



Government of Newfoundland and Labrador
Department of Fisheries and Land Resources

Environmental Protection Guidelines

for Forestry Operations in Newfoundland and Labrador

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Forestry and Wildlife
Forest Ecosystem Management

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FORWARD

The 2018 Environmental Protection Guidelines for Forestry Operations in Newfoundland and Labrador is an updated version of original guidelines developed in 1998. It has been developed through a consultative process with Forest Managers, Planners, Industry and other stakeholders throughout the province. These guidelines are intended to be stand level, on-the-ground procedures to be used by Forest Managers and operators to ensure sustainable use of the forest resource without degrading the environment. More specifically, the guidelines are designed to prevent and control degradation of soil, water, and vegetation in an effort to maintain healthy forest ecosystems.

The guidelines set out sound and practical measures and based the best available scientific information. To ensure the incorporation of new research findings and technologies, the guidelines will be reviewed periodically and adjusted to reflect new policies and procedures.

To facilitate use, the guidelines are structured by forestry activity and include sections on:

- harvesting;
- road construction;
- silviculture;
- forest protection; and
- operations within protected water supply areas.

Compliance with these guidelines will be monitored by Departmental staff.

The Environmental Protection Guidelines will complement the *Newfoundland and Labrador Forest Service Planning Guidelines*. Broader, landscape level issues will be addressed in the Provincial Sustainable Forest Management Strategy.

The Department of Fisheries and Land Resources (FLR) will continue to use science as a basis for refining and implementing sustainable forest policies and practices in the province. In particular, the development of the Environmental Protection Guidelines will continue to be an evolving process within which FLR will incorporate the best available information about forest ecosystems and sustainable forest management concepts in a timely fashion through adaptive management and other innovative, scientific based approaches.

1. HARVESTING GUIDELINES

1.1. PLANNING OPERATIONS

1.1.1. PERMITS REQUIRED

1. When temporary water crossings are required to facilitate travel of harvesting equipment, the location and type of all water crossings must be submitted to the Department of Municipal Affairs and Environment (MAE). A permit is required from Water Resources Management Division of MEA, for any water identified on the latest 1:50,000 topographic maps. A Letter of Advice is required from DFO for any alterations. Appropriate protection (i.e. the permit and Letter of Advice) is still required for streams greater than 1.0 metre in width, at its narrowest point from the high water mark, not found on the 1:50,000 topographic maps. The intent of these measures is to safeguard water quality and fish habitat.
2. All waste disposal sites require a valid permit under the *Environmental Protection Act*. Application for approval can be made by contacting the nearest Government Services Centre.
3. Timber harvesting is considered a development under the *Urban and Rural Planning Act*, and when this activity is proposed within a planning area boundary or within 400 meters of a protected road, a development permit is required from Service NL, before any activity takes place.

1.1.2. CONSULTATION REQUIRED

1. The Natural Areas Program of the Lands Management Division of FLR will be consulted during the preparation of each District five-year operating plan. Where harvesting is proposed within one kilometer of an ecological reserve, wilderness reserve, provincial park or proposed reserve, Natural Areas will be expected to identify/discuss any concerns during the planning consultation process. Also, access roads will not be located within 500 metres of the boundary of an ecological reserve, wilderness reserve, provincial park or proposed reserve, without first consulting Natural Areas.
2. The Wildlife Division of FLR will be consulted on timber harvesting within woodland caribou habitat during the preparation of each District five-year operating plan.
3. Rare and listed flora will be protected through mitigation measures, in consultation with the Wildlife Division.
4. When specific forest cover is a requirement for the management of moose or other wildlife species, such areas will be identified by the Wildlife Division.

5. The impacts of forest operations on Newfoundland Marten, *Martes americana atrata* (marten) have been an ongoing issue. Until provincial guidelines are developed for marten habitat, during the preparation of five-year operating plans, forestry activities within known marten recovery areas will require consultation with the Wildlife Division.
6. During the preparation of five-year operating plans, areas identified as “Sensitive Wildlife Areas” require consultation with the Wildlife Division.
7. The Arts and Heritage Division of the Department of Tourism, Culture, Industry and Innovation will be contacted during the preparation of the five-year operating plans to determine the location of historic resources and appropriate mitigation measures.

1.1.3. PLANNING

Planning forest operations for both Industry and Crown may include, but is not limited to:

- boundaries of protected public water supplies (if applicable);
- existing and proposed access roads;
- general location of extraction trails and landing locations;
- areas sensitive to erosion;
- buffer zones around water bodies;
- location of approved stream crossings;
- location of fuel storage;
- sensitive wildlife areas as shown in the five-year operating plan; and
- sensitive fish habitat (e.g. salmonid spawning and rearing areas) identified in consultation with Department of Fisheries and Oceans (DFO).

1.1.4. NUTRIENT POOR SITES

If it is deemed necessary to harvest nutrient poor sites such as those typed as poor or scrub within the Provincial Forest Inventory, all effort will be made to ensure such sites are regenerated in a timely manner.

1.2. CONDUCT OF OPERATIONS

1.2.1. MINIMIZING EROSION AND DISTURBANCE

1. When extraction trails and winter roads are to be constructed, soil disturbance and impacts on water bodies are to be minimized. The operator will use culverts and/or temporary bridges, depending on site conditions, in order to minimize erosion and sedimentation, avoid restricting stream flow, and ensure fish passage in fish-bearing streams. Erosion control measures, such as the laying down brush mats and the construction of diversion ditches for water run-off, are to be maintained while an extraction trail is in use. The trail is to be left in an environmentally acceptable condition thereafter. All temporary crossings are to be removed at the end of the operating season. As well, when an extraction trail is located on steep ground and is no longer in use, cut-off ditches and push-lanes must be created.
2. No more than 6 per cent of the forested floor within the harvested land base of an operating area can be disturbed by equipment. In situations where specific operating areas require more than 6 per cent disturbance to capture available timber, the operator is required to obtain approval and then rehabilitate the area (i.e., leave the area in a condition suitable for successful forest regeneration and growth) to reduce the total net disturbance to the 6 per cent maximum. **Disturbance is defined as per the Ground Disturbance Survey Guidelines developed by the Forestry & Wildlife Branch.**
3. Heavy equipment and machinery are not permitted in any waterbody, on a wetland or a bog, unless frozen, without a permit from Water Resources Management Division the Department of Municipal Affairs and Environment (MAE) and without contacting the DFO Area Habitat Biologist.
4. In areas prone to erosion and silting:
 - I. conduct winter logging (i.e. harvest during winter), or
 - II. place slash on extraction trails if conventional equipment is operating in an area.
5. Any forestry operation that directly or indirectly results in chronic sedimentation under normal conditions entering a waterbody must be dealt with immediately by notifying either the DFO Area Habitat Biologist or the District Manager within 24 hours.
6. Woody material of any kind (i.e. trees, slash, sawdust, slabs, etc.) is not permitted to enter a waterbody. Depositing woody material on ice within the high water floodplain of any waterbody is also prohibited.
7. To minimize potential for erosion and sedimentation, temporary waterbody crossings shall:

- I. have stable approaches;
- II. be at right angles, wherever possible, to the waterbody;
- III. be located where channels are well defined, unobstructed, and straight;
- IV. be at a narrow point along the waterbody; and
- V. allow room for direct gentle approaches wherever possible

8. Extraction trails and landings shall not be established within 20 metres of a waterbody.

1.2.2. ARCHAEOLOGICAL FIND

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 Provincial Archaeology Office at (709) 729-2462. The Provincial Archaeology Office will respond immediately and will have assessment requirements and mitigation measures in place within seven days as agreed to by the Provincial Archaeology Office and the operator. Forestry activity can then continue.

1.2.3. TIMING OF OPERATIONS

1. Harvesting is not permitted within woodland caribou calving and post-calving areas from May 15 to July 31. Calving areas will be identified by Wildlife during the five year planning process.
2. Harvest scheduling may be modified during the migration of wildlife (e.g., caribou, waterfowl, etc.) and during temporary wildlife concentrations. Areas of concern and mitigation measures will be identify as part of the five year planning process.

1.2.4. LEAVING BUFFERS AND WILDLIFE TREES

1. A 20 metre, no harvesting activity buffer zone shall be established around all water bodies that are identified on the latest 1:50,000 topographic maps and along streams greater than one metre in width that do not appear on the maps. Where the slope is greater than 30 per cent there shall be a no harvest buffer of 20 metres plus 1.5 times per cent slope. All equipment or machinery is prohibited from entering waterbodies; thus, structures must be created to cross over such waterbodies for the protection of aquatic habitat. Every reasonable effort will be made to identify intermittent streams, and they will be subject to this buffer requirement.

The District Manager must adjust the specified buffer requirements in the following circumstances:

- I. The no harvesting activity buffer can exceed the 20 meters for sensitive fish habitat (e.g., salmonid spawning habitat).

- II. A 50 metre, no harvesting activity buffer will be maintained around known black bear winter denning sites or those encountered during harvesting. These den sites must be reported to the Wildlife Division.
 - III. No forestry activity is to occur within 800 metres of an active bald eagle nest or osprey nest during the nesting season (March 15 to July 31) and 200 metres during the remainder of the year. For other raptor species like hawks, falcons, and owls, no forestry activity is to occur within 160 metres of a known nest at any time of the year. The location of any raptor nest site must be reported to the Wildlife Division.
 - IV. All hardwoods within 30 metres of an active beaver lodge are to be left standing.
 - V. A minimum 50 metre, no-cut buffer will be maintained from the high water mark in Sensitive Wildlife Areas for waterfowl including breeding, moulting and staging areas. These sites will be identified by the Canadian Wildlife Service (CWS) or the Wildlife Division.
2. A minimum average of 10 snags (i.e., standing dead trees) or other suitable living trees per hectare shall be left individually or as small clumps on sites identified as habitat for wildlife (i.e., nesting and perching sites for birds, den sites for particular wildlife species, etc.). Preference should be given to the largest trees (i.e., standing dead trees or live hardwoods). Research has shown that larger diameter snags are more valuable (last longer and contribute more to the biomass pool) than smaller diameter snags. Consequently, the trees retained should be ones which are from the dominant or co-dominate portion of the stand and be left in a fairly evenly distributed manner.

1.2.5. PETROLEUM PRODUCTS

1. In the event of a spill and/or leak of petroleum products, the owner or operator must make every effort to first; contain and second; clean up the spill. Spills in excess of 70 liters and **all leaks**, must be reported by calling the following spill report line:

Environmental Emergencies Spill Report Line
 Canadian Coast Guard
 (709) 772-2083 collect or 1 (800) 563-9089

In this province, spills and leaks must be remediated in accordance with the Guidance Document for the Management of Impacted Sites prepared by Pollution Prevention Division of MAE. (Appendix I)

2. 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 at least 100 metres from the nearest waterbody. All fuel-storage tanks (including GEEP tanks) must be registered with Service NL and installed in accordance with the *Storage and*

Handling of Gasoline and Associated Products Regulations, 2003 as amended, under the Environmental Protection Act.

3. Used oil storage, handling and disposal is to comply with the *Used Oil Control Regulations, NLR, 82/02* under the *Environmental Protection Act*.
4. Above ground storage tanks shall be surrounded by a dyke. The dyke will contain not less than 110 per cent 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. Construction and installation standards are clearly listed in section 27 of the *Storage and Handling of Gasoline and Associated Products Regulations, 2003 as amended, under the Environmental Protection Act*.
5. Contaminated soil or snow must be disposed of at an approved treatment facility.

1.2.6. CLEAN UP OF SITE

Waste material is to be disposed of at an approved waste disposal site with the prior permission of the owner or operator. Prior to disposal it must be contained in a manner not to attract wildlife. All equipment and waste materials are to be removed from the operating area when operations are completed.

2. FOREST ACCESS ROAD GUIDELINES

2.1. PLANNING OF ROADS

2.1.1. PERMITS REQUIRED

1. Any alteration within 15 metres of a natural waterbody (i.e. any water identified on the latest 1:50,000 topographic map) or development within a protected public water supply area, will require prior approval by the Water Resources Management Division of the MAE. For alteration of a waterbody, a permit is required under Section 48 of the *Water Resources Act*, SNL 2002 cW-4.01. For any development in a protected public water supply area a permit is required under Section 39(6) of the *Water Resources Act*, SNL 2002 cW-4.01. Alteration of a waterbody may include culvert installations, temporary or permanent stream crossings, outfalls, infilling; and bridge, dam, and wharf construction. A Letter of Advice is also required from DFO for any alterations. Appropriate protection (i.e. the permit and Letter of Advice) is still required for streams greater than one metre in width not found on the 1:50,000 topographic map.
2. In addition to approvals from Water Resources Management Division and DFO, approvals from Transport Canada are required for culverts, bridges and abutments on navigable waters (i.e. any waterbody capable of being navigated by floating vessels of any description for the purpose of transportation, commerce or recreation. This includes both inland and coastal waters).
3. Resource road construction or any forestry activity is considered a development under the *Urban and Rural Planning Act*. Where this activity occurs within a planning area boundary or within 400 metres of a protected road, a development permit is required from Service NL before any activity takes place.

2.1.2. AREAS TO AVOID

Forest access roads, borrow pits, and quarries, whenever possible shall avoid:

- I. deltas, floodplains or fluvial wetlands;
- II. terrain with high potential for erosion;
- III. known sensitive wildlife areas such as:
 - a. caribou areas (i.e. calving, post calving, migrations routes, rutting areas, and winter areas);
 - b. waterfowl areas (i.e. nesting and staging areas);
 - c. raptor nest sites; and
 - d. species at risk habitat, rare flora or fauna habitat, and other unique habitats as determined by qualified authorities.
- IV. known sensitive fish habitat 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, ecological reserves and wildlife reserves; and
- VII. riparian buffer areas.

2.1.3. WATERBODY CROSSINGS

Waterbody crossings shall:

- I. have stable approaches;
- II. be at right angles, wherever possible, to the waterbody;
- III. be located where channels are well defined, unobstructed, and straight;
- IV. be at a narrow point along the waterbody; and
- V. allow room for direct gentle approaches wherever possible.

2.1.4. BURROW PITS AND QUARRIES

With respect to borrow pits and quarries, the operator shall wherever possible, avoid:

- I. minimize the number of new borrow areas opened for construction and/or maintenance;
- II. use existing borrow pits whenever practical;
- III. be in possession of a valid quarry permit from the Mineral Lands Division of Department of Natural Resources and FLR, for borrow pits outside resources roads right of way, prior to aggregate extraction activities as per the *Quarry Materials Act*, and
- IV. not locate borrow pits and quarries in sensitive areas as identified by planning processes.

2.1.5. WILDLIFE VALUES

1. Wherever possible, forest access roads shall not obstruct wildlife movement. The following guidelines should be followed:
 - a. roads should be of low profile (i.e. less than one metre above the surrounding terrain);
 - b. slash and other debris shall be removed or buried; and
 - c. the slope of ditches and road banks shall be minimized.
2. Where road construction is to occur around identified waterfowl breeding, moulting and staging areas, mitigating measures will be identified during the 5 year planning process.

2.1.6. ROAD ACCESS

1. Areas proposed for harvest using winter roads shall not be harvested without a reforestation plan approved in the Certificate of Managed Lands.

2. A regeneration survey is required for all forest areas that will be affected by access due to road decommissioning and bridge or stream crossing removals. Prior to decommissioning, an approved reforestation plan by the Silviculture and Research Section of the Forest Ecosystem Management Division is required for all areas that fail to meet the provincial silviculture stocking standards.

2.1.7. DECOMMISSIONING ROADS

On a site specific basis, roads may be decommissioned. Levels of decommissioning include:

- I. barring access;
- II. removal of watercourse crossings; and
- III. restoration of roadway including planting of trees.

Decommissioning is as decided through the planning team process or, under compelling circumstances, as decided by FLR (e.g. emergency closures).

2.2. CONSTRUCTION AND DECOMMISSIONING OF ROADS

2.2.1. ROAD CONSTRUCTION

1. There shall be no bulldozing or burying of merchantable timber or poor utilization of merchantable softwoods and hardwoods during the cutting of road right-of-way's. All merchantable timber shall be utilized and processed.
2. Where brush mat or corduroy is required, sub-merchantable or non-merchantable stems should be used first. In the event these are not available or sufficient, permission must be obtained from a Forestry Official prior to merchantable stems being utilized. Stems are to be placed in a "butt to top" alternating fashion for the entire length of the area to be brush matted.
3. Earth shall be excavated as required to complete earth cuts, ditching, and sub-excavation, and shall include hauling, handling and disposal as directed. Only with the approval of the Engineer or Inspector may excavation occur outside the limits of the roadway for the purpose of obtaining suitable or sufficient material to complete embankments. All holes and pits are to be rehabilitated.
4. Fill materials for road building must not be obtained from any waterbody, from within the floodplain of any waterbody, or within the 30 metres of a no-grub zone.

2.2.2. PITS AND QUARRY ACTIVITY

1. Where borrow pit or quarry activity is likely to cause sediment, laden runoff 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 a Forestry Official prior to construction where such conditions exist.

2. Overburden or grubbed material pushed off any gravel pit site must be retained in a manner that allows it to be pushed back into the pit after construction and spread in a neat and tidy fashion.
3. Existing pits are to be used, where possible, to minimize the opening of new pits.
4. Borrow pits are to be located at least 50 metres from the nearest waterbody.

2.2.3. WORKING NEAR WATERBODIES AND INSTREAM WORK

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 erosion potential.
2. Trees are to be felled away from all waterbodies. Slash and debris should be piled above the high water mark so that it cannot enter waterbodies during periods of peak flow.
3. Right-of-way widths at waterbody crossings should be kept to a minimum, preferably to the width of the driving surface plus water control features.
4. 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 (an area where active erosion is likely). The placement of large riprap, armour stone or slope stabilization material is recommended in such areas.
5. Take-off ditching should be used on both sides of the road or in conjunction with culverts to divert the ditch flow off into the woods or stable vegetation areas before reaching the waterbody. The ditch itself shall not lead directly into the waterbody.
6. Grades in excess of 10 per cent shall have culverts with baffle or ditch blocks on one end and cut-off ditches every 150 meters along the road. Baffle or ditch block can be constructed from gabion baskets, wooden structures, rock walls or other approved materials. Unless otherwise specified, the height of the baffle shall be a minimum of one-half the diameter of the culvert requiring the baffle.
7. When working near waterbodies, road building operations causing erosion or siltation are to be suspended during periods of intense rainfall or when soils are saturated.

8. Any forestry operation that directly or indirectly results in sediment or turbid water entering a waterbody must be dealt with immediately. (See Guideline 1.2.2.5 for further information.)
9. Fording of equipment for stream crossing installation is to be kept to a minimum. Equipment activity in water crossing areas is to be kept to a minimum. All work is to be carried out from dry stable areas. Permission for exceptions must be obtained from DFO.
10. Heavy equipment and machinery is not permitted in any waterbody, on a wetland or a bog, unless it is frozen, without a permit from MAE and without contacting the DFO Area Habitat Biologist.
11. Exposed mineral soil shall be stabilized during bridge construction and culvert installation.
12. All instream work is to be performed as per the DFO March 1998 "Guidelines for Protection of Freshwater Fish Habitat in NL." Marine Environment and Habitat Management Division Science Branch.
13. Cofferdams are to be used to separate work areas from the stream when installing bridges or similar structures requiring abutments, or footings.
14. Water pumped from work areas and cofferdams is to be directed into a settling pond or stable vegetation areas.
15. Not more than one third of the stream width is to be blocked at any one time.
16. The stream banks are to be rehabilitated upon completion and removal of a cofferdam.
17. All culverts, in fish bearing streams, are to be installed as per the DFO March 1998 "Guidelines for Protection of Freshwater Fish Habitat in NL." Marine Environment and Habitat Management Division Science Branch.
18. In fish bearing streams;
 - a. culverts having a diameter equal to or exceeding 2000 millimetres should be countersunk a minimum of 15 per cent of the diameter below the streambed elevation;
 - b. a minimum water depth of 200 millimetres should be provided throughout the culvert length. To maintain this water depth at low flow periods an entrance or downstream pool should be constructed; and

- c. downstream outlet pools are of particular importance for long culverts or culverts to be installed on steep slopes.

19. Work to be completed in the stream bed, should be scheduled to avoid potential adverse impacts on spawning activities, egg incubation, spawning habitat and fish migration. It should also be done in consultation with the DFO Area Habitat Biologist.

2.2.4. ARCHAEOLOGICAL FIND

When an archaeological site or artifact is found, the condition in Guideline 1.2.2 will apply.

2.2.5. PETROLEUM PRODUCTS

In the event of a spill or leak of petroleum products, see Guideline 1.2.5.1 for further details. Guidelines 1.2.5.2 to 1.2.5.5 relating to petroleum products also apply in road construction and decommissioning operations.

2.2.6. WINTER ROADS

As with all season roads, soil disturbance and impacts on waterbodies are to be minimized with winter roads. Culverts or temporary bridges are to be used. Erosion control measures are to be maintained while the winter road is in use. After use, it is to be left in an environmentally acceptable condition. All temporary crossings are to be removed at the end of the operating season and an inspection is to be conducted by a Forestry Official, engineer or other qualified person. This inspection is to ensure any required remediation has been completed.

2.2.7. DECOMMISSIONING ROADS

1. When roads are decommissioned or barred by gating or ditching or placement of obstacles, appropriate signage warning of any hazardous condition shall be placed in open view.
2. When decommissioning is through removal of watercourse crossings, areas adjacent to former culverts or bridge locations shall be stabilized to reduce potential for erosion. Appropriate signage shall also be placed.
3. When decommissioning roads by replacing soil, overburden and other natural obstacles on former roadway, so as to deny vehicular access and to enable planting in order to restore productive forest on the site, standard precautions such as silt fencing shall be used to prevent entry of silt in waterways.
4. Decommissioning shall not be undertaken until all necessary reforestation activities beyond the decommissioning point has taken place.

3. SILVICULTURAL GUIDELINES

3.1. SILVICULTURE PLANNING

3.1.1. PERMITS REQUIRED

Silviculture is considered a development under the *Urban and Rural Planning Act*. Where this activity occurs within a planning area boundary or within 400 metres of a protected road, a development permit is required before any activity can occur.

3.2. CONDUCT OF SILVICULTURE OPERATIONS

3.2.1. PREVENTING EROSION

To prevent erosion on sites proposed for row scarification, every effort should be made to follow the contours where slopes exceed 15 per cent. If in such instances scarification has to occur parallel to the slope, the scarified trenches are to be intermittent (i.e. for every 20 metres of trench, an un-scarified section two metres m in length should be left).

3.2.2. PROTECTION OF WATERBODIES

1. Unless frozen, heavy equipment and machinery is not permitted in any waterbody, on wetland or a bog without a permit from MAE and without contacting the DFO Area Habitat Biologist.
2. Any forestry operation that directly or indirectly results in sediment and/or turbid water entering a waterbody must be dealt with immediately. See Guideline 1.2.1.5 for further information.
3. Trees thinned during pre-commercial thinning, diameter limit thinning, commercial thinning or any other silviculture treatment shall not be felled into waterbodies.

3.2.3. PLACEMENT OF WINDROWS

When slash is piled into windrows, it should be located where the slash cannot be washed into streams at peak flooding conditions.

3.2.4. TREES LEFT FOR WILDLIFE AND OTHER VALUES

1. There is to be no cutting of Eastern White Pine, *Pinus strobus*.
2. Hardwood species, such as birch, are to be left when encountered in a stand scheduled for thinning where these do not compete with the conifer crop trees. Portions of thinning areas which are pure hardwood may be left unthinned when encountered. In mixed regeneration, various hardwood or softwood species may be

favoured in future stand development in accordance with management objectives stated in the approved operating plan for the area.

3.2.5. TIMING OF SILVICULTURE

Where possible, silviculture operations are to be reduced or avoided in areas identified by the Wildlife Division during the periods of birth and hatching.

3.2.6. ARCHAEOLOGICAL FIND

When an archaeological site or artifact is found, the condition in Guideline 1.2.3 will apply.

3.2.7. FUELS AND PETROLEUM PRODUCTS

1. In the event of a spill or leak of petroleum products, see Guideline 1.2.5.1 for further details.
2. Guidelines 1.2.5.2 to 1.2.5.5 relating to petroleum products also apply in silviculture operations.

3.2.8. SCARIFICATION METHOD

Where mechanical site preparation is required, the method selected shall be best suited for preparing the area for planting and for minimizing ground disturbance.

3.2.9. CHOICE OF SPECIES TO PLANT

In planting situations, the use of native species is preferred. However, in certain situations, use of non-invasive, exotic species, such as those which have been established in the province for decades, or those which may come under future review, may be planted.

4. FOREST PROTECTION GUIDELINES

4.1. PLANNING FOR THE APPLICATION OF PESTICIDES (INSECTICIDES AND HERBICIDES)

4.1.1. REGULATION OF PESTICIDES

The use of pesticides is regulated federally by Health Canada and provincially by MAE. The federal *Pest Control Products Act* states which products are registered for use in Canada, and the provincial *Environmental Protection Act, Pesticide Control Regulations* outlines licensing requirements and the conditions under which they can be purchased, sold or handed.

4.1.2. LICENCES REQUIRED

1. To apply pesticides in the province, two licences are required from the Pollution Prevention Division of MAE. The first is a Pesticides Operators Licence which is issued

for a specific program and valid for five years. To obtain this licence, the applicant must submit project details including a map of the area to be treated, product to be used, and time of the year to be used. Following the completion of the project, a report must be submitted to MAE. The second licence required is a Pesticide Applicators Licence. To obtain this licence, the applicator must complete an exam. Only people in possession of this licence may use the pesticide. It is valid for a period of five years.

2. To apply herbicides, the same conditions apply as above. An Operator's Licence must be obtained for the project and is valid for five years. In addition, each member of the crew involved with application of the herbicide must complete an exam and obtain a Pesticide Applicators Licence.
3. A third program which requires an Operator's Licence and a Pesticide Applicators Licence is the tree nursery program which may use pesticides to grow seedlings. Again the same conditions apply.

4.2. CONDUCT OF OPERATIONS

4.2.1. PESTICIDE USE

Only bio-degradable pesticides will be used and only as part of an integrated pest management strategy.

5. GUIDELINES FOR FORESTRY OPERATIONS WITHIN PROTECTED PUBLIC WATER SUPPLY AREAS

The primary function of a Protected Public Water Supply Area (PPWSA) is to provide the public with an adequate quantity of safe and good quality water on a permanent basis and to meet its present and future demands. By definition, a Protected Public Water Supply Area is the area of land and water designated as a Protected Public Water Supply Area, for a municipal authority operating a waterworks or using or intending to use a water sources, under Section 39 of the *Water Resources Act*. Any other activity within a Protected Public Water Supply Area 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 and Labrador forestry operations are permitted in most Protected Public Water Supply Areas on a limited and controlled basis provided the proposed operations have no or minimal, water quality impairment potential. More specifically, commercial forest harvesting of more than 10 per cent of the total land area of the Protected Public Water Supply Area, or 10 per cent of the total merchantable timber; whichever is less, in any 12 month period will not be permitted.

The following permits and approvals are required prior to the beginning of any forestry operations, whether commercial or domestic operations, and includes road construction, silviculture activities, and harvesting within a Protected Public Water Supply Area:

- I. Approval of the Five-year operating plan by the Environmental Assessment Division of MAE,
- II. Issuance of a permit under section 39(6) of the *Water Resources Act* which will include consultation with the community involved. Applications for development inside Protected Public Water Supply Area can be obtained from the Water Resources Management Division website (Appendix I).

5.1. CONDUCT OF OPERATIONS

All permits and contracts should include any conditions outlined under section 39(6) of the *Water Resources Act*. In addition to environmental guidelines specified in sections above, the following will apply in Protected Public Water Supply Areas.

5.1.1. MAP OF OPERATING AREA

The appropriate Forestry or Company official will provide the operator with a map indicating the harvesting area and the location of no-cut buffer zones, and will ensure the operator is familiar with the boundaries and conditions of the approved detailed plan of operations.

5.1.2. PREVENTION OF EROSION

In areas sensitive to erosion, depending on the nature and location of the proposed forestry operation, the Water Resources Management Division may not permit the activity to take place. However, where permitted, the following mitigation measures should be put in place:

1. Sensitive areas prone to erosion and areas which have high potential for erosion can be harvested if proper harvesting and site restoration techniques are a part of a detailed plan.
2. Wherever possible, extraction trails should run along contours and avoid wetlands.
3. Use of landings will be minimized. Any approved landing area shall be less than 0.25 ha and located at least 150 metres from Protected Public Water Supply intake ponds.

5.1.3. BUFFER ZONES

No ground disturbance riparian buffer zone requirements in Protected Public Water Supply Areas are as follows:

Water Body	Width of Buffer
Intake Pond, Lake or Reservoir	Minimum 150 metres
River Intake (for a distance of 1000 metres upstream and 100 meters downstream)	Minimum 150 metres
Main River Channel	Minimum of 75 metres
Major Tributaries, Lakes or Ponds	Minimum of 50 metres
Other Waterbodies	Minimum of 30 metres

Any deviation will require approval from Water Resources Management Division.

5.1.4. PETROLEUM PRODUCTS

Fuel storage and the operation of fuel storage equipment are regulated by the *Storage and Handling of Gasoline and Associated Products Regulations, 2003* as amended and the *Heating Oil Storage Tank System Regulations, 2003* as amended.

In addition to the above regulatory requirements and Sections 1.2.5.1 to 1.2.5.5 the following are to be adhered to;

- I. If fuel must be stored in the Public Protected Water Supply Area, it must be in the least sensitive area and be approved by the Water Resources Management Division.
- II. Refueling must not take place within 150 metres of an intake pond.
- III. All tanks must be located at a minimum distance of 500 metres from any major waterbody.
- IV. A fuel or oil spill clean-up kit must be kept on site 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, a container such as an empty drum for recovering the fuel or oil, and a containment boom.

5.1.5. STRUCTURES PROHIBITED IN WATER SUPPLY AREA

1. Dormitory camps, garages or any other structures are prohibited within a Protected Public Water Supply Area.
2. The establishment of new sawmills is not permitted in Protected Public Water Supply Areas.

5.1.6. REPORTING WATER QUALITY PROBLEMS

Any water quality impairment problem should be reported immediately to the Water Resources Management Division.

APPENDIX I

RESOURCE MATERIAL

Development Applications in Protected Public Water Supply Areas

<http://www.env.gov.nl.ca/env/waterres/regulations/appforms/index.html>

Guidelines for Protection of Freshwater Fish Habitat in Newfoundland and Labrador

<http://www.dfo-mpo.gc.ca/Library/240270.pdf>

Guidance Document for the Management of Impacted Sites

[http://www.env.gov.nl.ca/env/env_protection/ics/Guidance Document For the Management of Impacted Sites V2.0 Feb 6 2014.pdf](http://www.env.gov.nl.ca/env/env_protection/ics/Guidance_Document_For_the_Management_of_Impacted_Sites_V2.0_Feb_6_2014.pdf)

FEDERAL LEGISLATION

Canada Fisheries Act

<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>

Canada Navigable Waters Protection Act

<http://laws.justice.gc.ca/eng/acts/N-22/>

Canada Species at Risk Act

<http://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

PROVINCIAL LEGISLATION

Newfoundland and Labrador Endangered Species Act

<http://www.assembly.nl.ca/Legislation/sr/statutes/e10-1.htm>

Newfoundland and Labrador Environmental Protection Act

<http://www.assembly.nl.ca/legislation/sr/statutes/e14-2.htm>

Newfoundland and Labrador Forestry Act

<http://www.assembly.nl.ca/legislation/sr/statutes/f23.htm>

Newfoundland and Labrador Historical Resources Act

<http://www.assembly.nl.ca/legislation/sr/statutes/h04.htm>

Newfoundland and Labrador Quarry Material Act, 1998

<http://www.assembly.nl.ca/legislation/sr/statutes/q01-1.htm>

Environmental Protection Guidelines 2018

Newfoundland and Labrador Urban and Rural Planning Act, 2000

<http://assembly.nl.ca/Legislation/sr/statutes/u08.htm>

Newfoundland and Labrador Wildlife Act

<http://www.assembly.nl.ca/Legislation/sr/statutes/w08.htm>