



chapter F-4.1, r. 7

Regulation respecting standards of forest management for forests in the domain of the State

Forest Act
(chapter F-4.1, s. 171)

DIVISION I INTERPRETATION

1. In this Regulation,

“accommodation centre” means an establishment lodging people on a commercial basis that can accommodate at least 20 persons per day, built on an area forming a single block; (centre d'hébergement)

“all-terrain vehicle trail” means an all-terrain vehicle trail laid out and maintained by any operator, used every year and indicated in the 5-year forest management plan; (sentier de véhicule tout terrain)

“annual plan” means the plan referred to in section 57 of the Forest Act (chapter F-4.1); (plan annuel d'intervention)

“archaeological sector” means a place where archaeological sites are concentrated and the surrounding grounds whose geographical characteristics offer an archaeological potential; (secteur archéologique)

“archaeological site” means a place where archaeological property is located that is entered in the cultural heritage register; (site archéologique)

“area frequented by caribou south of the 52nd parallel” means a territory used by a herd of at least 50 caribou for calving, breeding or winter feeding; (aire de fréquentation du caribou au sud du 52^e parallèle)

“bear den” means a site used by bears to spend the winter and indicated in the 5-year forest management plan; (tanière d'ours)

“bed of a watercourse” means a natural depression in the ground free of vegetation or with a predominance of aquatic plants and characterized by signs of waterflow; (lit d'un cours d'eau)

“block cutting” means cutting with regeneration and soil protection carried out on a given territory so as to preserve, within the limits of the harvest site, a residual forest having the characteristics set out in section 79.2; (coupe en mosaïque)

“boat access route to trapping grounds” means a route comprising rivers, lakes and portage trails used for access to trapping grounds, identified by a native community, used every year and indicated in the 5-year forest management plan; (parcours d'accès en embarcation aux terrains de piégeage)

“bridge” means a structure with abutments that crosses an obstacle and without which there would be an interruption in the roadway; (pont)

“bridging” means a rigid removable structure that crosses a watercourse, preventing contact between machinery and the water and the bed of the watercourse, enabling water to flow freely; (pontage)

“burial site” means a place where the body of a deceased person is interred and that is indicated in the 5-year forest management plan; (site de sépulture)

“caribou calving area north of the 52nd parallel” means a territory frequented by at least 5 caribou cows per square kilometre during the period from 15 May to 1 July; (aire de mise bas du caribou au nord du 52^e parallèle)

“classified heritage site” means a place classified as such under the Cultural Heritage Act (chapter P-9.002); (site patrimonial classé)

“cliff inhabited by a colony of birds” means a cliff, and a strip of land 100 m wide measured backwards from the cliff edge, where there are at least 10 seabird nests per 100 m of frontage; (falaise habitée par une colonie d'oiseaux)

“commercial species” means a tree species listed in Schedule 2; (essence commerciale)

“complementary vacation site” means a site comprising at least 3 vacation lots where the concentration is at least 1 lot per 0.8 ha, developed to complete the development of a grouped vacation site located on the shores of a lake where the biophysical characteristics of the environment no longer make it possible to comply with the installation criteria for a grouped vacation site; (site de villégiature complémentaire)

“concentrated trail network” means a site developed for recreational purposes and comprising various hiking trails at a density of 2.5 km per square kilometre and a strip of land 30 m wide surrounding the site; (réseau dense de randonnées diverses)

“culvert” means a conduit incorporated into the structure of a road, enabling water to flow freely from one side of the road to the other; (ponceau)

“cutting with regeneration and soil protection” means the harvesting of all trees whose usable diameter is at least equal to the diameter determined for each species in the management permit, by taking all the precautions required to avoid damaging the advance growth and by minimizing any disturbance of the soil; (coupe avec protection de la régénération et des sols)

“developed canoe-camping course” means a route comprising rivers, lakes and portage trails along the banks and shores of which there are 2 or more wilderness campgrounds maintained by a government agency, a municipality, the Fédération québécoise de canot-camping or a canoe-camping club recognized by the Fédération, and indicated in the 5-year forest management plan; (parcours aménagé de canot-camping)

“developed or semi-developed campground” means an area developed for a minimum of 10 campsites, accessible by roads suitable for motor vehicles and offering electricity or running water service for each campsite or group of not more than 20 campsites, and its service areas such as communal shelters, toilets and parking lots; (camping aménagé ou semi-aménagé)

“dock and boat ramp site” means a public site comprising a dock and a ramp for pleasure boats, developed for outdoor activities, and its service areas such as communal shelters, toilets and parking lots; (site de quai et rampe de mise à l'eau)

“downhill skiing site” means a site comprising a downhill ski centre, and its service areas such as communal shelters, toilets and parking lots; (site de ski alpin)

“dwelling” means any building intended for occupancy by human beings and provided with a drinking water supply system and a waste water disposal system connected to the ground; (habitation)

“ecological or nature interpretation centre” means a site comprising trails developed for the purposes of ecological education or nature interpretation, and its service areas such as communal shelters, toilets and parking lots; (centre écologique ou d'interprétation de la nature)

“ecological reserve” means an ecological reserve within the meaning of section 2 of the Natural Heritage Conservation Act (chapter C-61.01); (réserve écologique)

“engineered landfill, trench landfill and remote landfill” means a landfill governed respectively by Divisions 2, 3 and 6 of Chapter II of the Regulation respecting the landfilling and incineration of residual materials (chapter Q-2, r. 19);

(lieu d'enfouissement technique, lieu d'enfouissement en tranchée et lieu d'enfouissement en territoire isolé)

“fish” means any fish within the meaning of section 1 of the Act respecting the conservation and development of wildlife (chapter C-61.1); (poisson)

“fish habitat” means a lake, a swamp, a marsh, a floodplain delimited by the 2-year mean high-water level or a watercourse frequented by fish; where the limits of a floodplain cannot be established as indicated, they shall correspond to the natural high-water mark; (habitat du poisson)

“fish hatchery” means a site comprising infrastructures and installations for the raising and breeding of fish; (station piscicole)

“5-year forest management plan” means the plan referred to in section 52 of the Forest Act; (plan quinquennal d'aménagement forestier)

“forest and recreation zone” means a forest and recreation zone indicated in the land use plan for the lands in the domain of the State referred to in sections 21 and 77 of the Act respecting the lands in the domain of the State (chapter T-8.1); (zone forestière et récréative)

“forest cover density” means the relative ground cover by the ground projection of the top of trees 7 m tall or more; (densité du couvert forestier)

“forest management sector” means a part of the forest area measuring a maximum of 250 ha located within a parcel of the forest management unit and to which the same silvicultural treatment is applied in a given year; (secteur d'intervention)

“geotextile membrane” means a geotextile formed by a needlepunch nonwoven manufacturing process, with a minimum tensile strength of 1,000 newtons and an apparent opening size of less than 150 micrometres; (membrane géotextile)

“grouped vacation site” means a site comprising at least 5 vacation lots where the concentration is at least 1 lot per 0.8 ha; (site de villégiature regroupée)

“harvest site” means the territory delimited by the total of a management permit holder's block cutting harvest areas, the closest parts of which are less than 2 km apart, and of the peripheral area of that total up to a distance of 2 km; (chantier de récolte)

“heritage site declared” means a territory declared as such by the Government under the Cultural Heritage Act; (site patrimonial déclaré)

“heronry” means a site where at least 5 nests have been used by great blue herons, black-crowned night herons or American egrets during at least 1 of the past 5 nesting seasons, including a strip of land 500 m wide surrounding the site or, where the lay of the land makes it impossible to extend the strip to 500 m, a smaller territory; (héronnière)

“highway corridor” means a public highway numbered by the Minister of Transport and located in the hardwood forest zone or in the fir and mixed forest zone, described in Schedule 1, or such a public highway located in the spruce forest zone, linking 2 local municipalities, or such a highway located not more than 50 km from the most densely populated part of a local municipality or an access road to an Indian reserve, to the settlements of Kitcisakik, Hunter's Point, Pakuashipi, Oujé-Bougoumou and Winneway, to an accommodation centre or a welcome centre in an outfitting operation, a controlled zone or a wildlife sanctuary within the meaning of sections 86, 104 and 111 of the Act respecting the conservation and development of wildlife; (corridor routier)

“holder of a management permit” means the holder of a management permit or a third party to whom the permit holder entrusts the performance of the work authorized by the permit; (titulaire d'un permis d'intervention)

“ice bridge” means a structure built solely from water and snow and reinforced if necessary by a frame of interconnected logs; (pont de glace)

“intermittent watercourse” means a watercourse whose bed dries up periodically; (cours d'eau à écoulement intermittent)

“interregional trail or outlying trail of the concentrated networks” means a hiking trail developed for recreational purposes, linking 2 municipalities or 2 regions or linked to a concentrated trail network, excluding a snowmobile trail and an all-terrain vehicle trail; (parcours interrégional de randonnées diverses ou circuit périphérique des réseaux denses)

“island or peninsula inhabited by a colony of birds” means an island or a peninsula less than 50 ha in area where there are at least 25 nests per hectare of colony-dwelling bird species other than herons; (île ou presqu'île habitée par une colonie d'oiseaux)

“mossy black spruce stand” means a black spruce stand whose forest cover density is less than 40% and that grows on soil more than 40% covered by moss; (pessière à épinettes noires et cladonies)

“muskrat habitat” means a swamp or a pond at least 5 ha in area inhabited by muskrats; (habitat du rat musqué)

“natural high-water mark” means the point of transition from a predominance of aquatic vegetation to a predominance of land vegetation; if there is no aquatic vegetation, it means the point beyond which there is no more land vegetation; (ligne naturelle des hautes eaux)

“observation area” means a scenic outlook developed for the observation of nature; (site d'observation)

“observatory” means a site comprising infrastructures intended for astronomical or meteorological observation and its service areas, such as communal shelters, toilets and parking lots; (observatoire)

“outdoor recreation centre” means a site developed for the purposes of outdoor activities, and its service areas such as communal shelters, toilets and parking lots; (base et centre de plein air)

“parcel” means a subdivision of the forest management unit that makes it possible to locate, describe or record biophysical characteristics used as a basis for forest management; (parcelle)

“priority production” means production intended for a forest area in which silvicultural treatments are to be carried out, including harvesting; (production prioritaire)

“proposed ecological reserve” means a proposed ecological reserve indicated in the land use plan for the lands in the domain of the State referred to in sections 21 and 77 of the Act respecting the lands in the domain of the State or in the plan referred to in the Natural Heritage Conservation Act; (réserve écologique projetée)

“public beach” means a site comprising a beach, a strip of land extending 300 m inland from the shoreline and the facilities necessary for swimming and relaxation; (plage publique)

“rest area or picnic ground” means a site developed on the side of a highway corridor for rest purposes, and its service areas such as communal shelters, toilets and parking lots; (halte routière ou aire de pique-nique)

“restaurant or accommodation site” means a site that includes a dwelling offering restaurant or accommodation services on a commercial basis, or an area where an establishment has been constructed offering lodging for hunting and fishing activities on a commercial basis; (site de restauration ou d'hébergement)

“riparian ecotone” means the transitional area between the water environment and the arborescent vegetation, characterized by the muscinal, herbaceous or shrubby vegetation of wetlands and sometimes including a few scattered trees; (écotone riverain)

“salt lick” means the site of a swamp, spring or body of water, including a strip of land 100 m wide surrounding the site, that is frequented by moose and where mineral salts occur in concentrations greater than 3 parts per million of potassium and greater than 75 parts per million of sodium; (vasière)

“salvage cutting following a destructive agent” means the felling or harvesting of trees in a stand that has deteriorated as a result of a natural disaster, such as an insect infestation, a cryptogamic disease, a forest fire or a windfall, in order to salvage the timber which would otherwise be lost and to prevent the propagation of insects or diseases; (coupe de récupération à la suite d'un agent destructeur)

“sand pit” means an open-air site where unconsolidated substances such as sand, gravel and soil are extracted from surface deposits; (sablière)

“sanitary landfill and in-trench disposal site” means an elimination site within the meaning of paragraph 1 of section 1 of the Regulation respecting solid waste (chapter Q-2, r. 13); (site d'enfouissement sanitaire et de dépôts en tranchées)

“scenic route” means a highway corridor identified as the principal interregional access road or itinerary proposed on the map of the tourist guide published jointly by the Government and the regional tourism associations; (circuit panoramique)

“snowmobile trail” means a snowmobile trail within the meaning of paragraphs h, i and j of section 1 of the Regulation respecting snowmobiles (R.R.Q., 1981, c. C-24, r. 21), used every year and indicated in the 5-year forest management plan; (sentier de motoneige)

“sojourn area” means an area regularly frequented by natives and located along a boat access route to trapping grounds, at the meeting point of a portage trail and a river or lake, identified by a native community and indicated in the 5-year forest management plan; (aire de séjour)

“strip cutting with regeneration and soil protection” means cutting with regeneration and soil protection carried out in strips not more than 60 m wide and leaving an uncut strip at least as wide as the cut strip; (coupe par bandes avec protection de la régénération et des sols)

“territorial reference unit” means a common area or a subdivision thereof forming a single block and measuring less than 100 km² in the case of the hardwood forest zone, less than 300 km² in the case of the fir and mixed forest zone and less than 500 km² in the case of the spruce forest zone, those zones being described in Schedule 1 and indicated in the general forest management plan referred to in Chapter III of the Forest Act; (unité territoriale de référence)

“watercourse” means any permanent or intermittent watercourse that is situated on lands in the domain of the State and that flows in the bed of a watercourse; (cours d'eau)

“waterfowl gathering area” means a site, measuring at least 25 ha, constituted by a swamp, a floodplain delimited by the 2-year mean high-water level, an intertidal zone, an aquatic plant community or a band of water not more than 1 km wide as measured from the low-water mark, that is frequented by geese or ducks during nesting or migration seasons and where there are at least 50 birds of those species per kilometre measured along a straight line between the 2 most distant points of the shoreline or 1.5 birds per hectare; where the limits of a floodplain cannot be established as indicated, they shall correspond to the natural high-water mark; (aire de concentration d'oiseaux aquatiques)

“water intake” means a site comprising a water intake subject to the Regulation respecting the quality of drinking water (chapter Q-2, r. 40) and the 60 m strip of vegetation surrounding it; (prise d'eau)

“white-tailed deer yard” means a wooded area measuring at least 250 ha where white-tailed deer gather during the period when the snow cover exceeds 40 cm in the part of the territory south of the St. Lawrence River and west of the rivière Chaudière and 50 cm elsewhere; (aire de confinement du cerf de Virginie)

“wilderness campground” means a site developed for camping with no running water or electricity service; (camping rustique)

“winter road” means a road the composition of whose roadway limits its use solely to the period during which the ground is frozen to a depth of at least 35 cm. (chemin d'hiver)

For the purposes of this Regulation, an outdoor recreation centre, a developed or semi-developed campground, a wilderness campground, an ecological or nature interpretation centre, an accommodation centre, a rest area or picnic ground, an engineered landfill, trench landfill or remote landfill, an interregional trail or outlying trail of the concentrated networks, a public beach, a water intake, a concentrated trail network, a snowmobile trail, an all-terrain vehicle trail, a dock and boat ramp site, a sanitary landfill and in-trench disposal site, an observation area, a restaurant or accommodation site, a downhill skiing site, a grouped vacation site, a complementary vacation site and a fish hatchery are those for which a right has been granted under a statute or a regulation of the Government.

O.C. 498-96, s. 1; O.C. 647-2001, s. 52; O.C. 439-2003, s. 1; O.C. 456-2005, s. 1; .

DIVISION II

PROTECTION OF SHORES, BANKS, LAKES AND WATERCOURSES

2. A holder of a management permit shall preserve a buffer strip 20 m wide along the banks of a peat bog with a pond, of a swamp, of a marsh, of a lake or of a permanent watercourse, as measured from the line of the stands adjacent to the riparian ecotone.

This section does not apply to any section of the banks of the peat bog located more than 500 m from a pond, or to a holder of a management permit for mining activities where he is carrying out mining activities, to a holder of a management permit for a wildlife or recreational development project, or to a holder of a management permit for public utility works, or in the cases provided for in section 17.

O.C. 498-96, s. 2.

3. A holder of a management permit for public utility works who builds a power line or a gas pipeline requiring the deforestation of the buffer strip shall preserve the stumps, shrubs and grass in that strip, or reestablish such vegetation.

O.C. 498-96, s. 3.

4. Notwithstanding section 2, a holder of a management permit may harvest trees in a stand located in the buffer strip if the land in the strip has a slope of less than 40%.

Notwithstanding the foregoing, when harvesting the trees, the permit holder shall not reduce the number of standing live trees per hectare to less than 500 trees of all species having a diameter of 10 cm or more, as measured at a height of 1.3 m above the highest ground level. Cutting with regeneration and soil protection, strip cutting with regeneration and soil protection and block cutting are, however, prohibited in the buffer strip.

Notwithstanding the second paragraph, in the case of the stands of species referred to in Part B of Schedule 2, the intensity of the cutting shall be identical to that in the adjacent management sectors having such forests, without reducing the basal area to less than 14 m²/ha.

O.C. 498-96, s. 4; O.C. 439-2003, s. 2.

5. Notwithstanding section 2, where a forest camp is set up near a lake or a permanent watercourse, a holder of a management permit may clear not more than 3 visual openings in the buffer strip. None of those visual openings may exceed 10% of the part of the camp facing the lake or watercourse.

The permit holder shall preserve the stumps, grass and advance growth in those openings.

Within all of those openings, the permit holder may lay out only 1 road, not wider than 5 m, leading to the lake or watercourse.

O.C. 498-96, s. 5.

6. Notwithstanding section 2, a holder of a management permit for mining activities who lays out an access to a peat bog with a pond, to a swamp, to a marsh, to a lake or to a permanent watercourse in order to carry out mining

exploration activities or to install equipment required by such operations or a holder of a management permit who digs a drainage ditch for silvicultural purposes may clear an opening not wider than 5m in the buffer strip.

A holder of a management permit for mining activities shall preserve the stumps, grass and advance growth in that opening.

O.C. 498-96, s. 6.

DIVISION III PROTECTION OF WATER QUALITY

7. No person may operate machinery used in a forest management activity in a strip of land 5 m wide on both sides of an intermittent watercourse, except for the construction, improvement or maintenance of a road, the digging of a drainage ditch for silvicultural purposes or the installation or maintenance of infrastructures.

O.C. 498-96, s. 7; O.C. 1406-98, s. 1.

8. A holder of a management permit who carries out a forest management activity beside a lake, a watercourse or a fish habitat shall remove any trees or parts of trees that fall into the lake, watercourse or fish habitat during the carrying out of such activity.

O.C. 498-96, s. 8.

9. A holder of a management permit who lays out a trail across a watercourse or a fish habitat shall install bridging. At the end of the work, the permit holder shall remove the bridging.

The first paragraph does not apply to a person who lays out an ice bridge, provided that he stabilizes the banks with log mats that are interconnected and are installed across the full width of the trail. Upon completion of the work, he shall leave those mats in place and, if necessary, remove the log frame that was used to reinforce the ice bridge.

O.C. 498-96, s. 9.

10. When harvesting trees or using a winter road, a holder of a management permit shall block the runoff from the surface of that road and the water flowing in the ruts of the hauling trails channelling surface water into the hydrographic system, and shall divert that water towards a vegetation area located at least 20 m from any lake or watercourse, as measured from the natural high-water mark.

O.C. 498-96, s. 10.

11. Every person digging a drainage ditch for silvicultural purposes shall construct a settling pond at least 20 m from the watercourse into which the ditch flows and shall drain that pond where the height of the water above sediments is less than 30 cm over at least 50% of the pond area.

Notwithstanding the foregoing, no person may dig a drainage ditch for silvicultural purposes in a waterfowl gathering area or in a muskrat habitat.

O.C. 498-96, s. 11.

12. No person may clean or wash machinery in or within 60 m of a lake, a watercourse or a fish habitat, nor park or operate machinery on the ground cover referred to in section 18.

O.C. 498-96, s. 12.

DIVISION IV LAYOUT AND USE OF PILING, LOPPING AND SAWING AREAS

13. Subject to section 14, a holder of a management permit may not lay out a piling, lopping or sawing area in a

forest along a highway corridor between the buffer strips referred to in paragraph 2 of section 47 or within 20 m of any lake, watercourse of fish habitat, as measured from the natural high-water mark, or over more than 25% of the length of both sides of a road running through stands of species referred to in Part B of Schedule 2.

Where the buffer strips referred to in the first paragraph do not have to be preserved, in accordance with paragraph 2 of section 47 or with section 79, the permit holder may not lay out the area referred to in the first paragraph over a width equivalent to four times the width of the roadway, including the roadway and equally distributed on both sides of the centre of the roadway.

The permit holder shall divert runoff from that area towards a vegetation area.

When stripping the soil for piling purposes, the permit holder shall pile up organic matter for later reuse not closer than within 20 m of any lake or watercourse. After the area is abandoned, he shall respread the organic matter that has been piled up.

Within 2 years after it is abandoned, the permit holder shall ensure that the area is regenerated with commercial species and that the distribution coefficient of such regeneration, established in accordance with section 90, is at least equal to the coefficient existing before the cutting of the species over that area.

The permit holder shall also ensure, within the deadlines indicated in the management manual for the adjacent territory, that that coefficient is maintained.

The fourth and fifth paragraphs do not apply to the piling area of logs harvested by partial cutting.

O.C. 498-96, s. 13.

14. In order to launch and float timber, a holder of a management permit may install a piling and sawing area as well as a timber launching structure along a lake or watercourse, in accordance with the following conditions:

- (1) the area must be used for more than 3 years;
- (2) before using the area, the permit holder must remove organic matter and pile it up for later reuse at a distance of more than 20 m from the lake or watercourse, as measured from the natural high-water mark;
- (3) if the permit holder raises the level of the ground along the watercourse or lake, he must construct a retaining wall;
- (4) the permit holder may clear the bank or shore along a maximum length of 300 m where a single mobile slasher is used, 450 m where 2 mobile slashers are used and 600 m where more than 2 mobile slashers are used;
- (5) where the permit holder clears the shore or bank for 450 or 600 m, he must use the mobile slashers concurrently for at least 4 months a year;
- (6) the permit holder must pile the waste from sawing operations at a distance of more than 20 m from the lake or watercourse, as measured from the natural high-water mark;
- (7) the permit holder must divert the drainage water from that area towards a vegetation area located at least 20 m from the lake or watercourse, as measured from the natural high-water mark; and
- (8) the permit holder must preserve a buffer strip 30 m wide between the forest road and the piling and sawing area. Notwithstanding the foregoing, he may harvest trees therein in accordance with section 4.

When the area is abandoned, the permit holder shall clean it of all materials, infrastructures or waste and then respread the organic matter that has been piled up.

Within 2 years after it is abandoned, the permit holder shall ensure that the area is regenerated with commercial species and that the distribution coefficient of such regeneration, established in accordance with section 90, is at

least equal to the coefficient existing before the cutting of the species over that area.

The permit holder shall also ensure, 8 years after the area is abandoned, that the coefficient is maintained.

O.C. 498-96, s. 14.

15. No person may carry out an activity referred to in section 14 in the following territorial units:

- (1) a caribou calving area north of the 52nd parallel;
- (2) a waterfowl gathering area;
- (3) a cliff inhabited by a colony of birds;
- (4) a heronry;
- (5) an island or peninsula inhabited by a colony of birds; and
- (6) a salt lick.

O.C. 498-96, s. 15.

DIVISION V

LOCATION AND CONSTRUCTION OF ROADS

16. Every person constructing or improving a road other than a winter road shall respect the natural drainage of the soil by installing a culvert to maintain the normal flow of water. The diameter or span of the pipe of such culvert shall be at least 30 cm. The end of the culvert shall extend at least 30 cm beyond the base of the fill supporting the road and the fill in that location shall be stabilized at the same time. If the culvert is made of wood, its span may not exceed 1 m.

O.C. 498-96, s. 16.

17. In a waterfowl gathering area, no person may construct a road within 60 m of a lake or a permanent watercourse or within 30 m of an intermittent watercourse, as measured between the natural high-water mark and the ditch on the side of the road closer to the watercourse or lake.

In places where the soil is impervious hardpan, the distance referred to in the first paragraph shall be at least 4 times the number of metres corresponding to the height of the slope of the lakeshore or the bank of the watercourse, with a minimum of 60 m.

Where the topography or hydrography of the site makes it impossible to respect those distances, those situations shall be specifically approved by the Minister and, in the case of a holder of a management permit, shall be indicated in the annual management plan.

In the situations described in the third paragraph, a written application shall be filed justifying an exemption from the first or second paragraph and indicating the protection measures for the aquatic environment.

The Minister of Natural Resources and Wildlife shall consult the Minister of Sustainable Development, Environment and Parks where the situations described in the third paragraph require the construction of a road within 20 m of the lake or watercourse. Construction of a road within 5 m of a permanent watercourse or a lake requires authorization by the Minister of Sustainable Development, Environment and Parks.

Where a road is constructed or improved within 60 m of a lake or a permanent watercourse or within 30 m of an intermittent watercourse or at a lesser distance than that referred to in the second paragraph in such a way that the road runs alongside the lake or watercourse in accordance with the third paragraph, the slope of the road's embankment on the side closer to the lake or watercourse shall be reduced to a ratio of at least 1.5(H): 1(V) and,

where the erosion of that embankment entails a risk of carrying sediments into a watercourse, a lake or a fish habitat, the slope of that embankment shall be stabilized using the usual techniques, such as those referred to in section 25.

The sixth paragraph of this section does not apply to anyone who stabilizes the embankment referred to in that paragraph with a geotextile membrane and riprap.

Every person shall preserve the ground cover and the stumps within the distances prescribed in the first paragraph, except in a sand pit and on the site of the road to be constructed (including the roadway, the shoulders and the slopes of the road's embankments) and where clearing is required for the road.

In places where the soil is impervious hardpan, every person shall leave the hardpan intact and preserve the humus, except for the place occupied by a road constructed in accordance with the provisions of the second paragraph or when constructing a road crossing a watercourse.

O.C. 498-96, s. 17.

18. Every person constructing or improving a road that crosses a watercourse shall preserve the ground cover and the stumps within 20 m of the watercourse, outside the roadway, the shoulders and the slopes of the road's embankment, as measured from the natural high-water mark.

At that same time, the slope of the road's embankment, between the banks of the watercourse and under the depth of flow for which the embankment was designed, shall be stabilized with a geotextile membrane covered with riprap or a retaining wall.

The slope of the road's embankment not covered by the second paragraph shall be reduced to a ratio of at least 1.5(H): 1(V), and that embankment shall be stabilized using the usual techniques, such as those referred to in section 25, within 20 m from the watercourse referred to in the first paragraph and above the watercourse if the road structure includes an embankment.

The third paragraph of this section does not apply to anyone who stabilizes the embankment referred to in that paragraph with a geotextile membrane and riprap.

O.C. 498-96, s. 18.

19. Every person constructing or improving a road on land whose slope is greater than 9%, where the foot of the slope is less than 60 m from a watercourse or lake, shall divert runoff from ditches at least every 65 m towards a vegetation area. Where runoff has to be diverted from one side of the road to the other, a culvert shall be installed measuring at least 30 cm in diameter or the equivalent in terms of cross-sectional flow area.

At that same time, the slope of the road's embankment shall be reduced to a ratio of at least 1.5 (H): 1(V), and that embankment shall be stabilized using the usual techniques, such as those referred to in section 25.

The second paragraph of this section does not apply to anyone who stabilizes the embankment referred to in that paragraph with a geotextile membrane and riprap.

O.C. 498-96, s. 19.

20. When constructing or improving a road, no person may excavate soil over a width greater than 4 times the width of the roadway.

Notwithstanding the foregoing, a person may open or work a sand pit in accordance with sections 21, 22 and 23.

In the stands of species referred to in Part B of Schedule 2, the right-of-way of the road shall be cleared over a width of less than 30 m, except where a piling, lopping or sawing area is laid out in accordance with section 13.

In all other forest stands that are not covered by the third paragraph and have not reached maturity, the right-of-way of the road may not be cleared over a width greater than 4 times the width of the roadway.

O.C. 498-96, s. 20.

21. Every person working or opening a sand pit while constructing, improving or maintaining a road shall completely clear the required part of the site before using it, remove and pile up the organic matter for later reuse not closer than within 20 m of a lake, a watercourse or a fish habitat and extract the non-consolidated substances in the part that is the most distant from any lakeshore or the bank of any watercourse.

The person shall divert runoff towards a vegetation area located at least 20 m from any lake or watercourse, as measured from the natural high-water mark.

After the sand pit is abandoned, the person shall reduce its slopes, clear the surface of the site of debris, waste, machine parts and other litter and then respread the organic matter that has been piled up.

Where the sand pit is located south of the 52nd parallel, the person shall, within 2 years after it is abandoned, ensure that the area is regenerated with commercial species and that the distribution coefficient of such regeneration, established in accordance with section 90, is at least equal to the coefficient existing before the cutting of the species over that area.

The person shall also ensure that the coefficient is maintained 8 years after the area is abandoned.

Where the sand pit is located north of the 52nd parallel, the person shall ensure that the area is regenerated with species adapted to the site as soon as the pit is abandoned.

The abandonment of a sand pit referred to in this section corresponds to 31 March of the year in which the lease referred to in section 140 of the Mining Act (chapter M-13.1) is not renewed or ceases to be in force.

O.C. 498-96, s. 21.

22. In a mossy black spruce stand, no person may work or open a sand pit within 35 m of a public highway numbered by the Minister of Transport, within 60 m of a lake, a permanent watercourse or a fish habitat, within 100 m of an ecological reserve or a proposed ecological reserve, within 150 m of a dwelling, within 150 m of a developed or semi-developed campground or within 1,000 m of a municipal water intake.

The prohibition set forth in the first paragraph in respect of a mossy black spruce stand does not apply to an activity that is subject to an authorization certificate issued subsequently to a decision by the Government under section 31.1 of the Environment Quality Act (chapter Q-2).

For the purposes of the first paragraph, a dwelling shall be located on a lot leased under section 47 of the Act respecting the lands in the domain of the State (chapter T-8.1), or be erected under section 88 of the Act respecting the conservation and development of wildlife (chapter C-61.1) or be located in a wildlife sanctuary within the meaning of section 111 of that Act.

O.C. 498-96, s. 22.

23. Notwithstanding section 22, a holder of a management permit may, when constructing, improving or maintaining a road, work and open a sand pit at least 10 m from the buffer strip referred to in section 2 and at least 30 m from a fish habitat, provided that the sand pit is not dug lower than the natural high-water mark of the adjacent watercourse or lake.

O.C. 498-96, s. 23.

24. When constructing or improving a road, no person may pile up the soil, debris and materials removed in the space between the shoulder of the road and the limits of its right-of-way, nor dump them outside the limits of that right-of-way. In addition, the ground between the ditch and the outer limit of the right-of-way shall be graded.

For the purposes of this section, the right-of-way may cover a maximum width equivalent to 4 times the width of the roadway.

O.C. 498-96, s. 24.

25. Every person constructing or improving a road shall stabilize the excavated soil and the embankments by soil stabilization techniques harmonizing as far as possible with the natural surroundings, taking into account the intended purpose, where the erosion of such road entails a risk of carrying sediments into a watercourse, a lake or a fish habitat. Such stabilization techniques include, in particular, reforestation, restoration of the ground cover, gabions and riprap using a geotextile membrane where required.

O.C. 498-96, s. 25.

26. Every person constructing or improving a road that crosses a watercourse or a fish habitat shall construct a bridge or install 1 or more culverts, ensuring the free passage of water and fish.

The construction of bridges or the installation of culverts shall not reduce the width of the watercourse by more than 20%, as measured from the natural high-water mark. In the case of culverts, the width ensuring the free flow of water shall correspond to their diameter or their span.

The second paragraph does not apply to a person who makes the calculations referred to in Schedules 3, 4 and 5 to determine which installations are appropriate for crossing the watercourse. In those cases, the installations shall allow the passage of the 10-year instantaneous maximum flow for drainage basins less than 60 km² in area and of the 20-year daily peak flow for drainage basins more than 60 km² in area without reducing the width of the watercourse by more than 50%.

The 10-year instantaneous maximum flow for basins less than 60 km² in area shall be calculated using the method described in Schedule 3. The 20-year daily peak flow for basins more than 60 km² in area shall be calculated using the method described in Schedule 4.

The required size of culverts shall be determined using the table in Schedule 5, which takes into account the fact that the depth of flow for which the culvert was designed must be equal to or less than 85% of the vertical clearance available after the culverts are buried. Any shape of culvert other than circular shall have a cross-sectional flow area at least equal to that of the size required according to that Schedule. The roadway shall be at an elevation higher than the depth of flow for which the culvert was designed and the embankment of such road shall be stabilized, during the construction of the road, between its base and that depth of flow as provided for that purpose in section 18.

The construction of bridges or the installation of culverts shall not be allowed to cause erosion in the watercourse. In addition, those works shall be stabilized against any potential risk of erosion.

Every culvert referred to in this section shall have a diameter or span of at least 45cm. The span of a wood culvert shall be less than 1 m and its top and sides shall be covered with a geotextile membrane. The height of a wood culvert shall be greater than 80% of its span.

O.C. 498-96, s. 26.

27. Notwithstanding section 26, the holder of a management permit who lays out and uses, during the freezing period, a winter road across a watercourse or a fish habitat may install bridging or lay out an ice bridge. Such bridging shall be seated on log mats installed above the natural high-water mark in order to prevent it from sinking into the ground, thus ensuring that it can be removed before the end of winter. In addition, the ground cover of the banks shall be preserved. If the bridging must be covered with unconsolidated or frost-susceptible material, the permit holder shall first cover it with a geotextile membrane.

At the end of the work, the permit holder shall remove the bridging in order to prevent sediments from being carried into the watercourse and shall leave the mats in place.

Where the permit holder lays out an ice bridge, he shall stabilize the banks with interconnected log mats installed across the full width of the roadway. At the end of the work, he shall leave the mats in place and in the spring shall remove any log frame that was used to reinforce the ice bridge.

O.C. 498-96, s. 27.

28. Every person installing a culvert with a bottom in a watercourse or a fish habitat shall ensure that the culvert is installed following the slope of the bed of the watercourse and that the inner wall of its base is located below the natural bed of the watercourse at a depth equivalent to 10% of the culvert's height, except in locations where the conditions of the soil make it impossible to install it at such a depth.

O.C. 498-96, s. 28.

29. Every person installing a culvert with a bottom in a fish habitat shall ensure that the slope of the bed of the fish habitat is less than 1% if the length of the bridging does not exceed 25 m and is less than 0.5% if the length exceeds 25 m.

Where the slope of the watercourse is in excess of the slope referred to in the first paragraph, mitigation measures such as the installation of culverts with a diameter greater than the diameter calculated using Schedules 3, 4 and 5, the construction of a bridge, the installation of an arch culvert or the placement of deflectors inside the culverts shall be used to ensure the free passage of fish.

This section does not apply to a person who installs a culvert in accordance with the second paragraph of section 26.

O.C. 498-96, s. 29.

30. Where a person installs culverts parallel to one another, he shall space the culverts at least 1 m apart.

It is prohibited to enlarge a watercourse.

O.C. 498-96, s. 30.

31. Every person installing a culvert in a watercourse or a fish habitat shall ensure that the end of the culvert extends beyond the base of the fill supporting the road without exceeding 30 cm and shall stabilize that fill. Except for rectangular culverts made of reinforced concrete, he shall also backfill above the culvert up to a height equivalent to the diameter or span of the culvert divided by 4, plus 30 cm, for culverts with a diameter or span of 600 mm or less, or equivalent to the diameter or span of the culvert divided by 4, with a minimum of 60 cm for culverts with a diameter or span of 700 to 3,600 mm, or at least 1.5 m for structural plate culverts whose diameter or span is greater than 3,600 mm.

O.C. 498-96, s. 31.

32. Every person installing a culvert in a watercourse or a fish habitat shall ensure that the bed of the watercourse is stabilized at the intake and at the outlet of the culvert and that the passage of fish is not obstructed.

Where the holder of a management permit, a manager of an outfitting operation, of a controlled zone or of a wildlife sanctuary within the meaning of sections 86, 104 and 111 of the Act respecting the conservation and development of wildlife (chapter C-61.1), or an undertaking that carries out mining activities or public utility works regularly uses a road crossing a watercourse, that person or undertaking shall ensure that the bed of the watercourse is stabilized at the intake and at the outlet of the culvert and that the condition of the culvert allows water to flow freely.

O.C. 498-96, s. 32.

33. Every person installing a culvert or constructing a bridge over the watercourse of a developed canoe-camping course, downriver canoeing course or boat access route to trapping grounds shall ensure that its minimum clearance is at least 1.5 m above the natural high-water mark.

O.C. 498-96, s. 33.

34. Every person installing a culvert in a watercourse or in a fish habitat shall ensure, at the time of installation, that diversion structures, such as channels and dikes, do not obstruct the passage of fish. At the end of the work, the

person shall remove the dikes and fill in any channels that were used to divert a watercourse and are no longer in use.

O.C. 498-96, s. 34.

35. Where a person constructs a road crossing a lake or a bay within a lake, he shall construct a bridge.

This section does not apply to an activity that is subject to an authorization certificate issued subsequently to a decision by the Government under section 31.1 of the Environment Quality Act (chapter Q-2).

O.C. 498-96, s. 35.

36. Every person constructing or improving a bridge to cross a watercourse or a fish habitat shall ensure, at the time of the work, that diversion structures, such as channels, dikes and caissons, do not obstruct the passage of fish or reduce the width of the watercourse by more than $\frac{2}{3}$, as measured from the natural high-water mark. At the end of the work, he shall remove the dikes and fill in any channels that were used to divert the watercourse and are no longer in use.

O.C. 498-96, s. 36.

37. Work in a fish habitat for the installation of a structural plate culvert or for the construction or improvement of a bridge shall not be carried out during the upstream migration of fish.

O.C. 498-96, s. 37.

38. Every person constructing or improving a bridge to cross a watercourse or a fish habitat shall stabilize the bed of the watercourse around the bridge's abutments and pillars.

O.C. 498-96, s. 38.

39. The construction of a bridge or the installation of a culvert or bridging is prohibited in a spawning area or within 50 m upstream of a spawning area indicated in the annual management plan.

This section does not apply to an activity that is subject to an authorization certificate issued subsequently to a decision by the Government under section 31.1 of the Environment Quality Act (chapter Q-2).

O.C. 498-96, s. 39.

40. Every person constructing or improving a road that crosses a watercourse or a fish habitat shall ensure that the water in the ditches is diverted outside the right-of-way towards a vegetation area located at least 20 m from the watercourse, as measured from the natural high-water mark.

O.C. 498-96, s. 40.

DIVISION VI FOREST CAMPS

41. A holder of a management permit may not set up a forest camp area in a heronry or within 30 m of a lake or a permanent watercourse, as measured from the line of the stands adjacent to the riparian ecotone around the lake or along the watercourse.

O.C. 498-96, s. 41.

42. A holder of a management permit who sets up a forest camp area shall remove and pile up organic matter for later reuse not closer than within 20 m of any lake, watercourse or fish habitat.

When the forest camp area is abandoned, the permit holder shall clean it of all materials, infrastructures and waste

and then respread the organic matter that has been piled up.

Where the forest camp area is located south of the 52nd parallel, the permit holder shall, within 2 years after it is abandoned, ensure that the area is regenerated with commercial species and that the distribution coefficient of such regeneration, established in accordance with section 90, is at least equal to the coefficient existing before the cutting of the species over that area.

The permit holder shall also ensure that the coefficient is maintained 8 years after the area is abandoned.

Where that area is located north of the 52nd parallel, the permit holder shall ensure that the area is regenerated with species adapted to the conditions of the area as soon as it is abandoned.

O.C. 498-96, s. 42.

DIVISION VII FOREST MANAGEMENT ACTIVITIES IN RELATION TO RESOURCES TO BE PROTECTED AND CERTAIN TERRITORIAL UNITS

43. A holder of a management permit may not carry out forest management activities in the following territorial units:

- (1) a caribou calving area north of the 52nd parallel;
- (2) an outdoor recreation centre;
- (3) a developed or semi-developed campground;
- (4) a wilderness campground;
- (5) an accommodation centre;
- (6) a cliff inhabited by a colony of birds;
- (7) a muskrat habitat;
- (8) a rest area or picnic ground;
- (9) an island or peninsula inhabited by a colony of birds;
- (10) an observatory;
- (11) a public beach;
- (12) an observation area;
- (13) a dock and boat ramp site;
- (14) a restaurant or accommodation site;
- (15) a burial site;
- (16) a downhill skiing site;
- (17) a grouped vacation site;
- (18) a complementary vacation site;

- (19) a proposed site referred to in subparagraphs 2, 3, 5, 11 to 14 and 16 to 18 and indicated in a regional vacation development plan prepared by the Minister;
- (20) a fish hatchery; and
- (21) a salt lick.

This section does not apply to a holder of a management permit for mining activities, except where the purpose of the mining activities is to extract surface mineral substances for the construction of roads.

O.C. 498-96, s. 43.

44. A holder of a management permit may not carry out forest management activities on a water intake or in a proposed ecological reserve or archaeological site.

The Minister of Natural Resources and Wildlife may, in respect of an archaeological site, exempt a holder of a management permit from the application of the first paragraph after having obtained the authorization of the Minister of Culture, Communications and the Status of Women, who shall evaluate the cultural interest of that site before granting such authorization.

O.C. 498-96, s. 44.

45. Where forest management activities are carried out in an archaeological sector, except for archaeological sites to which section 44 applies, a holder of a management permit shall leave the soil intact. He shall harvest trees during the period of the year when the grounds is frozen to a depth of at least 35 cm, by carrying out cuttings that promote natural regeneration.

The Minister of Natural Resources and Wildlife may exempt a holder of a management permit from the application of the first paragraph after having obtained the authorization of the Minister of Culture, Communications and the Status of Women, who shall evaluate the cultural interest of that sector before granting such authorization.

O.C. 498-96, s. 45.

46. A holder of a management permit shall preserve a buffer strip 60 m wide around the following territorial units:

- (1) an outdoor recreation centre;
- (2) a developed or semi-developed campground;
- (3) a wilderness campground;
- (4) an accommodation centre;
- (5) a rest area or picnic ground;
- (6) an observatory;
- (7) an ecological reserve, except where the boundary of the reserve is delimited by a road;
- (8) a proposed ecological reserve, except where the boundary of the reserve is delimited by a road;
- (9) an observation area;
- (10) a dock and boat ramp site;
- (11) a restaurant or accommodation site;

(12) a complementary vacation site;

(13) a grouped vacation site; and

(14) a classified heritage site.

O.C. 498-96, s. 46.

47. A holder of a management permit shall preserve a buffer strip

(1) 30 m wide around a sanitary landfill and in-trench disposal site or an engineered landfill, trench landfill and remote landfill;

(2) 30 m wide on both sides of a road identified as a highway corridor, until regeneration is established in the cutting area adjacent to that buffer strip and has reached an average height of 3 m;

(3) 30 m wide on both sides of an access path to an observation area, an interregional trail or an outlying trail of the concentrated networks specifically deforested for those purposes;

(4) 20 m wide on both sides of the portage trails comprised in a developed canoe-camping course specifically deforested for those purposes; and

(5) 30 m wide around a burial site.

O.C. 498-96, s. 47; O.C. 456-2005, s. 2.

48. A holder of a management permit who carries out forest management activities during the winter shall leave intact a buffer strip 60 m wide around a bear den. That strip may be harvested outside of winter.

O.C. 498-96, s. 48.

49. Where a sojourn area is located in a forest management unit, a holder of a management permit who carries out forest management activities shall leave intact an area 40 m by 100 m, including the buffer strip preserved on the shores of a lake or the banks of a watercourse.

O.C. 498-96, s. 49.

50. Where a camp erected under section 88 of the Act respecting the conservation and development of wildlife (chapter C-61.1) is set up permanently in a forest management unit, a holder of a management permit who carries out forest management activities shall leave intact an area of 4,000 m², including the camp area, up to a maximum of 2 camps per area assigned to the holder of exclusive trapping rights. The camps shall be indicated in the 5-year forest management plan.

O.C. 498-96, s. 50.

51. Where a camp established under the Act respecting hunting and fishing rights in the James Bay and New Québec territories (chapter D-13.1) or any camp used to trap in beaver reserves is set up permanently in a forest management unit, a holder of a management permit who carries out forest management activities shall leave intact an area of 40,000 m², including the camp area, up to a maximum of one camp per 100 km² unit per trapping area, where the camps are identified by a native community and indicated in the 5-year forest management plan.

O.C. 498-96, s. 51.

52. A holder of a management permit shall leave intact the lands leased under section 47 of the Act respecting the lands in the domain of the State (chapter T-8.1).

O.C. 498-96, s. 52.

53. A holder of a management permit shall preserve a buffer strip 60 m wide around a refuge established on land in respect of which a right has been issued under the Act respecting the lands in the domain of the State (chapter T-8.1) or under sections 88 and 118 of the Act respecting the conservation and development of wildlife (chapter C-61.1) and used as a shelter by users of a concentrated trail network, an interregional trail or an outlying trail of the concentrated networks or by users of a snowmobile trail or an all-terrain vehicle trail.

O.C. 498-96, s. 53.

54. Where forest operations are carried out on land adjacent to a buffer strip referred to in sections 46, 47 and 53, a holder of a management permit may harvest trees in that strip in accordance with section 4.

O.C. 498-96, s. 54.

55. When harvesting the trees adjacent to a snowmobile trail, an all-terrain vehicle trail or a portage trail of a boat access route to trapping grounds or when harvesting trees in the buffer strip adjacent to a portage trail of a developed canoe-camping course, an interregional trail or an outlying trail of the concentrated networks, a holder of a management permit shall remove any trees or parts of trees that fall on those trails while forest management activities are being carried out.

O.C. 498-96, s. 55.

56. No person may use, for hauling or trucking purposes, a snowmobile trail, an all-terrain vehicle trail, a portage trail of a boat access route to trapping grounds, a portage trail of a developed canoe-camping course or a hiking trail of an interregional trail or an outlying trail of the concentrated networks that has been specifically deforested for those purposes.

O.C. 498-96, s. 56.

57. Where forest management activities are carried out on the land adjacent to a snowmobile trail, an all-terrain vehicle trail, a portage trail of a boat access route to trapping grounds, a portage trail of a developed canoe-camping course or a hiking trail of an interregional trail or an outlying trail of the concentrated networks, the holder of a management permit shall restore the trail if it has been damaged during hauling.

In a buffer strip preserved along a highway corridor, a portage trail of a developed canoe-camping course, an interregional trail or an outlying trail of the concentrated networks, a holder of a management permit may not lay out a hauling trail or a road in those strips, unless it is located more than 250 m from any other hauling trail or road. Deforestation for that purpose may not exceed the width of the hauling trail or the width of the road, including the roadway, the embankments and the ditches.

O.C. 498-96, s. 57.

58. A holder of a management permit shall preserve a visual setting along a scenic route and around the following territorial units:

- (1) a heritage site declared;
- (2) (obsolete, 2011, c. 21, s. 245);
- (3) an outdoor recreation centre;
- (4) a developed or semi-developed campground;
- (5) an accommodation centre;
- (6) the most densely populated part of a community;
- (7) a rest area or picnic ground;

- (8) a public beach;
- (9) an observation area;
- (10) a dock and boat ramp site, where that territorial unit includes restaurant and accommodation infrastructures in its service areas;
- (11) a downhill skiing site;
- (12) a complementary vacation site;
- (13) a grouped vacation site; and
- (14) a proposed site referred to in subparagraphs 3 to 5 and 8 to 13 and indicated in a regional vacation development plan prepared by the Minister.

The visual setting corresponds to the landscape visible according to the topography of the land up to a distance of 1.5 km from the limit of such sites.

O.C. 498-96, s. 58.

59. A holder of a management permit who carries out cutting with regeneration and soil protection or block cutting in a visual setting referred to in section 58 shall make at least 3 patches whose perimeters follow the lay of the land and shall ensure that the total area of the patches does not cover more than 1/3 of the area of the visual setting during each third of the cutting cycle of the stands, the purpose of those measures being to preserve the quality of the landscape.

Strip cutting with regeneration and soil protection is prohibited in a visual setting referred to in section 58.

O.C. 498-96, s. 59; O.C. 439-2003, s. 3.

60. In an ecological or nature interpretation centre and in a concentrated trail network, no person may use a hiking trail for hauling or trucking purposes.

The size, in such centres or network, of a management permit holder's single-block area of cutting with regeneration and soil protection, of the total area of the cut and residual strips in an area of strip cutting with regeneration and soil protection or of a block cutting harvest area may not exceed 10 ha. In all cases, the holder of the management permit must preserve a buffer strip at least 30 m wide on both sides of the hiking trails.

When carrying out forest management activities therein, the permit holder shall preserve the natural setting around the equipment and infrastructures already in place and remove any trees or parts of trees that fall on a hiking trail while such activities are being carried out, thereby preserving the destination of those territorial units.

O.C. 498-96, s. 60; O.C. 439-2003, s. 4.

61. Every person shall leave intact an experimental forest, a forest education centre, a research forest and a forest station referred to in sections 107, 110, 112 and 116 of the Forest Act (chapter F-4.1), unless he is carrying out a silvicultural treatment authorized in accordance with sections 108, 111 and 114 of that Act.

O.C. 498-96, s. 61.

62. In a heronry, no person may carry out activities involving

- (1) the application of pesticides for the purpose of controlling an insect infestation or a cryptogamic disease; or
- (2) the cultivation and operation of a sugar bush for acericultural purposes.

O.C. 498-96, s. 62.

63. The site of a heronry and the innermost 200 m of the 500 m strip of land surrounding it shall be left intact.

Within the remaining 300 m, no person may carry out work involving the felling or harvesting of trees, the construction or improvement of roads, the opening and working of a sand pit, preparatory work for forest production purposes, the application of phytocides, pruning or forest drainage between 1 April and 31 July of each year.

Outside the period prescribed in the second paragraph, a road may be constructed or improved, but the roadway of such road may not be wider than 5.5 m.

O.C. 498-96, s. 63.

64. In a heronry and in the innermost 200 m of the 500 m strip of land surrounding it, a holder of a management permit may not carry out activities involving the application of phytocides.

O.C. 498-96, s. 64.

65. In a waterfowl gathering area, no person may carry out activities involving

- (1) the application of pesticides for the purpose of controlling an insect infestation or a cryptogamic disease; or
- (2) the application of phytocides.

O.C. 498-96, s. 65.

66. A holder of a management permit may not carry out activities involving the felling or harvesting of timber, preparatory work for forest production purposes or pruning in the floodplain of a waterfowl gathering area, except during the period from 16 June to 31 March of each year.

The authorized cut during felling or harvesting activities may not exceed 30% of the trees over a 10-year period.

O.C. 498-96, s. 66.

67. Section 43, paragraphs 2 and 3 of section 47, sections 50, 51, 52, 63 and 66 do not apply to a holder of a management permit for a wildlife or recreational development project.

Nor does paragraph 2 of section 47 apply to the holder of a management permit who carries out block cutting on the territory.

O.C. 498-96, s. 67; O.C. 439-2003, s. 5.

68. In a forest and recreation zone other than that referred to in subparagraph 19 of the first paragraph of section 43, a holder of a management permit may not carry out forest management activities, unless he preserves and restores the forest cover by applying silvicultural treatments.

This section applies on a strip of land of a maximum width of 300 m where such an area allows the development of vacation sites or on a strip of land of a maximum width of 500 m where such an area includes a beach.

Such strip of land located around a lake or along a watercourse shall be measured from the natural high-water mark.

O.C. 498-96, s. 68.

69. In an area frequented by caribou south of the 52nd parallel, a holder of a management permit shall leave the vegetation intact in areas used by caribou for calving, breeding or winter feeding. He may not carry out cutting with regeneration and soil protection over an area greater than 50 ha forming a single block.

Where the permit holder carries out strip cutting with regeneration and soil protection, the total area of the cut and residual strips may not exceed 50 ha forming a single block.

The size of a single block in a management permit holder's block cutting harvest area in an area frequented by caribou may not exceed 50 ha.

O.C. 498-96, s. 69; O.C. 439-2003, s. 6.

70. In a white-tailed deer yard, a holder of a management permit may not carry out clear cutting with regeneration and soil protection in hardwood and hardwood-dominant mixed stands over an area greater than 25 ha forming a single block, or in softwood and softwood-dominant mixed stands over an area greater than 10 ha forming a single block.

Where the holder of a management permit carries out strip cutting with regeneration and soil protection, the total area of the cut and residual strips may not exceed 25 ha forming a single block in hardwood and hardwood-dominant mixed stands or exceed 10 ha forming a single block in softwood and softwood-dominant mixed stands.

The size of a single block of a management permit holder's block cutting harvest area in a white-tailed deer yard may not exceed 25 ha in hardwood and hardwood-dominant mixed stands or exceed 10 ha in softwood and softwood-dominant mixed stands.

In addition, the vegetation used by white-tailed deer for shelter and food shall be left intact.

This section does not apply to the holder of a management permit for public utility works who installs a power line or a gas pipeline.

O.C. 498-96, s. 70; O.C. 439-2003, s. 7.

71. In softwood and softwood-dominant mixed stands within a white-tailed deer yard, a holder of a management permit shall leave intact, between 2 areas of clear cutting with regeneration and soil protection or between 2 areas of strip cutting with regeneration and soil protection, a buffer strip at least 60 m wide until the dominant forest cover in those areas has reached an average height of 7 m.

O.C. 498-96, s. 71; O.C. 439-2003, s. 8.

72. When constructing or improving a road within a white-tailed deer yard, a holder of a management permit shall limit deforestation to a width equal to 4 times the width of the roadway, which may not exceed 7.5 m.

O.C. 498-96, s. 72.

73. A holder of a management permit who harvests timber within a white-tailed deer yard shall, in accordance with section 89, leave a space between felling or hauling trails in such a way as to preserve the advance growth of softwood species.

O.C. 498-96, s. 73.

DIVISION VIII

SIZE AND LOCATION OF CUTTING AREAS AND APPLICATION OF SILVICULTURAL TREATMENTS

74. In each of the 3 forest zones described in Schedule 1, the size of a single-block area of cutting with regeneration and soil protection or of the total area of the cut and residual strips of an area of strip cutting with regeneration and soil protection shall

(1) in the hardwood forest zone

(a) be equal to or less than 25 ha for at least 70% of the areas cut using those cutting methods;

- (b) be equal to or less than 50 ha for at least 90% of the areas cut using those cutting methods; and
 - (c) be equal to or less than 100 ha for all areas cut using those cutting methods;
- (2) in the fir and mixed forest zone
- (a) be equal to or less than 50 ha for at least 70% of the areas cut using those cutting methods;
 - (b) be equal to or less than 100 ha for at least 90% of the areas cut using those cutting methods; and
 - (c) be equal to or less than 150 ha for all areas cut using those cutting methods;
- (3) in the spruce forest zone
- (a) be equal to or less than 50 ha for at least 20% of the areas cut using those cutting methods;
 - (b) be equal to or less than 100 ha for at least 70% of the areas cut using those cutting methods; and
 - (c) be equal to or less than 150 ha for all areas cut using those cutting methods.

A single-block cutting area larger than 100 ha shall be shaped so that its length is equal to or greater than 4 times its average width.

Such distribution of the cutting areas applies annually for all the cuttings referred to in the first paragraph and indicated in the approved annual management plan.

O.C. 498-96, s. 74.

75. Until the regeneration of the areas referred to in section 74 is established in those areas in accordance with section 90 and has reached an average height of 3 m, a holder of a management permit shall preserve, between any 2 such areas, a buffer strip at least

- (1) 100 m wide where one of the areas covers 100 to 150 ha; or
- (2) 60 m wide where both areas cover less than 100 ha.

The buffer strip referred to in the first paragraph shall be composed of trees, bushes or brushwood more than 3 m in height and shall serve, in particular, as a visual screen and a corridor for the movement of wildlife.

Where a holder of a management permit carries out cutting referred to in section 74 on the periphery of a salt lick, he shall preserve a buffer strip, in accordance with this section, in such a way that the strip is in contact with the salt lick.

It is prohibited to operate machinery in a buffer strip referred to in the first paragraph, except where provided for in sections 76 and 78.

O.C. 498-96, s. 75.

76. Notwithstanding section 75, a holder of a management permit may harvest trees in the buffer strip referred to in that section. However, that buffer strip shall be

- (1) at least 125 m wide where one of the areas covers 100 to 150 ha; or
- (2) at least 75 m wide where both areas cover less than 100 ha.

Notwithstanding the foregoing, when harvesting trees, the permit holder shall preserve a buffer strip serving as a visual screen and a corridor for the movement of wildlife and he shall not reduce to less than 1,500 trees per hectare

the number of standing live trees of commercial species having a diameter of 2 cm or more, as measured at 1.3 m above the highest ground level.

The deforestation of the felling or hauling trails to carry out the tree harvesting referred to in the first paragraph shall not exceed a width 1.5 times the width of the machinery used.

O.C. 498-96, s. 76.

77. Where a highway corridor, a lakeshore or the bank of a permanent watercourse is used for the preservation of the buffer strip referred to in section 75 or 76, the buffer strips preserved on that shore or bank or along that highway corridor in accordance with sections 2 and 47 shall be widened, on the side opposite the side adjoining the road, watercourse or lake, to the width required under section 75 or 76.

O.C. 498-96, s. 77.

78. The deforestation required by the construction or improvement of a road across the buffer strip referred to in section 75 or 76 may not exceed a width of 35 m.

O.C. 498-96, s. 78.

79. The provisions of paragraph 2 of section 47 and of sections 74 to 78 do not apply to a holder of a management permit who carries out cutting with regeneration and soil protection or strip cutting with regeneration and soil protection if the permit holder preserves, between 2 cutting areas referred to in this section or between such cutting area and a cutting area referred to in section 74, an area equivalent to the largest cutting area, with forest stands composed of trees, bushes or brushwood at least 3 m in height, until regeneration of the cut area is established in accordance with section 90 and has reached an average height of 3 m.

For the purposes of the first paragraph, the size of a single-block area of cutting with regeneration and soil protection or of the total area of the cut and residual strips of an area of strip cutting with regeneration and soil protection shall be less than 50 ha in the hardwood forest zone, 100 ha in the fir and mixed forest zone and 150 ha in the spruce forest zone.

Where a holder of a management permit carries out cutting referred to in the first paragraph on the periphery of a salt lick, the equivalent area preserved in accordance with that paragraph shall be in contact with a part of the salt lick.

O.C. 498-96, s. 79.

79.1. The size of a single-block in a block cutting harvest area must, in each of the 3 forest zones described in Schedule 1, comply with the standards provided for in subparagraph 1, 2 or 3 of the first paragraph of section 74, as the case may be.

Block cutting harvest areas must vary in size and shape.

The distribution of the areas referred to in the first paragraph applies annually for all the harvest areas indicated in the approved annual management plan.

O.C. 439-2003, s. 9.

79.2. A residual forest of block cutting must

- (1) have within the limits of the harvest site an area at least equal to the size of the block cutting harvest areas;
- (2) be at least 200 m wide;
- (3) be constituted of forest stands that are more than 7 m tall;

(4) be constituted of forest stands having a forest cover density higher than 40% or at least 25% without exceeding 40%, provided in that case that the proportion of the residual forest area having such a density is equal to or smaller than 20%, or if the proportion exceeds 20%, is equal to or smaller than the proportion of the forest stands having such a density in forests 7 m tall or more in the harvest site before management;

(5) be constituted of forest stands that are able to produce, as commercial species, a volume of mature rough timber of at least 50 m³/ha or a lower volume, provided in that case that the stands have a composition and area equivalent to those harvested;

(6) be constituted of forest stands belonging in a proportion of at least 20% to the same type of forest cover as those harvested; and

(7) not have been commercially harvested during the last 10 preceding years except in the cases provided for in the second paragraph of section 79.7.

For the purposes of subparagraph 2 of the first paragraph, a road or river may run through the residual forest; the treeless width of such road may not exceed 35 m and the width of the river at the boundaries of the riparian ecotone may not exceed an average of 35 m. The width of such a road or watercourse may not be included in the area of the residual forest nor in the width referred to in subparagraphs 1 and 2 of the preceding paragraph.

Despite subparagraph 3 of the first paragraph, 4 to 7 m tall stands may be scattered throughout the residual forest over less than 20% of the area, provided that the forest is constituted of at least 80% of forest stands more than 7 m tall.

O.C. 439-2003, s. 9.

79.3. Each harvest site and the residual forest having the characteristics set out in section 79.2 must be indicated in the approved annual management plan.

The residual forest indicated in the management plan for a given year may not be used as a residual forest for a subsequent year, for as long as the harvest cannot be carried out in accordance with the provisions of section 79.7.

O.C. 439-2003, s. 9.

79.4. Where the holder of a forest management permit plans and carries out block cutting, cutting with regeneration and soil protection or strip cutting with regeneration and soil protection, the holder must ensure that a forest area made up of trees, bush or shrub 3 m tall or more on average, over at least 200 m in width is located

(1) on the perimeter of a block cutting harvest area except for the part of the perimeter alongside the 20 m forest strip to be left around a lake or alongside a watercourse more 35 m wide;

(2) between a residual forest and a block cutting harvest area to be used as travel corridor for wildlife.

The width of the forest area referred to in the first paragraph may, for the purposes of the first paragraph, be only 100 m if the harvest areas forming a single block are smaller than 25 ha.

The forest area referred to in the preceding paragraphs shall be preserved until the regeneration of the block cutting harvest area, established in accordance with section 90, is 3 m tall or more on average.

O.C. 439-2003, s. 9.

79.5. Where the holder of a management permit carries out block cutting on the periphery of a salt lick, the forest area referred to in section 79.4 must be in contact with part of the salt lick.

O.C. 439-2003, s. 9.

79.6. Deforestation for the purposes of the construction or improvement of a road through the residual forest

referred to in section 79.2 or in the forest area referred to in section 79.4 may not exceed a width of 35 m.

O.C. 439-2003, s. 9.

79.7. The holder of a management permit may not harvest a residual forest until the expiry of a 10-year period after the date on which block cutting was carried out or, if the regeneration established in accordance with section 90 has not yet reached after that period the average height of 3 m, until that regeneration has reached such a height.

The provisions of the first paragraph do not apply to the holder of a forest management permit who carries out either of the following treatments in a residual forest:

- (1) commercial thinning or selection cutting carried out so as to be recognized by the Minister as silvicultural treatments eligible as payment of dues under sections 73.1 and 73.3 of the Forest Act (chapter F-4.1); or
- (2) partial cutting in a mature tree stand or in a stand that will reach maturity in less than 15 years where not more than 35% of the marketable land area of the stand is harvested, provided that after harvesting, a marketable land area of at least 15 m²/ha of well-spaced trees composed of species and proportions similar to those of the initial stand, is maintained.

O.C. 439-2003, s. 9.

79.8. The areas of cutting with regeneration and soil protection, including the total area of the cut and residual strips by strip cutting with regeneration and soil protection and the block cutting harvest areas, must be, during the reference period indicated in the following table, planned and carried out according to the standards provided for in this Regulation that apply to block cutting in a proportion at least equal to the percentage indicated in the table:

Reference period	Percentage of block cutting
From 1 April 2005 to 31 March 2006 and then for each 12-month period beginning on 1 April of a year	60%

O.C. 439-2003, s. 9.

80. The productive forest area of a territorial reference unit where harvesting is carried out shall always be composed of hardwood, mixed or softwood stands more than 7 m in height over at least 30% of that area.

Where the limits of a territorial reference unit are changed following a change in the limits of a common area, the provisions of the first paragraph apply to the new territorial reference unit.

In a territorial reference unit where the stands referred to in the first paragraph cover less than 30% of the area referred to therein, that paragraph does not apply to the deforestation of a road providing access to another territorial reference unit.

O.C. 498-96, s. 80.

81. A holder of a management permit who carries out salvage cutting following a destructive agent within a waterfowl gathering area, a white-tailed deer yard, an area frequented by caribou south of the 52nd parallel or outside the innermost 200 m surrounding the site of a heronry shall comply with the special forest management plan referred to in section 79 of the Forest Act (chapter F-4.1).

O.C. 498-96, s. 81.

82. When constructing or improving a road, constructing a power line, laying out a piling, lopping or sawing area, setting up a forest camp or opening or enlarging a sand pit, a holder of a management permit shall harvest the trees

having a diameter equal to or greater than the diameter specified in the forest management permit or in an authorization, as the case may be.

O.C. 498-96, s. 82.

83. Where forest management activities are carried out on an island that is part of the lands in the domain of the State and that has an area of less than 250 ha or in a forest and recreation zone located on an island of 250 ha or more, a holder of a management permit shall harvest trees in such a way as to preserve everywhere and at all times a forest cover 7 m or more in height.

O.C. 498-96, s. 83.

84. Where forest management activities are carried out in a stand located on an island that is part of the lands in the domain of the State and that has an area of 250 to 500 ha, a holder of a management permit shall carry out cuttings that promote natural regeneration of the stand with commercial species.

In the stand, the size of a management permit holder's single-block area of cutting with regeneration and soil protection, of the total area of the cut and residual strips in an area of strip cutting with regeneration and soil protection or of a block cutting harvest area may not exceed 30 ha. In addition, the permit holder shall ensure that the total area of the cuts does not cover more than $\frac{1}{3}$ of the forest area of the island during each third of the cutting cycle of the stands.

O.C. 498-96, s. 84; O.C. 439-2003, s. 10.

85. A holder of a management permit who carries out partial cutting shall cut the trees covered by the silvicultural treatment. He may not fell or harvest less than 90% of the basal area of those trees of commercial species nor more than 110% of that basal area.

In addition, the permit holder shall protect the trees of commercial species, referred to in Part B of Schedule 2, having a diameter of 10 to 22 cm, as measured 1.3 m above the highest ground level.

O.C. 498-96, s. 85.

86. A holder of a management permit shall comply with the following standards:

(1) trees shall be cut at a height not exceeding 30 cm above the highest ground level, except where snow depth on the ground reaches a height equivalent to a column of water at least 20 cm high; in the latter case, the height of the stumps shall not exceed 60 cm; and

(2) inside a forest management sector, the permit holder shall harvest only trees whose diameter is equal to or greater than that authorized in the management permit.

O.C. 498-96, s. 86.

87. In a forest management sector, a holder of a management permit shall harvest the trees or parts of trees of the species or groups of species listed in his permit and containing a volume of usable ligneous matter, including previously felled trees, lodged or overturned trees and trees affected by fire, insects or disease.

Where cutting is finished in the forest management sector, the permit holder shall inspect the sector and determine the volume of trees or parts of trees referred to in the first paragraph, including the parts of the stumps exceeding the height referred to in section 86 that are usable but are unharvested.

The volume of usable ligneous matter is the sound volume in a piece of timber up to the point where the diameter of that piece of timber becomes less than the minimum top diameter indicated in the annual management permit.

O.C. 498-96, s. 87.

88. Where cutting with regeneration and soil protection, strip cutting with regeneration and soil protection or block cutting is carried out, a holder of a management permit shall recover, in a forest management sector or in the area that was used for piling, lopping and sawing timber, the volume of usable ligneous matter, as defined in section 87, in excess of an average of 3.5 m³ per hectare in each of those areas, within 1 year following the date of expiry of the permit.

Where any other silvicultural treatments are applied, the permit holder shall recover, in a forest management sector or in the area that was used for piling, lopping and sawing timber, the volume of usable ligneous matter in excess of an average of 1 m³ per hectare in each of those areas, within 1 year following the date of expiry of the permit.

In a common operation area referred to in section 55 of the Forest Act (chapter F-4.1), the volume of unharvested usable ligneous matter may not exceed an average of 3.5 m³ per hectare in the case referred to in the first paragraph and an average of 1 m³ per hectare in the case referred to in the second paragraph. Where the volume is greater, permit holders shall recover the usable ligneous matter in accordance with the first or second paragraph, as the case may be.

O.C. 498-96, s. 88; O.C. 439-2003, s. 11.

DIVISION IX FOREST REGENERATION PROTECTION

89. Any cutting without regeneration and soil protection is prohibited.

Where the holder of a management permit carries out cutting with regeneration and soil protection, strip cutting with regeneration and soil protection or block cutting in a forest management sector, the area occupied by the felling and hauling trails shall be less than 25% of the area of the forest management sector.

Notwithstanding the second paragraph, the area occupied by the felling and hauling trails may be greater than 25% without exceeding 33% provided that the holder of the management permit protects, between the hauling trails, the pre-established regeneration with species sought as priority production, so that

- (1) the distribution coefficient of unmerchantable trees that are 5 cm high and taller, after cutting, is greater than 80% of the distribution coefficient of unmerchantable trees before cutting;
- (2) the distribution coefficient of saplings, after cutting, whose diameter at stump height is greater than 2 cm, is greater than 55% of the distribution coefficient of those saplings before cutting; and
- (3) the distribution coefficient of saplings, after cutting, whose diameter at stump height is greater than 6 cm, is greater than 35% of the distribution coefficient of those saplings before cutting.

The diameter at stump height of the saplings is measured 15 cm above ground level.

For the purposes of the third and fourth paragraphs, the holder of the forest management permit must submit the sampling plan of each management sector to the Minister for approval. The holder must also submit every 3 months, or at the latest on the next 30 June depending on whether the snow depth prevents the taking of the regeneration inventory or not, the inventory results per management sector so as to express

- (1) each of the distribution coefficients, before and after cutting, referred to in subparagraphs 1 to 3 of the third paragraph; and
- (2) the occupation rate of the felling and hauling trails.

O.C. 498-96, s. 89; O.C. 439-2003, s. 12.

90. A holder of a management permit shall ensure that the forest management sector where he harvests trees by applying silvicultural treatments is regenerated with commercial species.

Not later than 4 years after that harvest, the permit holder shall ensure that such regeneration is being established with at least the same distribution coefficient as the coefficient existing before the cutting of those species.

That coefficient is the ratio, expressed as a percentage, of the number of parcels of land covering that forest management sector that contain at least 1 stump or tree whose diameter at its base is 10 cm or more for the commercial species listed in Part A of Schedule 2 and 6 cm or more for those listed in Part B of that Schedule.

The parcels of land referred to in the third paragraph are 4 m² for softwood species in Part A of Schedule 2, 9 m² for hardwood species in Part A of that Schedule and 25 m² for the species in Part B of that Schedule.

For the purposes of this section, the size of the parcel is established by taking into account the dominant species before the cutting of the forest management sector.

O.C. 498-96, s. 90.

91. Where the space occupied by a holder of a management permit for public utility works is located south of the 52nd parallel, the permit holder shall, within 2 years following the date of the end of such use, ensure that the space he occupied is regenerated with commercial species and ensure that the distribution coefficient of such regeneration, established in accordance with section 90, is at least equal to the coefficient existing before the cutting of the species over that area.

The permit holder shall also ensure that the coefficient is maintained 8 years after the area is abandoned. Where the work is carried out north of the 52nd parallel, the permit holder shall ensure that the space occupied for those purposes is regenerated with species adapted to the conditions of that space as soon as it is abandoned.

O.C. 498-96, s. 91.

92. A holder of a management permit for mining activities who digs trenches or other excavations for mining exploration activities shall comply with the following standards:

(1) before digging trenches or other excavations, the permit holder shall remove organic matter and pile it up for later reuse more than 20 m from any watercourse or lake, as measured from the natural high-water mark; and

(2) when the trenches or other excavations are abandoned, the permit holder shall fill them in and then respread the organic matter that has been piled up.

O.C. 498-96, s. 92.

93. A holder of a management permit may neither fell and harvest trees on soils described as belonging to drainage class 5 or 6 of Division VII of the document entitled “Le reboisement au Québec: Guide-terrain pour le choix des essences résineuses”, published by the Ministère de l'Énergie et des Ressources in 1988, nor lay out a winter road on an unwooded peat bog covered by that description, unless they are frozen to a depth of at least 35 cm.

O.C. 498-96, s. 93.

94. Notwithstanding section 93, a holder of a management permit may intervene in an unwooded peat bog to help a winter road freeze or to fell and harvest the timber on soils referred to in that section where they are not frozen, provided that he uses machinery whose maximum loaded pressure on the ground is

(1) 25 kPa, where the soil is described as belonging to drainage class 6 in the document mentioned in section 93; or

(2) 40 kPa, where the soil is described as belonging to drainage class 5 mentioned in that document.

This section does not apply to a holder of a management permit for public utility works who builds a dam or a dike or clears submersible ground.

O.C. 498-96, s. 94.

95. A holder of a management permit shall leave intact a mossy black spruce stand having an area of 4 ha or more forming a single block.

This section does not apply to an activity that is subject to an authorization certificate issued subsequently to a decision by the Government under section 31.1 of the Environment Quality Act (chapter Q-2).

O.C. 498-96, s. 95.

96. (Omitted).

O.C. 498-96, s. 96.

97. (Omitted).

O.C. 498-96, s. 97.

SCHEDULE 1

Forest zones

MAPPING OF THE SPRUCE FOREST ZONE⁽¹⁾

MAP NUMBER	SHEET NUMBER			
	NORTH-WEST	NORTH-EAST	SOUTH-EAST	SOUTH-WEST
22-D	16	15, 16		16
22-E	1, 6 to 16	1, 2, 5 to 16	1, 2, 5 to 16	1, 6 to 11, 13 to 16
22-F	4 to 7, 9 to 16	5, 6, 9 to 16	10 to 16	4, 5, 10 to 16
22-G	12 to 15	12 to 14	13	13
32-A	6, 11 to 14	5, 12, 13	12, 13	11 to 14
32-B	9 to 16	9 to 16	9, 11 to 16	9 to 16
32-C	9, 13 to 16	9, 10, 13 to 16	9, 10, 15, 16	9, 16
32-D		16		
32-E	1 to 16	1 to 16	1, 2, 5 to 16	1, 5 to 16
32-F	1 to 16	1 to 16	1 to 16	1 to 16
32-G	1 to 16	1 to 16	1 to 16	1 to 16
32-H	3 to 7, 9 to 16	3 to 6, 9 to 16	4 to 6, 11 to 16	3 to 6, 10 to 16

(1) Sheets covering areas located north of the 50° parallel are part of this zone.

MAPPING OF THE FIR AND MIXED FOREST ZONE

SHEET NUMBER

Regulation respecting standards of forest management for forests in the domain of the State

MAP NUMBER	NORTH-WEST	NORTH-EAST	SOUTH-EAST	SOUTH-WEST
12-E	1 to 3, 5 to 14	1 to 3, 5 to 14	1 to 3, 5 to 14	1 to 3, 5 to 14
12-F	4, 5	4	4,5	4,5
21-E	2, 3, 7, 9, 10, 16	3, 6, 7, 10, 16	4, 6, 7, 10, 11, 16	3, 7, 9, 16
21-K	12, 13	13	13	12, 13
21-L	1, 8, 9, 16	1, 7 to 10, 16	1, 7 to 10	1, 8, 9, 16
21-M	2 to 7, 9 to 16	1 to 7, 9 to 16	1, 3 to 7, 10 to 16	3 to 7, 9 to 16
21-N	3 to 11, 13 to 16	4 to 7, 10 to 16	4 to 7, 10 to 15	3 to 7, 9 to 11, 13 to 16
21-O	14, 15	13 to 15	13, 14	14, 15
22-A	2 to 16	2 to 16	3 to 7, 9 to 16	2 to 16
22-B	1 to 12, 14 to 16	1 to 16	1 to 16	1 to 16
22-C	1 to 16	1 to 16	1 to 16	1 to 16
22-D	1 to 15	1 to 14	1 to 16	1 to 15
22-E	2 to 5	3, 4	3, 4	2 to 5, 12
22-F	1 to 3, 8	1 to 4, 7, 8	1 to 9	1 to 3, 6 to 9
22-G	1, 5, 6, 11	1, 2, 5, 6, 11	1, 2, 5, 6 11, 12, 14	1, 2, 5, 6, 11 12, 14, 15
22-H	2 to 4, 9, 16	2 to 4, 9, 15, 16	2 to 6, 15, 16	1 to 6, 16
31-I	13, 14	13		13
31-J	9, 13 to 16	10, 13 to 16	14 to 16	15, 16
31-K	10, 13 to 16	10, 13 to 16	13 to 15	14 to 16
31-L		16		
31-M	1, 7 to 10, 14 to 16	1, 7 to 11, 13 to 16	1, 7 to 11, 13 to 16	7 to 10, 14 to 16
31-N	1 to 16	1 to 16	1 to 16	1 to 16
31-O	1 to 16	1 to 16	1 to 16	1 to 16
31-P	3 to 16	1, 4 to 16	4 to 6, 8 to 16	3 to 6, 9 to 16
32-A	1 to 5, 7 to 10, 15, 16	1 to 4, 6 to 11, 14 to 16	1 to 11, 14 to 16	1 to 10, 15, 16
32-B	1 to 8	1 to 8	1 to 8, 10	1 to 8
32-C	1 to 8, 10 to 12	1 to 8, 11, 12	1 to 8, 11 to 14	1 to 8, 10 to 15
32-D	1 to 3, 6 to 11, 14 to 16	1 to 15	1 to 16	1 to 3, 6 to 11, 14 to 16
32-E			3, 4	2, 3
32-H	1, 2, 8	1, 2, 7, 8	1 to 3, 7 to 10	1, 2, 7 to 9

MAPPING OF THE HARDWOOD FOREST ZONE

MAP NUMBER	SHEET NUMBER			
	NORTH-WEST	NORTH-EAST	SOUTH-EAST	SOUTH-WEST
21-E	4 to 6, 10 to 15	4, 5, 11 to 15	5, 12 to 15	4 to 6, 10 to 15
21-L	2 to 7, 10 to 15	2 to 6, 11 to 15	2 to 6, 11 to 15	2 to 7, 10 to 15
21-M	1, 8	8	2, 8, 9	1, 2, 8
21-N	12			12
31-F	8 to 11, 14 to 16	8 to 11, 14 to 16	8 to 11, 14 to 16	8 to 11, 14 to 16
31-G	1, 5, 8 to 16	1, 5, 8 to 16	1, 5, 8 to 16	1, 5, 8 to 16
31-H	1 to 16	1 to 16	1 to 16	1 to 16
31-I	1 to 12, 15, 16	1 to 12, 14 to 16	1 to 16	1 to 12, 14 to 16
31-J	1 to 8, 10 to 12	1 to 9, 11, 12	1 to 13	1 to 14
31-K	1 to 9, 11, 12	1 to 9, 11, 12	1 to 12, 16	1 to 13
31-L	1, 7 to 11, 14 to 16	1, 7 to 11, 14, 15	7 to 11, 14 to 16	7 to 11, 14 to 16
31-M	2, 3, 6, 11	2 to 6, 12	2 to 6, 12	1 to 3, 6, 11, 12
31-P	1, 2	2, 3	1, 2, 3, 7	1, 2, 7, 8

O.C. 498-96, Sch. 1.

SCHEDULE 2

Commercial species

PART A

Softwood species

White spruce

Black spruce

Red spruce

Norway spruce

Tamarack

Jack pine

Canadian hemlock

Fir

White cedar

PART B

Hardwood species

White birch

Balsam poplar

Big-toothed aspen

Trembling aspen

Other poplars

Softwood species	Hardwood species
White pine	Swamp white oak
Red pine	White oak
	Red oak
	Burr oak
	Yellow birch
	Black cherry
	Silver maple
	Sugar maple
	Red maple
	Black maple
	Ash
	American beech
	Walnut
	Hickory
	American elm
	Slippery elm
	Ironwood
	Basswood

O.C. 498-96, Sch. 2.

SCHEDULE 3

Peak flow calculation method for drainage basins whose area is equal to or less than 60 km²

The so-called rational method is used to calculate the 10-year interval peak flow. The method was validated for drainage basins whose area is less than 25 km². Thus, where the area of the drainage basin covers between 25 and 60 km², the result must be validated in the field by looking for signs indicating the water level reached by the floods of previous years or by establishing a relationship with basins that were measured on the same territory or near it. The steps in the calculation are the following:

- 1 - Delimitation of the drainage basin;
- 2 - Calculation of the average slope of the drainage basin;
- 3 - Identification of the use of the territory and of the surface deposits in the drainage basin;
- 4 - Calculation of the total area of the basin, of the proportion of each type of surface deposits per land use type and

of the percentage of the basin covered by lakes and bare and semi-bare wetlands;

5 - Determination of the watercourse's length and calculation of the “85-10” slope of the watercourse;

6 - Calculation of the weighted runoff coefficient of the drainage basin;

7 - Calculation of the drainage basin's concentration time;

8 - Determination of rainfall intensity;

9 - Calculation of the correction coefficient for rainfall intensity;

10 - Determination of the reduction coefficient for peak flow;

11 - Calculation of the 10-year interval peak flow.

Explanation of the steps to be followed with an example:

1 - Delimitation of the drainage basin

The drainage basin that supplies the watercourse with water at the crossing point is delimited using a topographic map at a scale of 1: 20 000. Figure 1 shows, as an example, the delimitation of a drainage basin under study.

2 - Calculation of the average slope of the drainage basin (S_b)

The average slope is calculated using a grid (1 cm X 1 cm) superimposed on the drainage basin. The number of times each horizontal and vertical line of that grid crosses a contour line must be determined. The length of those lines is also recorded. The calculation made to determine the average slope of the drainage basin under study is given in figure 2.

3 - Identification of the use of the territory and of the surface deposits in the drainage basin

With the help of the surface deposit maps, the forest maps and a knowledge of the territory, the use of the lands comprised within the drainage basin must be identified. They may be woodlands, pasturelands or croplands. Then the surface deposits for each land use type must be identified. Bare and semi-bare wetlands must also be located.

Figure 3 identifies the surface deposits and locates the bare and semi-bare wetlands in the drainage basin under study, which is completely wooded.

4 - Calculation of the total area of the basin, of the proportion of each type of surface deposits per land use type and of the percentage of the basin covered by lakes and bare and semi-bare wetlands

In the case of the basin under study, according to figure 3, the results are the following:

Land use type	Identification	Area (ha)	Proportion
Wooded	1A	238	57%
Wooded	1AR	127	31%
Wooded	2BE	19	5%
—	Lakes and bare and semi-bare wetlands	30	7%
—	Total area	414	100%

5 - Determination of the watercourse's length (L_c) and calculation of the "85-10" slope of the watercourse (S_c)

The length of the watercourse is measured from the crossing point, following the course of the main watercourse extended to the watershed divide, that is, to the most distant point in the drainage basin determining the longest route a drop of water must travel to reach the crossing point.

The "85-10" slope of the watercourse is defined as the average slope of the section of the watercourse between 2 points located respectively 10% upstream from the crossing point and 15% downstream from the farthest limit of the drainage basin.

Figure 4 locates the line determining the length of the watercourse (L_c) and figure 5 shows the calculation method for the "85-10" slope of the watercourse (S_c) for the drainage basin under study.

6 - Calculation of the weighted runoff coefficient of the drainage basin (C_p)

Firstly, using table 1, the various types of surface deposits in the drainage basin are classified on a hydrological basis.

TABLE 1

Hydrological classification of surface deposits

Type of deposits (designation)	Hydrological classification
1BF, 1BP, 2A, 2AE 2AK, 2B, 2BD, 2BE 4GS, 5S, 6, 8E, 8F 9	AB
1A, 1AR, 1B, 1BD 1BC, 3, 8C 8A 8AR	B
4, 8G	BC
1AA, 4GA, 5A R (sedimentary rock ¹)	C
R (crystalline rock ²)	CD

¹ Sedimentary rock: rock that forms most of the Appalachians and the St. Lawrence lowlands.

² Crystalline rock: igneous or metamorphic rock, sometimes intrusive, that forms the Canadian Shield.

NOTE: Type 7 deposits are classified as bare and semibare wetlands.

When the hydrological classification of surface deposits is completed, the runoff coefficient for each type of deposit is determined using table 2 based on land use and the average slope of the drainage basin.

TABLE 2

RUNOFF COEFFICIENTS (C)						
LAND USE TYPE	AVERAGE SLOPE OF DRAINAGE BASIN (S_b)	HYDROLOGICAL CLASSIFICATION OF SURFACE DEPOSITS				
		AB	B	BC	C	CD
Croplands	< 3 %	0.30	0.36	0.41	0.47	0.51
	3 à 8 %	0.34	0.43	0.51	0.59	0.67
	> 8 %	0.43	0.51	0.61	0.67	0.73
Pasturelands	< 3 %	0.12	0.17	0.25	0.34	0.43
	3 à 8 %	0.17	0.25	0.33	0.43	0.51
	> 8 %	0.22	0.39	0.47	0.56	0.64
Woodlands	< 3 %	0.09	0.15	0.21	0.29	0.37
	3 à 8 %	0.12	0.19	0.26	0.34	0.43
	> 8 %	0.18	0.26	0.34	0.43	0.51
-	Lakes and bare and semi-bare wetlands			0.05		

Then the weighted runoff coefficient for the drainage basin may be calculated (C_p). In the case of the basin under study, the data and calculations are the following:

Land use type	Identification	Proportion of basin	Hydrological classification	Slope of basin (S_b)	Runoff coefficient (C)
Woodlands	1A	57%	B		0.26
Woodlands	1AR	31%	B	> 8%	0.26
Woodlands	2BE	5%	AB		0.18
-	Lakes and bare and semi-bare wetlands	7%	-	-	0.05

$$\begin{aligned}
 \text{Weighted runoff coefficient } (C_p) &= (57\% \times 0.26) \\
 &+ (31\% \times 0.26) \\
 &+ (5\% \times 0.18) \\
 &+ (7\% \times 0.05) \\
 &= 0.24
 \end{aligned}$$

7- Calculation of the drainage basin's concentration time (t_c)

The concentration time of the drainage basin is determined using one of the following 2 formulas:

If $C_p < 0.40$

$$t_c = \frac{3.26 (1.1 - C_p) L_c^{0.5}}{S_c^{0.33}}$$

where t_c : concentration time (minutes)

C_p : weighted runoff coefficient for the basin

L_c : length of the watercourse (m)

S_c : "85-10" slope of the watercourse (%)

if $C_p \leq 0.20$, S_c minimum to be used = 0.1%

if $0.20 < C_p < 0.40$, S_c minimum to be used = 0.5%

t_c minimum = 10 minutes

If $C_p \geq 0.40$

$$t_c = \frac{0.057 L_c}{S_c^{0.2} A_b^{0.1}}$$

where t_c : concentration time (minutes)

L_c : length of the watercourse (m)

S_c : "85-10" slope of the watercourse (%)

A_b : area of the drainage basin (ha)

t_c minimum = 10 minutes

In the case of the basin under study, the C_p is equal to 0.24. Consequently, the first formula must be used.

$$t_c = 3.26 (1.1 - 0.24) \frac{3600^{0.5}}{1.9^{0.33}} = 136 \text{ minutes}$$

$$1.9^{0.33}$$

8 - Determination of rainfall intensity (I)

Rainfall intensity is determined using figures 6 and 7. In figure 6, average total rainfall of a 1-hour duration for the basin under study is indicated by the contour line closest to that basin. Figure 7 indicates the standard deviation for the total rainfall of a 1-hour duration.

The rainfall intensity applicable to the drainage basin is determined as follows:

$$I = \text{average total rainfall of a 1-hour duration} + (1.305 \times \text{standard deviation for total rainfall of a 1-hour duration})$$

In our example, which is located on sheet 21M/6 N.E., the average is 22 mm/hour and the standard deviation is 8 mm/hour. The rainfall intensity applicable to that drainage basin is therefore 32.4 mm/hour, that is, $22 + (1.305 \times 8)$.

9 - Calculation of the correction coefficient for rainfall intensity (F_i)

Depending on the concentration time of the drainage basin, the correction coefficient for rainfall intensity is calculated using one of the following 2 formulas:

$$F_i = 12.25 \quad \text{for } 10 \text{ minutes} \leq t_c < 60 \text{ minutes}$$

$$\frac{12.25}{t_c^{0.612}}$$

$$F_i = 17.07 \quad \text{for } t_c \geq 60 \text{ minutes}$$

$$\frac{17.07}{t_c^{0.693}}$$

where t_c : concentration time (minutes)

In the case of the basin under study, the second formula must be used ($t_c = 136$ minutes).

$$F_i = 17.07 \quad = 0.567$$

$$\frac{17.07}{136^{0.693}}$$

10 - Determination of the reduction coefficient for the peak flow (F_L)

The retention zones such as lakes and bare and semibare wetlands entail a significant reduction in the peak flow. The reduction coefficient for peak flow is evaluated using the proportion of lakes and bare and semibare wetlands calculated at step 4 and figure 8. In the case of the basin under study, that coefficient is 0.69 (curve B, 7% covered by lakes and bare and semi-bare wetlands).

11 - Calculation of the 10-year interval peak flow (Q_{10})

That flow is calculated using the following formula:

$$Q_{10}(\text{m}^3/\text{s}) = C_p F_i I A_b F_L$$

where

C_p = Weighted runoff coefficient for the drainage basin

F_i = Correction coefficient for rainfall intensity

I = Rainfall intensity (mm/hour)

A_b = Area of the drainage basin (ha)

F_L = Reduction coefficient for peak flow

For the basin under study, $Q_{10} = 0.24 \times 0.567 \times 32.4 \times 414 \times 0.69$

360

$$Q_{10} = 3.5 \text{ m}^3/\text{s}$$



O.C. 498-96, Sch. 3.

SCHEDULE 4

Calculation method for the peak flow of a drainage basin of an area greater than 60 km²

The HP-40 statistical method developed by the Ministère du Développement durable, de l'Environnement et des Parcs is used to calculate the 20-year interval maximum daily flow. The method was validated for drainage basins whose area is greater than 150 km². Thus, where the area of the basin covers between 60 and 150 km², the result must be validated in the field by looking for signs indicating the water level reached by the floods of previous years or by establishing a relationship with basins that were measured on the same territory or near it. The steps in the calculation are the following:

- 1- Delimitation of the drainage basin with a topographic map at a scale of 1:20 000;
- 2- Calculation of the drainage basin's area;
- 3- Calculation of the “85-10” slope of the watercourse;
- 4- Calculation of the proportion of the basin covered by lakes and bare and semi-bare wetlands;
- 5- Calculation of the 20-year interval maximum daily flow.

The delimitation of a drainage basin is shown as an example in step 1 of Schedule 3. The calculation method for the “85-10” slope of the watercourse is the same as that used for drainage basins of 60 km² or less (Schedule 3 — step 5). The 20-year interval maximum daily flow ($Q_{1,20}$) is determined using the following formula:

$$Q_{1,20}(\text{m}^3/\text{s}) = 0.7882 (A_b/100)^{0.93} (S_c)^{0.30}$$

$$(S_r)^{0.24}$$

where A_b = area of the drainage basin (ha)

S_c = “85-10” slope of the watercourse (%)

S_t = percentage of the area of the drainage basin covered by lakes and bare and semi-bare wetlands (%)

Example

$$A_b = 75 \text{ km}^2 \quad Q_{1.20} = 0.7882(75)^{0.93} (1)^{0.30} = 29.7 \text{ m}^3/\text{s}$$

$$S_c = 1\% \quad (5)^{0.24}$$

$$S_t = 5\%$$

O.C. 498-96, Sch. 4.

SCHEDULE 5

Culvert size

The table below indicates, in the case of a control at the intake, the diameter of the culvert to be installed based on the peak flow calculated (Q_{10} or $Q_{1.20}$) and the type of intake. The culvert diameters indicated in this table are designed to prevent the calculated peak flow from exceeding 85% of the vertical clearance of the pipe after burial to a depth equivalent to 10% of its clearance.



Type of pipe	Q10 or Q1.20	Required culvert	
Class of flow (m3/s)	diameter (mm)	Projection	Bevelled or straight
Round	0	0.11	0
	0.12	0.14	0.13
	0.15	0.23	0.17
	0.24	0.33	0.26
	0.34	0.46	0.38
	0.47	0.64	0.52
	0.65	0.81	0.71
	0.82	1.28	0.91
	1.29	1.88	1.42
	1.89	2.24	2.09
	2.25	2.63	2.48
	2.64	3.53	2.91
	3.54	4.59	3.91
	4.60	5.83	5.08
	5.84	7.24	6.45
	7.25	9.72	8.01
	9.73	12.65	10.75
12.66	16.05	13.99	
16.06	19.95	17.75	
Structural plate	16.80	-	20.94
	20.95	25.80	23.14
	25.81	31.11	28.52
	31.12	37.02	34.39
	37.03	43.56	40.93
	43.57	50.75	48.16
	50.76	58.60	56.10
	58.61	67.15	64.79
	67.16	76.40	74.26

76.41	-	86.40	84.46	-	95.50	6,470
86.41	-	96.03	95.51	-	107.33	6,780

* TYPE OF INTAKE

STRAIGHT WALL

BEVELLED INTAKE

PROJECTING INTAKE

Example

$Q_{10} = 3.5 \text{ m}^3/\text{s}$ Culvert required: 1,800 mm;

Projecting intake Burial: 180 mm.

If the height of the bank makes it impossible to install a 1,800 mm pipe, the flow must be distributed equally between 2 or more pipes. For 2 pipes, the flow must be divided by 2: $3.5 \text{ m}^3/\text{s} \div 2 = 1.75 \text{ m}^3/\text{s}$. Then the diameter corresponding to that flow must be determined. In the present example: 1,400 mm. Therefore, 2 pipes 1,400 mm in diameter must be installed, instead of a single 1,800 mm pipe. Each 1,400 mm pipe must be buried 140 mm deep. The same procedure applies where the calculated peak flow (Q_{10} or $Q_{1.20}$) corresponds to a culvert whose diameter should be greater than 3,600 mm, except if the installer uses one or more structural plate culverts having a diameter greater than 3,600 mm.

O.C. 498-96, Sch. 5.

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