling, skiing, hiking, walking and all terrain vehicle usage. Other new or historical uses such as commercial and domestic harvesting, quarry and mining access and cabin access are also permitted with a special permit

Critical Elements:

- 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

- coordination 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

- coordinate and 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

- in an attempt to preserve the natural value of the T'Railway, other land management agencies are requested to maintain a 100 m buffer along the right of way

- where access is required from the T'railway, all roads shall be 100 meters away from the track before a landing or turnaround is constructed.

- A one hundred meter no harvest zone shall be maintained from the center of the T'railway.

- Where feasible, harvesting using the T'trailway shall be from May to December to avoid conflict with other user groups.

4.2.2.6 Parks and Protected Areas

Characterization:

The mission statement of the natural areas program is to protect in an unimpaired condition, large wilderness examples of provincial ecoregions including their natural processes and features and rare natural phenomena, so as to preserve the diversity and

distinctiveness of the Province's ecologically sustainable future for the benefits of present and future generations.

Protected areas in the province are of many types. The *Wilderness and Ecological Reserves Act* enables the Province to establish the following; wilderness reserves (Component 1), ecological reserves (Component 2) and ecological reserves (Component 3). Component 1 reserves are defined using the critical habitat of high level, wide ranging species i.e. caribou. They generally cross ecoregion boundaries, protect complete systems and are large (> 1000 km2). Component 2 reserves protect representative samples of ecoregions (not included in Component 1 reserves) and are mid-sized (50-1000 km2). Component 3 reserves protect exceptional natural features, such as, rare species or areas of unusual biological richness and are generally small (< 10 km2).
The benefits of protected areas are to preserve biodiversity, provide areas for scientific research, provide opportunities for environmental education and provide standards against which the effects of development can be measured. Protected areas in the zone include: the T'Railway, Terra Nova National Park,

Critical Elements:

- preservation of biodiversity
- maintenance of protected area integrity
- maintain natural processes and features

Guiding Principles:

- only allow traditional (hiking, berry picking, hunting etc.) activities, educational activities and scientific research within protected areas provided that they do not compromise the integrity of the reserve

- prohibit all forms of <u>new</u> development such as mining activity, hydroelectric projects, forestry activity, agriculture activity, roads and trails and cabins and new structures.

- where forestry operations are within one kilometre of provisional and ecological reserves, wilderness reserves or provincial parks, modified operations may be necessary

4.2.2.8 Outfitting

Characterization:

An economic impact study conducted in 1995 by the Department of Industry, Trade and Technology suggests that a big game license has a net economic impact of $6864. By approximating this value at $7000 for 2006, it is possible to estimate the economic contributions of this industry: approximately 300 licenses * $7000 / license = $2.1 million. An additional $135 000 is estimated to be brought in from fishing. (Bear hunting has not been included in the above figures.) Given that 85% of the hunting market comes from the United States of America, it follows that the above monetary figures are reflections of money entering the province from elsewhere. It should be recognized that the outfitting industry provides this revenue to the Province each season and has the potential to do so indefinitely. Over the past 10 years, a significant number of traditional hunting and fishing facilities have diversified into the non-consumptive areas of the tourism industry. Such activities include but are not limited to: snowmobiling, dog sledding, kayaking, canoeing, nature viewing, hiking, and wildlife photography. The ability to diversify has positively impacting the viability of outfitting operations and as such, increasing numbers of operators are considering these opportunities. Diversification can lengthen seasons of operation, increase and lengthen employment, and reduce dependency on a single sector of the tourism industry.

Critical Elements:

Remote outfitting camps are dependent on their remoteness. Forest access roads inevitably impact the ability of a camp to maintain its remote status. Increasing accessibility through increased access roads can also lead to increased hunting and fishing pressures in a given area. This can in turn lead to decreased success rates of tourists. This is of particular concern since Newfoundland is often the hunting destination of choice due to success rates upwards of 80 percent. An increase in access roads also tends to lead to increased cottage development that in turn can have an impact on both remoteness and game availability.

Removal of large areas of forest has the immediate effect of destroying big game habitat, particularly winter cover, although this impact has been poorly studied (particularly in remote areas). Forest harvesting also has the potential to impact negatively upon travel corridors, bear denning areas, and caribou feeding and calving areas.

While clients of big game and fishing outfitters are primarily interested in hunting or fishing experiences, they also show a 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 view also has a direct impact on repeat client bookings and recommending the destination to others. Viewscapes become even more important once outfitters begin diversification into non-consumptive tourism activities. With these activities, there is no trophy to bring home and that which is taken away is that which has been experienced by the senses (i.e. sights, sounds, smells, etc.). In some cases, past harvesting practices has resulted in increased levels of garbage (ie: old machinery parts, abandoned buses, oil containers, etc.). This can be frustrating for outfitters who concentrate on not leaving permanent marks on the landscape.

Guiding Principles:

It is necessary that management areas remain around outfitting camps as agreed to by the company and individual operators. At times, these areas can be difficult to negotiate due to varying ranges of activity from operator to operator.

- *Where possible, roads and Bridges maybe decommissioned after harvesting is completed. This will eliminate damage to the hunting area by reducing the possibilities of increased hunting pressure. When roads are in use actively for harvesting purposes, access to hunters should be restricted or limited.*

-*Cottage development should be prohibited in areas adjacent to outfitting operations. This requires more vigorous enforcement of buffer zones, and should be co-ordinated through the crown lands office.*

- *Harvest in the winter whenever possible. Winter roads are less passable in summer and fall and will help to reduce traffic. These roads will also be cheaper and easier to decommission.*

- *Forest operations should be carried out in compliance with existing regulations*

- *Efforts should be made to ensure that the integrity of the view from outfitter cabins is maintained when conducting forest operations.*

- *Forest operations should ensure that whatever equipment (lunch shacks, fire shacks, etc…) is brought into an area is removed from the area once harvesting is complete.*

4.2.2.8 Recreation

Characterization:

Many areas in this zone have outstanding scenery, interesting topography, and opportunities for viewing wildlife and flora in a natural setting. These elements represent a small list of reasons why the zone is used extensively for recreational purposes. Hiking, skiing, canoeing and snowmobiling are major recreational activities in the area. Non-timber recreational values are expected to play an increasing role in forest management practices.

Many hiking trails, ski trails, snowmobile trails, and excellent hunting and fishing areas highlight some of the recreational opportunities in the zone.

Critical Elements:

Wilderness

Backcountry recreational activities are dependent on the existence of natural pristine wilderness areas. The temporary removal or alteration of this pristine wilderness through forest harvesting practices may result in a decrease in these recreational activities for some period of time.

Accessibility

An increase in forest access roads will increase the amount of accessibility to remote areas. This in turn may increase the amount of traffic in an area (both vehicular and pedestrian) and potentially decrease the value of the experience for many recreational activities.

Viewscapes

The majority of individuals who are involved in recreational activities are concerned about viewscapes. Many of the recreational activities occur because of a particular viewscape. The destination for many individuals is a result of the viewscape in that particular region.

Guiding Principles:

To prevent negative ecological effects and to ensure a positive experience, access and levels of recreational activities can be monitored. Public surveys similar to those used by the WNMF in the GEO-Referencing Non-Timber Values project can be used to measure the experiences and the levels of recreation occurring in the district.

Wilderness

Forest operations that are necessary near wilderness areas where high concentrations of recreational activities occur, usually goes through stakeholder meetings to prevent potential conflicts.

Limiting Accessibility

Decommissioning of forest access roads could be a possible option when harvesting operations are completed. In sensitive areas, harvesting could be conducted using winter forest access roads where possible. Winter roads create less traffic and require less effort to decommission. The Crown Lands division of the provincial government should implement a complete moratorium on cabin development on newly developed forest access. Cabin development will increase traffic in areas where many recreational activities occur. This in turn will negatively impact those recreational activities that require remoteness, and a pristine environment.

Viewscape

In areas where high concentrations of recreational activities occur, aesthetic views could be maintained using landscape design techniques where possible when conducting forest operations. This is especially relevant in areas where the recreational activities are occurring because of the aesthetic view.

- *Reforestation of areas with high aesthetic values should occur without delay in returning the site to a forested condition.*

4.2.2.9 Tourism

Characterization:

The tourism industry in Newfoundland and Labrador is based on our natural and cultural resources. Protection of these resources is critical for our industry to survive and grow**.** We currently have the resources to complete internationally with tourists destinations, however, competition for the international traveler is high in the tourism marketplace. The tourism industry in Newfoundland and Labrador has experienced significant growth since 1997. Tourism has been contributing between $580 million and $700 million annually to the provincial economy. Government tax revenue from tourism in 1998 was estimated to be $105 million. The worldwide growth of tourism at rate of 41%, the national growth of 25% and the provincially growth of 33% indicates tourism is Newfoundland and Labrador's best opportunity for economic diversification and growth.

There are many excellent tourist destinations in the zone.

Critical Elements:

- viewscape

- accessibility
- wilderness ambiance
- remoteness

Guiding Principles:
Work with various tourism operators within the zone to implement strategies to minimize the visual impact of harvesting operations on the aesthetic values associated with viewscapes. By bringing together all relevant parties and the tourism operators, strategies will be discussed, negotiated, and implemented to provide a balance between harvesting and the values associated with tourism. If required, the Forest Service, ACCC, local Town Councils, and other relevant groups will get together to examine the viewshed issues where applicable in the zone.

5.0 THE PUBLIC CONSULTATION PROCESS

As timber management is viewed as one by-product of managing the forest to sustain biological diversity and long-term ecosystem health, it is recognized that there are many other by-products, which are of value to society as a whole and in particular to the people who live and work in these forest management districts. The participation of the general public was recognized as an integral part of the planning process, as was consulting with other government agencies and groups. Abitibi-Consolidated Company of Canada, in cooperation with the Dept. of Natural Resources conducted public meetings to discuss the management of the forest ecosystem for District five, with the goal of developing and preparing 5-year operating plans for the three land base managers (Abitibi-Consolidated, Crown, and Corner Brook Pulp & Paper), and a working committee or planning team to help facilitate the process. A list of participants and a description of the whole planning process for FMD's 4, 5, 6, & 8 can be found in the Department of Natural Resources five-year operating plan for these districts.

The activities that occurred during the development of this plan was as follows:

(1) Held public meetings in Gander with various interested stakeholders to form a planning team, which built upon the previous team developed at the last planning period.
(2) Held meetings with the planning team to discuss the identification of timber and non-timber values. These included workshop information exchange, development of goals and objectives, and an adaptive management strategy.
(3) Incorporate, where possible, the requests of the general public, interest groups and government agencies into the plan.
(4) Draft plan prepared and made available for planning team review.
(5) Incorporate, where possible, the concerns expressed at those public meetings into the final management plan. This plan is then submitted to government for approval. The minutes of those public meetings and stakeholder group meetings, as well as correspondence with other government agencies and interested groups, are available upon request.

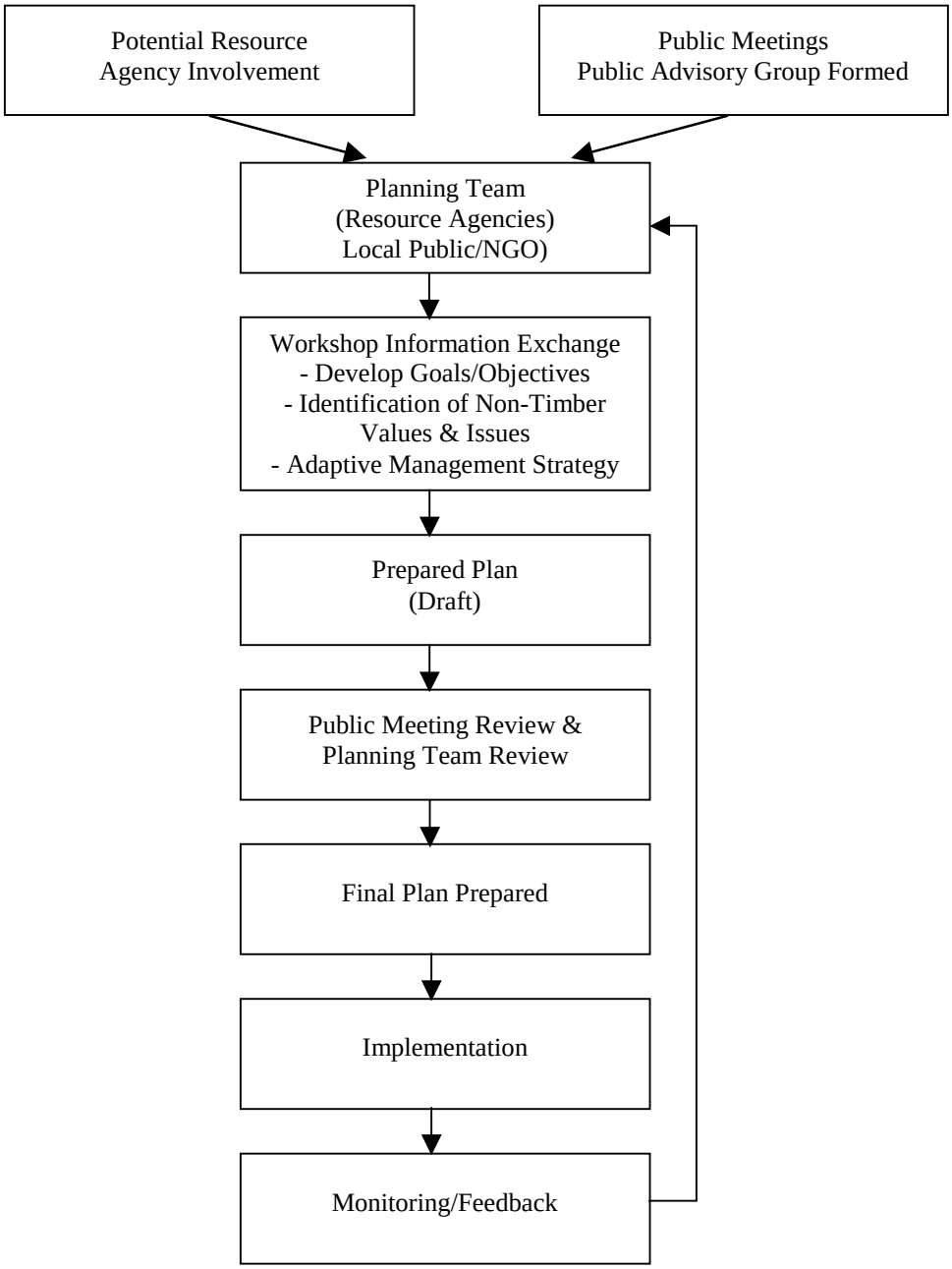

Figure 6 Public Participation Process

6.0 MANGEMENT OBJECTIVES AND STRATEGIES

6.1 HARVESTING

This operating plan covers the period January 1st, 2007 to December 31st, 2011. There are 167, 650 m³ proposed for harvest during this planning period. This volume will be harvested using the traditional short wood harvesting systems and mechanical harvesters. Commercial hardwood operations are outlined on a topo map in this chapter. Over the five-year period, ACCC will ensure that the maximum sustainable harvest for FMD 05 under ACCC's jurisdiction will not be exceeded over the five-year period.

Forest access roads will be constructed to access any mature and overmature forest stands. There are approximately 19.4 kilometres of road construction planned for Forest Management District 05 (ref. Table 8). These roads will be located so as to minimize the damage to the environment and to avoid environmentally sensitive areas where possible. The latest in road building technology will be used. Other forest users, such as hunters and fishermen, are expected to avail themselves of those access routes to the forest.

6.2 ALLOCATION OF WOOD SUPPLY

A new wood supply analysis was implemented in 2006 for the planning period 2006-2010. The AAC on Abitibi-Consolidated limits is 22, 900 m³ within Forest Management District 5, for a total maximum allowable harvest of 114, 500 m^3.

Table 6 outlines ACCC's projected harvest levels for the period 2007-2011. As well, Appendix 1 provides a description of the harvesting areas and the associated maps for the management zone and ACCC's proposed harvest areas within FMD 05

Table 6 Summary of Scheduled Harvest
Forest Management District 05
January 1st, 2007 to December 31st, 2011

DISTRICT 5		
Operating Area Number	**Operating Area Name**	**Volume Proposed (m^3)**
ACCC-05-01	Traverse Brook 1	29, 500
ACCC-05-02	Traverse Brook 2	26, 800
ACCC-05-03	Indian Bay 1	39, 500
ACCC-05-04	Indian Bay 2	22, 000
ACCC-05-05	Maccles Lake	16, 400
ACCC-05-06	Indian Bay 3	33, 450

6.3 SILVICULTURE

Regeneration in Forest Management District 05 is primarily by natural means as the harvested areas regenerate primarily to black spruce and balsam fir. In the Indian Bay Pond area of Forest Management District 05, Abitibi-Consolidated Company of Canada has ongoing harvesting operations. All these harvested areas will be evaluated for potential silviculture prescriptions and implemented as required. The primary silviculture practice in Forest Management District 05 will be site preparation and planting (ref: Table 7). With the development of Regeneration Stocking Standards and Regeneration Assessment Procedures for Nfld. & Labrador now in place, all recently harvested areas will be evaluated for potential silviculture activities and implemented as needed. Potential Areas can be viewed on the enclosed Proposed Silviculture Areas Map, in appendix 1

Table 7
Summary of Scheduled Silviculture Activities Forest Management District 05
(Planting & Site Preparation)
January 1st, 2007 to December 31st, 2011

FOREST MANAGEMENT DISTRICT 5				
Year	**Operating Area**	**Type of Treatment**	**Equipment Utilized**	**Scheduled Area (ha.)**
2007	Indian Bay Pond Area	Planting	Potiputkis	60.0
2008	Indian Bay Pond Area	Planting	Potiputkis	60.0
2009	Indian Bay Pond Area	Planting	Potiputkis	60.0
20010	Indian Bay Pond Area	Planting	Potiputkis	60.0
20011	Indian Bay Pond Area	Planting	Potiputkis	60.0
TOTAL				**300.0**

FOREST MANAGEMENT DISTRICT 5				
Year	**Operating Area**	**Type of Treatment**	**Equipment Utilized**	**Scheduled Area (ha.)**
2007	Indian Bay Pond Area	Site Prep.	TTS	60.0
2008	Indian Bay Pond Area	Site Prep.	TTS	60.0
2009	Indian Bay Pond Area	Site Prep.	TTS	60.0
2010	Indian Bay Pond Area	Site Prep.	TTS	60.0
2011	Indian Bay Pond Area	Site Prep.	TTS	60.0
TOTAL				**300.0**

Note: Projected treatment areas may vary by year, but will balance within the five-year planning period.

6.4 RESOURCE ACCESS ROADS AND BRIDGES

There is a total of approximately 19.4 km of secondary forest access road construction proposed for District 05 in this planning period. A summary of this activity can be found in Table 8 and can be seen on the enclosed operating area maps. Those roads and bridges are necessary to access stands that have been classified as dead or damaged due to insects or wind and to access overmature stands. Those accessed stands will then be harvested.

It is recognized by Abitibi-Consolidated personnel that road and bridge construction activities have the potential of doing damage to the ecosystem if proper procedures are not followed. Realizing the importance of this, Abitibi-Consolidated has developed dedicated standard operating procedures (SOP's) that encompass all water crossing activities. These SOP's are communicated to employees with operational responsibility by means of training seminars and are re-evaluated by internal and extend 3rd party audits.

Throughout the road building activity, all streams that are highlighted on 1:50,000 topo maps will require approval from: the Dept. of Fisheries & Oceans, the Provincial Dept. of Environment (Water Resources Division), &/or Navigable Waters Protection Agency. Only upon receipt of an appropriate Certificate of Approval, will any water crossing activity occur, where all associated guidelines and mitigative measures stipulated will be followed.

The sensitivity of areas to environmental damage is taken into account when planning the proposed road location route. Any sensitive areas, such as grasslands near streams and rivers, are avoided. In the past when harvesting has taken place near such sensitive areas, roads have been located back from those areas and increased uncut buffers have been maintained; this practice will continue.

The overall benefit of road construction and maintenance to other users of the forest became evident during the public meetings when concerns were expressed about who would maintain certain roads when Abitibi-Consolidated no longer had any wood to harvest from specific areas. Recreational users of the forest use the roads for, bicycling, hunting, fishing, photography, etc. There are other commercial users of those roads, such as mining companies who carry out mining exploration activity Abitibi-Consolidated is committed to the proper construction of roads and bridges on its limits and to ensuring the least possible damage to the environment by avoiding environmentally sensitive areas.

Table 8
Summary of Forest Access Road Construction for
Forest Management District 05
(January 1st, 2007 to December 31st, 2011)

District	Proposed Area #	Roads (km)	Bridges
5	ACCC-05-01	4.6	1
	ACCC-05-02	2.2	0
	ACCC-05-03	6.5	0
	ACCC-05-04	2.6	0
	ACCC-05-05	0	0
	ACCC-05-06	3.5	1
Total		19.4	2

6.5 PROTECTED WATER SUPPLY AREAS

There are planned harvesting activities within Indian Bay and Gander Lake protected watershed area. Operating plans for both areas have been presented at the District planning teams with modified planning designs incorporated within harvest plan patterns. The Dept. of Environment's Water Resources Division reviews all forestry activities within protected watershed areas. Prior to actual harvesting, logging contractors and crews are briefed on all required regulations. The guidelines outlined in the Environmental Protection Plan for Timber Resource Management are strictly enforced.

Abitibi-Consolidated is actively involved with watershed management and is a member of the various Watershed Committees. These groups meet regularly to review all issues relating to watershed development. It is through this proactive approach that harvesting/silviculture activities can be reviewed prior to implementation.

6.6 PROTECTION

The company recognizes the need of ensuring adequate protection for the resources that are within FMD 05. Those resources are not limited to the timber resource but include protecting other resources such as water, soil, etc. The primary threats to the forests include: fire, insect, wind and possible damage from human activities, e.g. oil spills.

The company has an environmental response plan in place to deal with environmental incidents, should they occur on the operations. In addition, since certification with ISO 14001, environmental checklists are conducted monthly on all aspects of our operations. In addition, there are internal (both in-house & corporate) environmental audits periodically conducted to determine the company's level of environmental compliance and to identify areas requiring attention.

All harvesting operations have an on-site environmental spill response kit and additional environmental materials are in stock at the mill in Grand Falls.

Protecting the forest resource from insect damage is a high priority and Abitibi-Consolidated is committed to help control and limit the damage from insects by supporting the application of insecticides. The present system of cost sharing the expenses between Abitibi-Consolidated, Corner Brook Pulp and Paper Ltd., and the Newfoundland Forest Service based on ownership sprayed - cost accrued ratio will be continued. The present silviculture areas represent a major investment into the future and need to be protected, if threatened, by applying government approved insecticides.

In recent years, there has been minimal forest insect activity for FMD 05. Thus, from an insect and disease perspective, the forest in this district is considered very healthy.

The threat of forest fires is also taken very seriously and the company has invested in sufficient quantities of forest fire fighting equipment. The central storage depot for these Districts is the Grand Falls mill, however, each operating area has its own required quantity of equipment as per the provincial fire regulations. The inventory of available fire fighting equipment is outlined in Table 9. There are no domestic cutting permits during the fire season due to forest fire concerns. All operations are monitored on a regular basis to ensure compliance with the forest fire regulations.

Table 9
Forest Fire Fighting Equipment

Mgmt Dist.	Location	Type of Equipment	Quantity
5	Indian Bay	Mark 3 Pumps	1
		Suction Hose	1
		Hose	2,000 feet
		Gas Can	1
		Tool Box	1
		Axes	4
		Shovels	4
		Water Cans	4

6.7 LANDSCAPE

When required, a landscape approach to forest management planning will be used to address conflicts between proposed harvesting operations and other resource users such as commercial outfitting operations, cabin development areas, protected watersheds, or areas that may be visible to high volumes of vehicular traffic. This approach will utilize techniques developed by Simon Bell (Forest Landscape Design) and taught by the Maritime Forest Ranger School. This technique involves modified harvesting patterns designed to break up cutovers, larger buffers, strategically located roads to reduce visual impacts and minimize ground disturbance.

6.8 SURVEYS

Operational surveys are carried out in some areas that are proposed for the five year plan; although the forest inventory figures as supplied by the Newfoundland Forest Service are generally used to formulate volumes. The surveys conducted would gather information to determine volumes per hectare, terrain classification and mortality by species. The information gathered by those surveys can be utilized during discussions with other resource users who have a preference for certain habitat. Older blown down areas for example are of little value from a timber utilization point of view but does make very good habitat for the Pine Marten, who use the blown down trees as entry points to hunt under the snow for the meadow vole and other rodents.

6.9 CABIN POLICY

In 1992, Abitibi-Consolidated introduced a policy to have all existing cabins on their Freehold and Charter Lands registered with the Company. This policy was carried out extensively in 1994-1995. The Company has designated areas for new cabin development, and these areas will be inspected and approved before any new cabins are constructed on Company limits.

Upon Company approval, all cabin owners will be subject to the rules and regulations set forth by the Dept. of Environment, Dept. of Health, and Dept. of Forest Resources & Agrifoods.

However, within the scope of this five-year operating plan for forest management District 05, there are no designated cabin development areas identified.

6.10 COMMERCIAL/DOMESTIC FUELWOOD POLICY

The company will permit the cutting of non-commercial species such as Birch, Poplar and Larch. Domestic cutting permits are available free of charge from the Company.

This permit is for wood to be cut for domestic use only, and non-merchantable hardwoods only may be harvested. In areas that were harvested during the winter, the high stumps can be cut for fuelwood. The harvest of Black Spruce, Balsam Fir, or Pine, is not permitted on Company limits. No cutting is permitted during the fire season (April 15 to September 15).

Commercial fuelwood operators will also be required to obtain a permit to harvest. This permit, when approved by the Department of Natural Resources, will identify the area where the cutting will be permitted, the amount and species to be cut, and the royalty rate to be paid. (Ref: Appendix 1 for map illustrating potential commercial fuelwood area)

Abitibi-Consolidated realizes that domestic cutting has an impact on sustainable development and will work closely with the Dept. of Natural Resources to develop and implement any corrective measures.

7.0 COMPLIANCE MONITORING

The company recognizes the importance of monitoring its forest activities to ensure each objective and target, including all management strategies, are strictly enforced. Largely, there are various methods employed by the company to ensure that nonconformances and/or noncompliances are identified and appropriate corrective or preventive actions are undertaken to avoid occurrence and reoccurrence. Throughout each year, various monitoring activities for determining nonconformances, noncompliances, and/or areas of concern, include:

1) monthly field inspections completed by supervisors and superintendents,
2) monthly field inspections completed by provincial government,
3) quarterly internal field audits (2nd and 3rd quarters),
4) yearly internal system audit,
5) yearly external system and field audit (surveillance audit),
6) 2nd party compliance audit (corporate),
7) actual environmental incidences,
8) external communication from public, and
9) communication from SFM advisory committee.

The company considers all noncompliances, nonconformances and/or areas of concerns as very serious, such that as an occurrence happens, an investigative team is launched to determine root causes and identify corrective and/or preventive actions. Upon a given time frame, each case is then evaluated by the ISO/SFM Coordinator to determine the effectiveness of the corrective or preventive actions. If satisfactory, the case is closed. However, if the corrective/preventive actions are not considered satisfactory, the case is reopened for investigation. This process continues until the case is closed.
To highlight the seriousness of each case (regardless of how minor it may seem) senior management, including the woodlands manager, is notified of each case and its progress through monthly forest management group meetings, as outlined in the company's Forest Environmental Management System.

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APPENDIX 1

Operating Area Descriptions & Maps