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2.0 Introduction

This Five-Year Operating Plan provides details of all Forest Management activities proposed on Corner Brook Pulp and Paper (CBPP) timber limits in Forest Management District (FMD) 16. This five-year operating plan covers the period January 1, 2002 to December 31, 2006.

Forest Management District 16 consists primarily of the lower portion of the Great Northern Peninsula, bounded to the east by White Bay, to the south by the Gaff Topsails, to the west by Gros Morne National Park, and to the north by Forest Management District 17. Corner Brook Pulp and Paper Limited's tenure in Forest Management District 16 consists of long-term timber licenses that expire in 2037. A large block of Crown land in the Hinds Lake area, presently under exchange to Corner Brook Pulp and Paper Limited, is also included as part of Corner Brook Pulp and Paper's land base in Forest Management District 16. There are approximately 134,326 hectares of productive softwood forest area on Company limits in FMD 16.

CBPP, along with the Newfoundland Forest Service recognizes that traditional timber management objectives may be in conflict with those of other timber users. In order to minimize any potential conflicts, input was solicited from various government agencies, community groups, development associations, special interest groups, and the general public to assist in the development of this Five-Year Operating Plan and the Strategy Document for the District as well. This is in line with our new mandate of Adaptive Ecosystem Management.

A series of public meetings were held to outline and discuss the new approach to preparation of forest management plans and the concept of adaptive ecosystem management. As a result of these public meetings, a Planning Team for FMD 16 was formed with a mandate to provide a forum for local user groups such as domestic cutters, outfitters, cabin owners, and the general public to address potential conflicts and resolve them at the local level.

Maps outlining broad planning boundaries were forwarded to various government resource agencies for review and comment. Any comments requiring action will be dealt with in the Annual Operating Plan, which is submitted to the Department of Forestry in October of each year. The Five Year Plan outlines in broad scope the areas proposed for harvesting, whereas the Annual Operating Plan outlines specific details of proposed harvesting, access road construction, and silviculture treatments. Detailed items such as buffers along streams, Wildlife habitat, protected water supply areas, nesting sites, land use conflicts, municipal planning areas, and fisheries concerns will be identified and dealt with in the annual plans.

Seventeen (17) Planning Team meetings and two one day workshops were held throughout the planning process to assist Government and Industry to prepare an Ecosystem Strategy Document for Forest Management District 16 and three Five-Year Operating Plans; CBPP, Abitibi, and Crown limits in FMD 16. The Ecosystem Strategy Document outlines the broad values and objectives for ecosystem management within Forest Management District 16. The Five-Year Operating Plan outlines in more detail the proposed harvesting, resource road construction and silviculture activities for the five-year period 2002–2006. Any potential conflicts with the proposed plans will be dealt with through the planning process, and if they cannot be settled in this process, then a conflict resolution process to deal with them will have to be applied.

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2.1 Summary of Past Activities

Corner Brook Pulp and Paper's harvesting and silviculture activity in FMD 16 over the past five years is outlined in table 2.1 and table 2.2.

Harvesting in the district over the past five years averaged 201,780 m³ ranging from a low of 124,675 m³ to a high of 270,380 m³, which is slightly lower than the five year AAC of 225, 000 m³. The larger harvests in the first two years were concentrated on the salvage of over mature and blown down timber stands before they were lost to cull and decay. Over the past five years 1,207 hectares of cutover area were silviculturally treated with the major emphasis on pre-commercial thinning and to a lesser extent planting and seeding.

During the past five years 102 kilometers of resource roads were constructed in FMD 16, with the bulk of this road construction occurring in the northern portion of the district in the Upper Humber/Main River areas.

Table 2.1

Summary of Volume Harvested

Corner Brook Pulp and Paper Limits

1997 – 2001

Year	Volume Harvested M ³
1997	270,380
1998	223,015
1999	124,675
2000	190,830
2001	200,000
Total	1,008,900

Table 2.2

Summary of Silviculture Treatments

1997 – 2001

Year	P.c.t. (Ha)
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1997	387
1998	198
1999	221
2000	226
2001	175
Total	1,207

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2.2 Overview

An overview of the proposed forest management activities planned for the five year period 2002–2006 within Forest Management District 16 is shown on the Key map in Appendices.

Approximately 1,000,000 m³ of timber will be harvested and approximately 200 kilometers of resource road will be constructed during the period of this plan on Corner Brook Pulp and Paper Limits. Harvesting activities will be carried out in several locations throughout the District as shown on the operating area maps in [Appendix IV](#). Forest management activities will be concentrated in the northern portion of the District in the Upper Humber/Main River areas, and to a lesser extent in the Kitty's Brook and Deer Lake areas.

Harvesting and resource road construction will focus on the harvest of over mature timber throughout the District. Harvesting activities will endeavor to maximize the use of mechanical harvesters, extending summer and fall operating seasons in order to allow for the delivery of fresh wood over the entire twelve months of the year. This will allow us to reduce overall pulpwood inventories, and supply the mill with a constant supply of fresh pulpwood with the optimum species mix, over the maximum number of operating days per year. Our mechanized logging fleet will be used in combination with our tree length and conventional logging systems to ensure maximum utilization during winter harvesting, harvesting blow down timber, and harvesting low volume stands. Short wood harvesters and forwarders, which are equipped with wide tires and tracks, have a very low ground bearing pressure, and with a brush mat of tops and branches spread in their travel path, ground disturbance is significantly reduced.

Silviculture treatments will consist of 375 hectares of PCT and 189 hectares of planting per year.

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2.3 Allocation of the Timber Supply

Corner Brook Pulp and Paper Limited manages over 2 million hectares of forestland on the island of Newfoundland. These timber limits span the island from the Codroy Valley on the southwest corner of the island to Plum Point on the Northern Peninsula and east to Gambo in central Newfoundland. The Company has long-term tenure on these lands and its timber rights expire in the year 2037 on all its timberlands in the Province. Of the 2 million hectares of total land area, only 930,000 hectares are forested. The remainder of the land is bog, barren, water and scrubland. Of the 930,000 hectares of forest, approximately 750,000 hectares produce timber for the mill. The rest is in environmental reserves or isolated, steep inaccessible areas.

A primary objective of Corner Brook Pulp and Paper's forest management activity is to provide a sustainable supply of high quality raw material to the mill at a competitive cost.

Corner Brook Pulp and Paper Limited in conjunction with the Department of Forestry uses a computer simulation model called Woodstock and Stanley to analyze the future wood supply for the mill. This model projects forest growth and depletion based on the current state of the forest, assumptions on the rate of harvest, silviculture treatments, and forest development curves derived from measurements taken in the forest. While there is no longer any surplus wood on the Island, the most recent analysis, (currently underway), shows that we have a sustainable wood supply on Corner Brook Pulp and Paper limits on the Island. This analysis assumes that our harvest level is equal to the sustainable harvest projected by the models, and that we continue our silviculture program at current levels and schedule our harvest so as to minimize losses of volume from natural mortality in over-mature stands. In order to meet current mill production levels, Corner Brook Pulp and Paper Limited consumes in excess of 170,000 m³ of recycle fibre. Ongoing and future speed ups of the mill's paper machines will be based on increased recycle content and offshore fibre supplies.

Preliminary results of the wood supply analysis projects the Maximum Sustainable Harvest (AAC) from Corner Brook Pulp and Paper limits in Forest Management District 16 to be approximately 200,000 cubic meters per year. Final AAC figures are expected to be released by the Department of Forest Resources and Agrifoods sometime later this year, and if the AAC for FMD 16 is different than the 200,000 m³ plans will be modified

to reflect a harvest equal to the AAC figure.

The proposed five-year harvest on CBPP limits of 1,000,000 m3 matches the maximum sustainable harvest (AAC) permitted over the five-year period, 2002–2006.

Table 2.3 Summary of Proposed Harvest (M3)

Corner Brook Pulp and Paper Limited Limits

2002 – 2006

operating Year Volume – m3

Operating Year	Volume – m ³
2002	200,000
2003	200,000
2004	200,000
2005	200,000
2006	200,000
Total	1,000,000

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2.4 Fuel wood/Domestic Cutting

The Company policy as it relates to domestic cutting is that after pulpwood harvesting operations have been completed in an area, domestic cutting for fuel wood will be allowed on cutover areas to cut hardwoods left behind. We are also working with local Commercial Hardwood operators in the area to provide them with access to hardwood sawlogs. We have signed hardwood management agreements with the sawmill operators in the past and will work with the local Forestry District Offices to implement these agreements. The Company policy with respect to sawlogs is to assist community groups in obtaining fibre requirements if and where possible.

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2.5 Silviculture

Silviculture is the art and science of controlling the establishment, growth, composition, health and quality of forest stands. Since 1976, Corner Brook Pulp and Paper has carried out a comprehensive silviculture program aimed at providing a sustainable supply of raw material for the mill and maintaining other forest values. In that time period, more than \$41 million has been invested in stand improvement and reforestation on Company limits. Most of these expenditures have been cost shared with the Federal and Provincial Governments.

The company harvests between 6,000 and 7,000 hectares of forest each year. Harvested areas are assessed for natural regeneration 2–3 years after harvest. 85–90% of these areas regenerate naturally. Areas with insufficient natural regeneration are planted.

The main silviculture treatment in naturally regenerating stands is pre-commercial thinning. This is a treatment carried out when stands are 10 to 15 years old to reduce the density from the natural 20,000 to 50,000 stems per hectare to approximately 2,000 stems per hectare. This provides the remaining trees with sufficient space for optimal growth. Pre-commercial thinning can increase the growth of merchantable wood fiber in a stand from 1 to 2 cubic meters per hectare per year in unthinned stands to 4 to 5 cubic meters per hectare per year in thinned stands.

Harvested areas, which do not regenerate naturally, are planted with spruce seedlings grown at the Provincial nursery at Woodale. Plantations are established at a density of 1,800 to 2,500 stems per hectare, depending on site conditions.

Table 2.4 gives a summary of the silviculture treatments planned for the five years of the operating plan for the Management District. Silviculture treatments will concentrate on the pre-commercial thinning of cutover areas and planting on cutover sites that are not sufficiently restocked through natural regeneration. Support activities include regeneration surveys, growth

and survival assessments of past plantations, various research projects, and operational planning for the following year's program. This operational planning is carried out each fall in areas that have been identified for potential silviculture treatment. Areas selected for silviculture treatment are submitted to the Silviculture Section of the Newfoundland Forest Service for approval and are identified on the overview map.

TABLE 2.4**Proposed Silviculture Treatments****2002 to 2006**

Year	PCT (ha)	PLANTING (ha)
2002	375	189
2003	375	189
2004	375	189
2005	375	189
2006	375	189
Total	1,875	945

[Return to top](#)**2.6 Resource Roads**

Approximately two hundred (200) kilometers of Resource Roads are proposed for construction in Forest Management District 16 during the five-year plan. Details on these proposed roads are listed in Table 2.5 and shown by operating area on maps located in [Appendix IV](#). All roads will be built to Corner Brook Pulp and Paper Limited Class II and Class III standards, and subject to the Environmental Guidelines for Forest Access Road Construction as outlined in section 2.8.2.

TABLE 2.5**Proposed Resource Road Construction****2002 TO 2006**

Year	Kilometers
------	------------

2002	40
2003	40
2004	40
2005	40
2006	40
Total	200

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2.7 Protected Water Supply Areas

All forest management activities that involve protected water supply areas are submitted to the Water Resources Division, Department of Environment, for approval. Forest Management operations within protected water supply areas must follow the operating guidelines for protected water supply areas as outlined in section 2.8.6.

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2.8 Forest Protection

2.8.1 Fire Protection:

Corner Brook Pulp and Paper Limited, in accordance with the Forest Fire Regulations, will locate Fire Suppression Equipment and take the necessary action to prevent and fight forest fires within its operating areas.

Administration of fire outbreaks on Company limits will fall directly under a Company Operations Superintendent, until the Department of Forestry can assume responsibility. The Operations Superintendents will

be responsible for the allocation and testing of fire suppression equipment on all work sites in their respective areas. They will also establish reserve supplies of equipment for use during a major outbreak. During the off season, all equipment will be stored at appropriate locations.

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2.8.2 Insects and Disease

Corner Brook Pulp and Paper Limited will continue to participate with the Crown in a joint protection program to control against insects and disease, in order to minimize timber volume losses and protect silviculture investments.

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2.8.3 Landscape

When required a landscape approach to forest management planning will be used to address any conflicts between our proposed harvesting operations and other resource users such as large commercial outfitting operations, larger cabin development areas, or large protected watersheds, and larger areas which will be visible from the TCH or other high traffic areas. This approach utilizes techniques taught by the Maritime Forest Ranger School and developed by Simon Bell of Scotland. This technique involves modified harvesting patterns designed to break up cutovers, larger buffers, strategically located roads to reduce visual impacts, and minimal ground disturbance.

We are using this landscape approach to address a conflict that was identified in the last five year planning process, between our proposed harvesting operations and a large commercial outfitting operation (Main River Lodge) in an area near the eastern end of St. Paul's Big Pond. This is a multi-stakeholder project undertaken by Corner Brook Pulp and Paper Limited, The Newfoundland Forest Service, The Western Newfoundland Model Forest, and Main River Lodge Limited. Strategies involve modified harvesting patterns designed to break up cutovers, larger buffers along the river, strategically located roads to reduce visual impacts, and minimal ground disturbance. All parties agreed to the final design and actual cutting in the design area began in 2000 and implementation of the landscape design will span a period of 12–13 years.

We have also held meetings with the Department of Tourism, and the Outfitters Federation to discuss our harvesting plans in the Upper Humber/Main River area. These meetings have proven to be very worthwhile and productive, as they have allowed both parties to more fully understand each other's concerns and develop a good working relationship. Follow-up meetings with individual outfitters were also held and we plan to continue this type of dialogue in the future to ensure that Corner Brook Pulp and Paper and the outfitting operations can work together and continue their respective operations without any significant constraints or conflicts. Copies of the minutes of these minutes are found in Appendix III.

The recent designation of the Main River as a Canadian Heritage River, combined with the surrounding stewardship area, and the recent decision by CBPP not to carry out any further clear cut logging within the Main River Watershed will ensure the long term management and conservation of this outstanding river and its natural, cultural, and recreational values for future generations.

Recently a partnership was formed between the Canadian Forest Service, Corner Brook Pulp and Paper, the Newfoundland Forest Service to begin efforts that will ensure Gros Morne National Park remains ecologically connected with the broader ecosystem in Forest Management Districts 15 and 16. The parties are working together to develop cooperative solutions that will meet the need to maintain the ecological integrity of Gros Morne National Park, the Company's need for timber and contribute to maintaining the values of the Main River as a Canadian Heritage River.

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2.8.4 Wildlife

Twenty-two mammal species, more than sixty species of birds and four amphibian species make their home in the forests managed by Corner Brook Pulp and Paper Ltd.. Atlantic salmon and brook trout spawn in the rivers flowing from our forestlands. This wildlife resource is an integral part of the Newfoundland environment. Many species such as moose, snowshoe hare and grouse thrive in the early succession stages of a forest after a harvesting operation. Pine marten, boreal owls and others require over-mature forests. Many require a diverse mixture of forest types. Corner Brook Pulp and Paper co-operates with the Newfoundland Wildlife Division and other wildlife management agencies to ensure that forest operations are carried out in a manner that maintain adequate habitat for all wildlife.

Several Ducks Unlimited Canada waterfowl enhancement projects have been established on company lands. A few years ago, CBPP entered into a

stewardship agreement with DU and the Province to preserve a 24,000 hectare area of company lands for the enhancement and protection of waterfowl and other wildlife. This is one of the largest stewardship agreement areas between DU and the forest industry anywhere in North America. The area covered by this agreement, known as the Upper Humber Wetlands Complex, is the most productive waterfowl habitat on the island of Newfoundland.

◀ The Newfoundland Pine Marten was just recently moved from threatened to endangered on Canada's endangered species list. One of the last remaining populations of marten is located on Corner Brook Pulp and Paper Limited lands in the Little Grand Lake area. The company funded a two-year research study to investigate the impact of forestry operations on the pine marten. More information is needed and additional research is still going on. Recently this area has been designated as an Ecological Reserve.

We are working with the Newfoundland Wildlife Division on a 5-year modified harvesting study in the Main River Area. The Wildlife Division is monitoring this modified harvesting in an effort to continue the research and study of the impacts of harvesting operations on the Newfoundland Pine Marten. It is hoped that this study will provide direction for long term integrated planning, assist in resolving current issues, and promote the sustainable development of our timber resource, without imposing unacceptable impacts on the resource users.

◀ While this study is ongoing we have also agreed to set aside large areas of Pine Marten habitat on timber limits controlled by CBPP, ACI, and the Crown to support approximately 240 Pine Marten on the west coast of the Province from Sandy Lake to Port aux Basques. These areas will not be harvested for a period of 5–10 years.

We are also working with the Wildlife Division to assess the new Draft Pine Marten Management Guidelines, which consider tree height instead of the tree age as an indicator of good marten habitat. We are applying these new guidelines for Pine Marten habitat over a very large area stretching from Port Aux Basques to Red Indian Lake, in an effort to project the amount of marten habitat available on this large landscape.

◀ Several other Pine Marten studies and initiatives are currently ongoing in the Province to facilitate the recovery of the Pine Marten, such as the Pine Marten Recovery Team, the Red Indian Lake Demographics Study, and the modified rabbit snare. CBPP is involved in most if not all of these projects, and as new information and techniques come forward, we will endeavor to incorporate this new information into our harvesting plans.

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2.8.5 Ecosystem Protection:

"Forests are interconnected webs which focus on sustaining the whole, not the production of any one part or commodity. Trees, the most obvious part of a forest are critical structural members of a forest framework. However, trees are only a small portion of the structure needed for a fully functioning forest." (Hammond, 1991).

The health and vigor of the environment has gained priority in the minds of political leaders, resource managers and the general public. This heightened environmental awareness has sparked a determination to manage the forest ecosystem where the full range of forest values is sustained. It is now time to seriously work toward the long-term health of our forest ecosystems for present and future generations.

This ecologically based approach to forest resource management requires that resource managers shift their focus from managing components of the ecosystem to managing the three-dimensional landscape ecosystems that produce them. Primary concern becomes maintenance of landscapes and waterways as complete ecosystems because the only way to assure the sustained yields of forest, wildlife and water, now and in the future, is to keep them and all their parts in a healthy state. This is the foundation for an ecologically based approach to forest resource management. It means everyone attends to the conservation and sustainability of ecosystems instead of sharply focusing on the productivity of individual or competing resources, which has been our traditional mode of operations.

Corner Brook Pulp and Paper Limited is committed to The Newfoundland Forest Service's concept of ecosystem management and the following vision statement:

"To manage the forests of Newfoundland and Labrador under the principle of sustainable development, an ecologically based management philosophy, and sound environmental practices recognizing all resource values and the needs of forest users in a manner beneficial to both the people of the Province and the natural environment". There are four strategic goals, which provide the foundation upon which ecologically based resource management will be developed.

1. Manage forest ecosystems so as to maintain their integrity, productive capacity, resiliency and biodiversity.
2. Refine and develop forestry practices that reflect all forest values in an environmentally sound manner.
3. Develop public partnerships/networks to facilitate meaningful public participation in forest resource management.

4. Promote and conduct forest management research focused on the development of integrated resource management techniques and systems.

The "Environmental Protection Guidelines For Ecologically based Forest Management" provide specific "on the ground" tasks for loggers and direction for planners. Individually, the guidelines appear as specific rules, however, when implemented collectively combined with other initiatives, the Newfoundland Forest Service will be moving towards ecologically based forest resource management.

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2.9 Environmental Protection Plan – General Guidelines

Forests are interconnected webs, which focus on sustaining the whole, not the production of any one part or commodity. Trees, the most obvious part of a forest are critical structural members of a forest framework. However, trees are only a small portion of the structure needed for a fully functioning forest.? (Hammond, 1991).

This ecologically based approach to forest resource management requires that resource managers shift their focus from managing components of the ecosystem to managing the three-dimensional landscape ecosystems that produce them. Primary concern becomes the maintenance of landscapes and waterways as complete ecosystems because the only way to assure the sustained benefit of forest values, now and in the future, is to keep them and all their parts in a healthy state. This is the foundation for an ecologically based approach to forest management. It means that everyone attends to the conservation and sustainability of ecosystems instead of sharply focusing on the productivity of individual or competing resources, which has been our traditional mode of operation.

The Newfoundland Forest Service is committed to the concept of forest ecosystem management, which is captured in the twenty-year Forestry Development Plan (1996–2016) vision statement:

To conserve and manage the ecosystems of the Province which sustain forests and wildlife populations and to provide for the utilization of these resources by the people of the Province under the principles of sustainable development, an ecologically based management philosophy, and sound environmental practices.

There are five strategic goals in the twenty-year Forestry Development Plan (1996–2016), which provide the foundation upon which ecologically based resource management will be developed.

1. Manage forest ecosystems so that their integrity, productive capacity, resiliency, and biodiversity are maintained.
2. Refine and develop management practices in an environmentally sound manner to reflect all resource values.
3. Develop public partnerships or networks to facilitate meaningful public involvement in resource management.
4. Promote adaptive ecosystem management and conduct research that focuses on ecosystem processes, functions, and ecosystem management principles.
5. Establish and enforce conservation and public safety laws with respect to managing ecosystems.

The environmental protection guidelines provide specific on the ground tasks for loggers and gives management direction to planners.

Individually, the guidelines appear as specific rules; however, when implemented collectively they will facilitate ecologically based forest resource management.

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1.0 GENERAL GUIDELINES

These guidelines are generated from impacts described in the literature and from discussions with resource managers. As new information and management techniques become available the guidelines will be changed to reflect this improved information base. Consequently, the guidelines will be reviewed on an annual basis to incorporate any necessary changes. The General Guidelines apply to all forestry activities (i.e., silviculture, harvesting, road construction). These guidelines form Schedule IV of the Certificate of Managed Land. They are conditions of Crown commercial permits and they form the basis for the voluntary compliance program.

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1.1 Planning

1. The location and type of all waterbody crossings must be submitted to the Department of Environment and Labour and the Department of Fisheries and Oceans. Certificates of Approval are required from both

departments for waterbody crossings. A waterbody is defined as any water identified on the latest 1:50,000 topographic map. Appropriate protection is still required for streams greater than 1.0 m in width (at its narrowest point from the high water mark) not found on the 1:50,000 topographic map.

2. All waste disposal sites require a Certificate of Approval from the Minister of Government Services.

3. Excessive bulldozing is not permitted and no more than 10% of the total forest within an operating area can be disturbed. In situations where specific operating areas require more than 10% disturbance to capture available timber, the operator is required to rehabilitate the area to reduce the total net disturbance to the 10% maximum. Where disturbance has been excessive a rehabilitation plan will be developed with the Forest Service District Manager. Disturbance is defined as per the Ground Disturbance Survey Guidelines developed by the Newfoundland Forest Service.

4. When an archaeological site or artifact is found, the Historical Resources Act requires that all development temporarily cease in the area and the discovery be reported to the Historical Resources Division (709-729-2462)

The Historic Resources Division will respond immediately and will have mitigation measures in place within seven days as agreed to by the Historical Resources Division and the operator. Forestry activity can then continue.

The Historic Resources Division will be contacted during the preparation of five-year operating plans to determine the location of historic resources and appropriate mitigation measures will be designed. These measures will include such things as buffer zones and modified operations or surveys.

5. Should an oil or gas spill in excess of 70 litres occur, the operator must make every effort to first, contain, and second, clean up the spill after reporting the spill to the appropriate authorities:

Government Services Centre

Spill Report Line

(709) 772-2083 or 1-800-563-2444

6. The Parks and Natural Areas Division will be contacted during the preparation of five-year operating plans. Where operations are within one kilometre of provisional and ecological reserves, wilderness reserves or provincial parks, modified operations may be necessary.

7. In areas where caribou utilize arboreal lichens during the summer and/or winter, and terrestrial lichens during the summer, a minimum amount of lichen forest must be maintained for the caribou. Forestry activity will be designed in consultation with the Wildlife Division where this situation has been identified.

8. Areas identified as containing rare and/or unique flora (through literature review) are to be protected from forestry activity by avoiding these areas.

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

10. The impacts of forest operations on pine marten have been an ongoing issue. Until appropriate guidelines are developed for pine marten habitat, forestry activities within high density pine marten areas and dispersion areas required for pine marten recovery will require consultation with the Wildlife Division.

11. During the preparation of five-year operating plans, areas identified as Sensitive Wildlife Areas in the Land Use Atlas require consultation with the Wildlife Division prior to any forestry activity.

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1.2 Operations

1. A 20-metre, treed buffer zone shall be established around all water bodies that are identified on the latest 1:50,000 topographic maps and around water bodies greater than 1.0 metre in width that do not appear on the maps. Where the slope is greater than 30% there shall be a no-harvest buffer of $20\text{ m} + (1.5 \times \% \text{ slope})$. All equipment or machinery is prohibited from entering waterbodies; thus, structures must be created to cross over such waterbodies. Every reasonable effort will be made to identify intermittent streams and they will be subject to this buffer requirement. The District Manager of Forest Ecosystems is permitted to adjust the specified buffer requirements in the following circumstances:

– the no-cut, treed buffer can exceed the 20 m for fish and wildlife habitat requirements.

– a 50-metre, no-cut, treed buffer will be maintained around known black bear denning sites (winter) or those encountered during harvesting. These den sites must be reported to the Wildlife Division.

– no forestry activity is to occur within 800 metres of a bald eagle or osprey nest during the nesting season (March 15 to July 31) and 200

Start

metres during the remainder of the year. The location of any raptor nest site must be reported to the Wildlife Division.

– all hardwoods within 30 metres of a waterbody occupied by beaver are to be left standing.

– a minimum 30-metre, no-cut, treed buffer will be maintained from the high water mark in waterfowl breeding, moulting and staging areas. The Canadian Wildlife Service and/or the Wildlife Division will identify these sites.

2. Heavy equipment and machinery are not permitted in any waterbody, on a wetland or a bog (unless frozen) without a Certificate of Approval from the Department of Environment and Labour and without contacting the DFO area habitat co-ordinator.

3. No heavy equipment or machinery is to be refueled, serviced, or washed within 30 metres of a waterbody. Gasoline or lubricant depots must be placed 100 metres from the nearest waterbody. All fuel-storage tanks (including JEEP tanks) must be registered with the Department of Government Services and Lands and installed in accordance with the Storage and Handling of Gasoline and Associated Products Regulations. Fuel storage within Protected Water Supplies is more stringent. Please refer to Guidelines for Forest Operations within Protected Water Supplies for more information.

4. Used or waste oil shall be collected either in a tank or a closed container.

5. Above ground storage tanks shall be surrounded by a dyke. The dyked area will contain not less than 110% of the capacity of the tank. The base and walls of the dyke shall have an impermeable lining of clay, concrete, solid masonry or other material, designed, constructed and maintained to be liquid tight to a permeability of 25L/m²/d. There shall be a method to eliminate water accumulations inside the dyke.

6. Wherever possible, place slash on forwarded trails while forwarders are operating in an area. Skidding timber through any waterbody (as defined in Section 1.2.1) is prohibited.

7. Any forestry operation that directly or indirectly results in silt entering a waterbody must be dealt with immediately (A government official must be notified within 24 hours). Failure to comply will result in the operation being stopped.

8. Woody material of any kind (trees, slash, sawdust, slabs, etc.) is not permitted to enter a waterbody. Woody material on ice within the high water floodplain of any waterbody is prohibited.

9. To minimize erosion and sedimentation, waterbody crossings shall:

- i) have stable approaches;
- ii) be at right angles to the waterbody;
- iii) be located where channels are well defined, unobstructed, and straight;
- iv) be at a narrow point along the waterbody;
- v) allow room for direct gentle approaches;
- vi) have all mineral soil exposed during bridge construction and culvert installation seeded with grass.

10. Garbage is to be disposed of at an approved garbage disposal site. Prior to disposal it must be contained in a manner not to attract wildlife. All equipment is to be removed from the operating area where operations are completed.

11. Where safety is not an issue, a minimum average of 10 trees or snags per hectare (average on a cut block) or a clump of trees is to be left on all sites (harvesting and silviculture). Preference will be given to trees over 50 cm dbh.

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2.0 TIMBER HARVESTING GUIDELINES

2.1 Planning

1. There will be corridors to connect areas of forest that will not be harvested (isolated stands within cutovers are not considered forested areas). These corridors connect wildlife habitat, watersheds and minimize fragmentation. Acceptable corridor vegetation includes productive forest areas (all age classes) and softwood/hardwood scrub. These corridors do not have to be continuous (i.e., breaks in vegetation are permitted) and will be determined in the five-year operating plan and identified in the annual work schedule.

2. Complete utilization of harvested trees is required. (Complete utilization is harvesting trees to a top diameter of 8 cm and stumps to a height of 30 cm). The District Manager can modify the stump height requirement to accommodate snow conditions. Where markets exist, non-commercial tree species that are harvested should be brought to roadside. This will be determined in consultation with the District Manager.

3. Preplanning is required on all forest operations (Industry/Crown) at the request of the District Manager (for Industry) and the Section Head i/c Management Planning (for Crown). Preplanning will include:

- boundaries of protected water supplies (if applicable);
- existing and proposed access roads;
- skid trails and landing locations;
- areas sensitive to erosion;
- buffer zones around water bodies;
- approved stream crossings;
- fuel storage locations;
- wildlife corridors.

4. Harvesting is not permitted within caribou calving areas from May 15 – June 15 (calving period). Harvesting is not permitted within post-calving areas from June 15 to July 31. The Wildlife Division will identify these areas.

5. Harvest scheduling should be modified during the migration of wildlife (e.g., caribou) and during temporary wildlife concentrations (e.g., waterfowl staging). Wildlife biologists will identify the areas of concern, and in conjunction with district or company foresters, aid in the modification of forestry operations.

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2.2 Operations

1. When skid trails and winter roads are to be constructed, soil disturbance and impacts on waterbodies are to be minimized. The operator will use culverts and/or log bridges depending on the conditions. The objective is to minimize erosion and sedimentation, to avoid restricting streamflow, and to ensure fish passage in fish-bearing streams. Erosion control measures (e.g., laying down brush mats and the construction of diversion ditches for water run-off) are to be maintained while the skid trail is in use. All temporary crossings are to be removed at the end of the operating season unless the District Manager agrees to extend the life of the crossing for more than one season.

2. A minimum 50-metre, no-cut buffer is to be left between operations within approved cabin development areas.

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3.0 FOREST ACCESS ROADS GUIDELINES

3.1 Planning

Forest access roads, borrow pits and quarries shall avoid:

- i) wetlands, deltas, and floodplain or fluvial wetlands;
- ii) terrain with high erodibility potential;
- iii) known sensitive wildlife areas such as:
 - calving grounds, post calving areas, caribou migration routes, caribou rutting areas, and winter areas,
 - waterfowl breeding areas and colonial nesting sites,
 - established moose yards by one kilometre,
 - eagle and osprey nest sites,
 - where site conditions and engineering permits, main haul roads should be one kilometre from permanent water bodies and all other roads by not more than 100 metres,
 - endangered or endemic species or sub-species of flora or fauna and other areas to be determined by qualified authorities;
- iv) known sensitive fish areas such as:
 - spawning and rearing grounds;
- v) historically significant areas such as:
 - archaeological sites;
- vi) existing reserves such as:
 - parks (municipal, provincial, national);
 - wilderness areas and ecological reserves;

– rare and endangered plant sites and habitats.

2. With respect to borrow pits and quarries, the operator shall:

- i) minimize the number of new borrow areas opened for construction and/or maintenance;
- ii) use existing borrow areas whenever practical;
- iii) be in possession of a valid quarry permit from the Department of Mines and Energy prior to aggregate extraction activities;
- iv) not locate pits and quarries in sensitive areas as identified by planning processes.

3. Forest access roads will not obstruct wildlife migration routes. The following guidelines will be followed to ensure the road is as unobstructing as possible:

- i) roads should be of low profile (less than 1 m above the surrounding terrain);
- ii) slash and other debris shall be removed;
- iii) the slope of ditches and road banks should not exceed 1 horizontal to vertical.

4. Culverts and bridges are to be installed in accordance with the manufacturer's specifications and the specifications attached to the Certificates of Approval received from the Department of Environment and Labour and from the Department of Fisheries and Oceans. Culvert ends will be properly riprapped.

5. Where road construction is to occur around identified waterfowl breeding, moulting and staging areas, the Canadian Wildlife Service is to be consulted.

6. Road construction is not permitted within any buffer zone except with the permission of the District Manager.

7. When a skid trail is on steep ground and is no longer in use, cut-off ditches and push lanes must be created. The District Manager will determine the frequency.

8. When disturbance is over 10%, the conditions in 1.1.3 will apply.

9. There shall be no bulldozing of standing merchantable timber or poor utilization of merchantable softwoods and hardwoods during cutting of the right-of-way.

10. Excavations required for the construction of piers, abutments or multi-plate culverts shall be completed in the dry. (Where exceptions occur, consultation with District manager is required).

11. On a site-specific basis, roads can be decommissioned and/or rehabilitated as directed by the District Manager. Decommissioning is defined as barring access; rehabilitation means to re-vegetate the road.

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3.2 Operations

1. A "no-grub" zone of 30 metres of undisturbed ground vegetation must be maintained around any water body crossing to minimize the damage to the lower vegetation and organic cover, thus reducing erosion potential. Manual clearing at waterbody crossing sites should be used to remove or control vegetation. Right-of-way widths at waterbody crossings should be kept to a minimum.

2. Fill materials for road building must not be obtained from any waterbody or from within the floodplain of any waterbody.

3. Trees are to be felled away from all waterbodies, and slash and debris should be piled above the high water mark so that it cannot enter waterbodies during periods of peak flow.

4. Equipment activity in water crossing areas is to be kept to a minimum. Whenever possible, any work is to be carried out from dry stable areas.

5. Unnecessary side casting or backfilling in the vicinity of waterbodies is not permitted. Where topographical constraints dictate that the roadbed must be constructed adjacent to a waterbody, road slope stabilization is to be undertaken at the toe of the fill where it enters the water (an area where active erosion is likely). The placement of large riprap or armour stone is recommended in such areas.

6. Side casting must be carried out in such a manner that sediment does not enter any waterbody.

7. Where borrow pit or quarry activity is likely to cause sediment-laden run-off to contaminate a waterbody, sediment control measures such as filter fabric berms or sedimentation ponds are to be installed. Contact is to be made with the District Manager prior to construction where such conditions exist.

8. Stabilize cut banks and fill slopes in the vicinity of waterbodies.

9. When using ditches, especially on long slopes, baffles and culverts are to be used at frequent intervals.
10. When constructing ditches near streams, the ditch itself is not to lead directly into the stream.
11. Keep ditches at the same gradient as the road.
12. In side hill and similar areas, install ditches on the uphill sides of roads to intercept seepage and run-off.
13. Borrow pits are to be located 50 metres from the nearest waterbody.

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4.0 SILVICULTURAL PRACTICES AND FOREST REGENERATION GUIDELINES

4.1 Scarification

1. Select scarification methods best suited for preparing the area for planting and for minimizing ground disturbance.
2. Where slash is piled into windrows, ensure the windrows are placed where slash cannot be washed into streams at peak flooding conditions.
3. To minimize erosion, do not direct scarification equipment straight down slope.
4. Where safety is not an issue, a minimum average of 10 cavity trees or snags per hectare, or a clump of trees, will be left on all sites.
5. Whenever possible, white pine regeneration will not be disturbed.

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4.2 Planting

1. Landings will be stabilized through seeding (grass) or planting at time of plantation establishment.

4.3 Pre-commercial Thinning

1. Where possible, do not carry out pre-commercial thinning in important wildlife areas during the periods of birth and/or hatching. The Wildlife Division will identify these areas and times.
2. Where white pine regeneration is present, the District Manager will determine how the pine will be thinned.
3. Trees cut will not be felled into waterbodies.

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5.0 FOREST PROTECTION GUIDELINES

1. A pesticide application licence must be obtained from the Department of Environment. This licence will determine planning and operational requirements.

6.0 GUIDELINES FOR FORESTRY OPERATIONS WITHIN PROTECTED WATER SUPPLY AREAS

The primary function of a protected water supply area is to provide the public with an adequate quantity of safe and good quality water on a permanent basis, to meet its present and future demands. Any other activity within water supply areas is considered secondary and if permitted, must be strictly regulated and monitored to ensure that the water supply integrity is not threatened and the quality of the water is not impaired.

In Newfoundland, forestry operations are permitted in protected water supply areas on a limited and controlled basis provided the proposed operations have no, or minimal, water quality impairment potential.

The following permits and approvals are required prior to the beginning of forestry operations within a protected water supply area:

- 1) Approval of the forest operating plan by the Newfoundland Forest Service.
- 2) Approval of the forest operating plan by the provincial Department of Environment and Labour and issuance of a Certificate of Approval under Section 10 of the Department of Environment Act.

3) Quarry permits from the provincial Department of Mines and Energy for all borrow areas and ballast pits on unalienated Crown lands and alienated Crown land (i.e., leased and licensed land).

4) Stream crossing permits under Section 11 of the Department of Environment Act and from the federal Department of Fisheries and Oceans.

5) Other permits or approvals as required by natural resource management and regulatory agencies.

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6.1 Planning

1. Prior to beginning any work, a forest operating plan must be prepared and approved by the Newfoundland Forest Service and the Department of Environment and Labour, and a Certificate of Approval must be obtained under Section 10 of the Department of Environment Act for site specific activities such as road construction, commercial harvesting, silvicultural operations, and other activities associated with forestry operations.

2. In addition to the information normally contained in a forest operating plan, the plan must include maps to show:

– the boundary
of the protected water supply area

– existing and
proposed access roads;

– proposed
harvesting areas;

– areas
sensitive to erosion;

– buffer zones
around water bodies;

– approved
stream crossings;

– proposed
landing and skid trail locations;

- storage locations;
- proposed fuel
- other wetlands;
- peatland and
- communities;
- nearby
- other
- relevant information.

The plan must also contain a written section describing the harvesting techniques to be used, the equipment required for the operation, and the schedule of the operation.

3. Locate roads to avoid all waterbodies and areas of sensitive terrain.

4. The forest operating plan must identify an Operations Manager who shall have the responsibility for ensuring that the special protection measures are followed. The Operations Manager is responsible for co-ordinating clean-up efforts in the event of a fuel or oil spill.

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6.2 Forest Access Road Construction

1. A "no-grub" zone of 30 metres of undisturbed ground vegetation must be maintained around any waterbody crossing to minimize the damage to the lower vegetation and organic cover, thus reducing the erosion potential. Manual clearing at waterbody crossing sites should be used to remove or control vegetation. Right-of-way widths at waterbody crossings should be kept to a minimum.

2. Clear-cutting up to the perimeter of any waterbody is not permitted. In all areas where road construction approaches a waterbody, a buffer zone of undisturbed vegetation must be maintained on both sides of the right-of-way using the buffer zone criteria outlined in section 6.6.

3. Fill materials for road building must not be obtained from any waterbody or from within the floodplain of any waterbody.

4. Provide adequately designed and constructed drainage ditches along forest roads to allow for good road drainage.

5. Take-off ditching can be used on both sides of the road, or in conjunction with culverts, to divert the ditch flow into the woods or into

stable vegetated areas above the no-grub zones. Where take-off ditches are unstable or cannot be constructed, the use of check dams and settling basins in the ditches is required until the ditches become stabilized.

6. Trees are to be felled away from all waterbodies, and slash and debris should be piled above the high water mark so that it cannot enter waterbodies during periods of peak flow.

7. Equipment activity in water crossing areas shall be kept to a minimum. Any work will be carried out in dry, stable areas.

8. When working near sensitive areas such as streams or lakes, road building operations causing erosion or siltation are to be followed as per section 1.2.7.

9. Unnecessary side casting or backfilling in the vicinity of water bodies is not permitted. Where topographical constraints dictate that the roadbed must be constructed adjacent to a water body, road slope stabilization is to be undertaken at the toe of the fill where it enters water, an area where active erosion is likely. The placement of large riprap or armour stone is recommended in such areas. Contact is to be made with the District Manager prior to construction when such conditions occur.

10. Side casting must be carried out in such a manner that sediment does not enter any waterbody.

11. Maintenance support sites must be located outside the protected water supply area.

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6.3 Forest Access Road Stream Crossings

1. Stream fording is prohibited in protected water supply areas.

2. All stream crossings, whether culverts or bridges, require written approval under *Section 11 of the Department of Environment Act*.

3. The operator must comply with all terms and conditions of a Certificate of Approval for stream crossings.

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6.4 Harvesting

1. Harvesting or other heavy equipment will not be used on wetlands or bogs.
2. Steep areas with high potential for erosion should not be harvested.
3. Wherever possible, skid trails should run along contours and never cross wetlands and waterbodies.
4. Landings will be few in number with a maximum size of less than 0.25 ha. All landings should be located at least 100 metres from a waterbody.
5. In sensitive areas prone to erosion, equipment must have wide tires, or harvesting must occur during the winter when the ground is frozen.
6. Harvesting equipment shall not enter a buffer zone or any waterbody without permission of the District Manager.
7. The operator must implement erosion control and rehabilitation measures in areas where soils have been unduly disturbed by harvesting activity. In addition to general erosion control measures presented in other sections of these guidelines, the following should also be considered in protected water supply areas:

- undertake contour furrowing;
- construct diversion ditches to lessen the possibility of forming new drainage channels;
- seed or plant areas that are difficult to stabilize by other means;
- plough or rip prior to seeding any surfaces, which have been compacted

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6.5 Buffer Zones

The Newfoundland Forest Service on unalienated Crown land and the appropriate company on leased, licensed, and private or charter land will provide the operator with a map indicating the harvesting area and no-cut treed buffer zones, and will ensure that the operator is familiar with the boundaries.

No forestry activities are permitted within the following buffer zones

Water Body	Width of Buffer Zone
1. Intake pond/lake/reservoir	A minimum of 150 m
2. River intake	A minimum of 150 m for 1 km upstream and 100 m downstream
3. Main river channel	A minimum of 75 m
4. Major tributaries/lakes/ponds	A minimum of 50 m
5. Other water bodies	A minimum of 30 m

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6.6 Fuel/Oil Handling and Storage

Fuel storage and the operation of fuel storage equipment is regulated by the Storage and Handling of Gasoline and Associated Products Regulations (1982) under the Department of Environment and Lands Act. According to the regulations, the owner or operator of a fuel storage system must submit a Schedule "A" Storage Tank System Application to the Department

of Environment. The applicant must be in receipt of a Certificate of Approval for the system before the system is used for fuel storage. Section 9 of the above Act states: *"No owner or operator shall directly or indirectly cause pollution of the soil or water by causing, suffering or*

permitting leakage or spillage of gasoline or associated products from a storage tank system or vehicle."

In addition to the above regulatory requirements, the following guidelines are to be followed:

1. Bulk fuel is to be stored outside the protected water supply area. If fuel must be stored in the protected area, it must be in the least sensitive area and be approved by the Water Resources Management Division of the Department of Environment and Labour.
2. Fuel must be stored in self-dyked, aboveground Jeep Tanks, which have been approved by the Department of Environment and Labour.
3. A maximum of seven days fuel supply can be stored within a water supply area.
4. Refueling must not take place within 100 metres of a waterbody.
5. Daily dipping of tanks and weekly reconciliation's are mandatory. Visual inspection of the dykes and the surrounding area must be carried out daily and inspection records must be maintained.
6. Each unit must be fitted with a locking valve system for the elimination of water inside the outer tank. The valve must be closed and locked except to drain precipitation.
7. Each person involved with fuel handling must be cautioned that any spillage is to be cleaned up immediately.
8. Each person involved with fuel storage must exercise extreme caution when refueling equipment.
9. All waste materials and waste oil on the site must be collected in enclosed containers and removed to an approved site at least weekly.
10. Contaminated soil or snow must be disposed of at an approved waste disposal site.
11. **Any spill in excess of 70 litres must be reported immediately through the 24-hour Spill Report Number (709-772-2083) or the Government Services Centre (1-800-563-2444).**
12. All self-dyked Jeep Tanks must be located at a minimum distance of 500 metres from any major waterbody.
13. A fuel or oil spill clean-up kit must be kept on site within the protected area to facilitate any clean up in the event of a spill. This kit must include absorbent pads, loose absorbent materials such as dried peat, speedy-dry or sawdust, and a container such as an empty drum for

recovering the fuel or oil. If there is a bulk fuel storage facility within the protected area, the clean-up kit must include the following list of fuel or oil spill clean-up equipment:

- Fire pump and
100 metres of hose
- Two hand
operated fuel pumps
- Six recovery
containers such as empty drums
- Four long
handled shovels
- Two pick axes
- Ten metres of
containment boom
- Twenty-five
absorbent pads
- One hundred
litres of loose absorbent material.

When any fuel spill occurs, stop the fuel flow immediately. This may entail repairing a leak, pumping out a tank, or shutting off a valve. If fuel or oil is spilled onto soil, dyking may be necessary. If fuel or oil enters water, absorbent booms or barriers such as fencing or netting with loose absorbent or straw must be used to contain the spill. If necessary, culverts may be blocked off by earth or wooden barriers to contain the fuel or oil provided the threat of flooding is addressed.

All recovered fuel or oil must be stored in containers. Contaminated soil must be removed and placed in containers for transport and disposal. Extensive soil removal may cause problems such as erosion and the subsequent siltation of waterbodies; therefore, the affected area must be backfilled and sloped and revegetated as required by the Department of Environment and Labour.

Recovered fuel or oil should be reused or collected by a waste oil company for recycling. Oily debris and contaminated soils must be disposed of at an approved waste disposal site with the approval of the disposal site owner or operator. Contact must be made with the appropriate regional office of the Department of Environment and Labour before disposal.

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6.7 Support Service and Structures

1. Storage of any type of pesticide, chemical or other hazardous material is prohibited within a protected water supply area.
2. Dormitory camps, garages or any other structures are prohibited within a protected water supply area.
3. The establishment of new sawmills is not permitted in protected water supply areas.
4. Wherever possible, toilet facilities must be provided in all work areas.
5. Garbage cans must be located in all work areas and garbage is to be collected regularly and disposed of at an approved waste disposal site outside the protected area.

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6.8 Silviculture

1. Chemicals are to be used within a protected water supply area only under the approval of the Division of Water Resources.
2. Scarification must be minimized and restricted to the trench or spot types.
3. If scarification leads to erosion or sedimentation of small streams or water bodies, scarification operations must be suspended and remedial measures must be taken.

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6.9 Abandonment

When forestry operations in a protected water supply area have been completed, an abandonment plan for the area should be developed. This will involve input from the Newfoundland Forest Service, the Community involved, and the Water Resources Management Division of the

Department of Environment and Labour. In general, the purpose of the plan is: (i) to ensure that the post-harvest conditions do not lead to water quality impairment, and (ii) to discourage activities or use of the area that could lead to water quality impairment.

An important question will be whether access roads will remain open. This will be decided on a case-by-case basis in consultation with the municipality, Water Resources Management Division and the operator. Issues such as the rehabilitation of cutover areas, landing sites, skid trails, and the abandonment of roads are to be discussed during the consultation process to control post-harvesting environmental impacts and activities.

The following are recommended precautionary measures if roads are to be closed to control post-harvesting access to the area:

- Use water bars (trenches 8–10" deep dug across the road) to intercept and

- deflect surface water into roadside ditches rather than have it flow into a

- waterbody. Water bars can be placed 500 metres apart in gentle to moderate

- terrain (up to 10% slope), but should be no more than 150 metres apart in terrain

- it is sufficient to limit water bars to one kilometre on each side of a stream crossing.

- Roadside ditches should flow into the woods or into stable, vegetation covered areas.

- Stable bridge abutments and erosion protection works at crossings need not be removed.

- Bridge decking, culverts and other easily removable structures should be transported out

- of the watershed area.

- All disturbed areas of river banks will be stabilized and seeded.

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6.10 Monitoring and Inspection

1. Forestry operations approved under Section 10 of the Department of Environment Act will be inspected from time to time by the staff of the Water Resources Management Division to ensure the operator's compliance with the environmental protection guidelines and the terms and conditions of the approvals.
2. In case of an oil spill, the sedimentation of a water body, or any other water quality impairment related issue, the operator might be required by the Department of Environment and Labour to undertake water quality monitoring to assess the extent of the damage and to select appropriate mitigative measures to correct the harmful conditions.
3. Any water quality impairment problem should be reported to the Water Resources Management Division.

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7.0 PROCESSING FACILITIES AND SUPPORT SERVICES GUIDELINES.

1. If possible, use previously disturbed sites (e.g., borrow pit).
2. Minimize the size of the area cleared for the establishment of any camp, processing or support structures. Wherever possible, these facilities should not be established within 100 metres of a waterbody.
3. All sumps containing effluent from a kitchen or washroom facility must be properly treated on a daily basis in compliance with Department of Health regulations.
4. Sewage disposal must be carried out in compliance with the Public Health Act.
5. A permit to occupy is required for Crown Land developments.
6. Facilities will not be located within known sensitive wildlife areas. The Wildlife Division will identify these areas.

7. A permit is required for a firearm.

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8.0 PLANNING AND MUNICIPAL AREA GUIDELINES

1. Timber harvesting, resource road construction, silviculture, processing facilities, and support services are developments under the Urban and Rural Planning Act. Where these activities occur within a planning area boundary or within 400 metres of a protected road, a development permit is required before any activity takes place.

2. Consultation with the planning agency (usually municipality, but also the Development Control Unit of the Department of Municipal and Provincial Affairs) is to be made at the planning stage so that regulatory requirements can be made known and taken into account. This should occur three months before the desired commencement of the development and the permit obtained about one month before the development is to start.

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2.10 Compliance and Monitoring:

Annually, Corner Brook Pulp and Paper Limited is issued a **Certificate of Managed Land**. Attached to this Certificate are schedules that set out the conditions that must be followed in order to maintain managed land status. Schedule five contains the Environmental Protection Guidelines. Industry planning and operations must comply with schedule five or the land can be declared unmanaged and fines levied. Newfoundland Forest Service staff will monitor for compliance with schedule five and recommend managed or unmanaged status.

All planned activities are monitored by the Newfoundland Forest Service to ensure all guidelines and regulations pertaining to environmental protection, harvesting, road construction, and silviculture are followed. Any infractions or deviations from the regulations or guidelines are dealt with as required under the Forestry Act.

In addition to the monthly Government monitoring for compliance Corner Brook Pulp and Paper Limited has put in place an Environmental Management System (EMS), which was registered to the internationally recognized environmental standard ISO 14001, in July 2001.

As part of this EMS, many monitoring activities take place throughout the year (checking for non-compliances) including:

- monthly field inspections completed by Operations Superintendents,
- yearly internal EMS audit,
- yearly external EMS and field surveillance audits,
- external compliance audit every five (5) years,
- external communication from the public through our web site, cbppl.com.

All non-compliances are documented and reported to the EMS Management Review Committee. All non-compliances are reviewed by the EMS Committee, and corrective action is implemented where and when required.

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2.11 Surveys and Cruises

Corner Brook Pulp and Paper uses operational cruises and Forest type maps for operational planning and to determine operating areas and volumes, and the operational cruise data is used to verify stand typing in instances where there may be some doubt in the typing, or in areas where insect damage or blowdown is significant. Each year, utilization surveys are conducted throughout portions of our operating areas in addition to regular monitoring to ensure that utilization standards are being met. These surveys are conducted using procedures developed by the Department of Forestry. Reconnaissance regeneration surveys of all cutover areas are undertaken three to five years after harvest , with regeneration surveys conducted on areas of questionable stocking. Surveys are also conducted on ten to fifteen year old cutovers to determine pre-commercial thinning potential.

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2.12 Amendments to the Plan

This plan is being submitted using the best possible production forecast information available at the time of writing. This plan will be affected by many factors during the next five years, such as, mill production increases

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due to modernization, economic conditions, market conditions, major insect infestations, wildfire, environmental constraints, and changes in harvesting technology. Deviations from the plan are inevitable. In such a case, applications for amendments will be simultaneously submitted to the Department of Forestry and to the Department of Environment as Type I amendments.

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