MODULE 11: TIMBER HARVESTING
TIER REVIEW APPROACH

TIER 1 (5-day review)

- **Timber harvesting within 30 m of watercourses and non-forested wetlands** (max 30%; carried out either by a uniform selection of trees or by harvesting evenly spaced strips)
- **Timber harvesting in and within 30 m of forested wetlands** (removal of all merchantable timber)

TIER 3 (requires a standard WAWA permit)

- Any alterations in and within 30 m of a provincially significant wetland (PSW)
- Any alterations within a designated watershed or wellfield used as a source for public water supply
- Any other activity not approved under Tier 1 or exceeding the guidelines

11.0 TIMBER HARVESTING

11.1 DEFINITIONS

Timber harvesting is the harvesting or felling of merchantable timber within 30 metres (100 ft) of a watercourse/wetland. This does not include the removal of trees of undesired vegetation for the purpose of viewing, watercourse access, or brush maintenance within right-of-way of existing roadways. See Section 9.3.3 *Brush Maintenance within Right-of-Way* for more information on this activity.

Merchantable timber is defined as woody vegetation equal to or greater than 10 centimetres (4 in) in diameter at breast height (1.3 metres (4.3 ft) above ground).

Forested wetlands are areas where the water table is at or near the surface, soil conditions are water-saturated, or standing water is present with at least 30% of the surface area covered by woody vegetation greater than 6 metres (20 ft) in height that is at least partially rooted within the wetland. Examples of forested wetlands include red maple swamps, cedar swamps, and black spruce swamps.

Note: All merchantable timber may be removed from a forested wetland.

11.2 OBJECTIVES

To maintain a viable buffer by controlling activities within 30 metres (100 ft) of a watercourse or wetland to:

- Maintain and promote healthy aquatic habitat
- Prevent sedimentation of the watercourse
- Ensure bank stability
- Minimize disturbance to terrestrial habitats

11.3 PLANNING CONSIDERATIONS

To maintain the protection offered to our watercourses and wetlands by a natural buffer zone of vegetation in forests, harvesting activities are limited within 30 metres (100 ft) of watercourses/wetlands.

Selective harvesting involves harvesting a percentage of the merchantable trees. The total merchantable trees removed from the 30 metre (100 ft) buffer area is typically limited to 30%. This harvest may be carried out either by a uniform selection of trees or by harvesting evenly spaced strips and is limited to the same area once every 10 years (with a valid permit). The harvesting activity must not present a threat to stand viability.

11.4 ENVIRONMENTAL CONSIDERATIONS

11.4.1 Buffer Zone

An adequate buffer zone of vegetation maintained along a watercourse will protect the riparian zone, which is the area of vegetation bordering a watercourse. The benefits of a healthy riparian zone are listed below:

Food supply - Insects and organic debris dropping from the vegetation provide food sources for wildlife and aquatic species.

Shelter - Vegetation along the banks of a watercourse provides protection to wildlife inhabiting the vegetated zone adjacent to the watercourse. The shelter provides wildlife with secure cover to gain access to the water throughout the year and migration corridors along watercourses.

Shade - Vegetation shades the water from direct sunlight, thereby controlling water temperature and preventing excessive fluctuations. By keeping the temperatures cool, the dissolved oxygen content in the water is maintained.

Filter - The vegetation and root systems effectively filter and help purify the upland surface runoff by slowing it down and by allowing sediments to settle out or by acting as a filter, thus preventing suspended sediments and pollutants from entering the watercourse.

Erosion control and stability - Root systems bind soil particles in place, thus preventing slope failure and erosion of the watercourse banks, which in turn helps preserve channel stability.

The amount of stormwater runoff is decreased by leaves that intercept rain and transpire water. Root systems increase the soil's ability to absorb water. These two factors combine to reduce the amount of surface runoff, prevent sedimentation of the watercourse, and reduce soil moisture content that can prevent bank failure from occurring.

11.5 ACTIVITIES ASSOCIATED WITH TIMBER HARVESTING

Riparian zone vegetation, aquatic habitat, and water quality can be severely impacted by the following timber harvesting activities:

- **Clear cutting** increases the amount of runoff and sediment entering a watercourse/wetland by reducing the vegetative canopy, exposing bare soil, and allowing increased snow deposition. Clear cutting can also introduce more debris into the water which may block the watercourse creating barriers to fish passage or causing channel shifts. Clear cutting is not permitted within 30 metres (100 ft) of a watercourse/non-forested wetland under the Watercourse Alteration Certification Program.
- **Construction of landings and loading areas** is not permitted within wetlands

(forested and non-forested). These areas are used to stack timber until they are transported and can develop relatively hard, impermeable surfaces decreasing the amount of water percolating through the soil. Landings and loading areas are not permitted within 15 metres (50 ft) of watercourses/non-forested wetlands. Landings and loading areas within 30 metres (100 ft) of watercourses/non-forested wetlands should be located close to the road and on firm, high ground where possible to avoid rutting and blockage of drainage paths.

- **Skidding or twitching** cut trees has the potential to destroy the immature vegetation, compact the soil and make large ruts in the ground surface, creating conditions that cause erosion and sedimentation.
- **Use of machinery**, such as skidders and porters, is not permitted within 15 metres (50 ft) of watercourses/non-forested wetlands unless the machinery is constructing or travelling on an access road which extends across the watercourse. See Section 8.10 *Temporary Bridges*. This will prevent negative impacts of machinery on the stem, limbs, and roots of the buffer zone vegetation. It will also avoid soil compaction, rutting, and decrease the possibility of debris entering the watercourse.

11.6 HARVESTING

To ensure that an adequate buffer area is maintained, timber harvesting must be limited to 30% of the merchantable trees within 30 metres (100 ft) of watercourses/non-forested wetlands. This harvest may be carried out either by a uniform selection of trees or by harvesting evenly spaced strips and is limited to the same area once every 10 years (with a valid permit). **Note**: All merchantable timber may be removed from a forested wetland.

11.7 GUIDELINES

The 15 metre (50 ft) and 30 metre (100 ft) wide buffer bordering watercourses and non-forested wetlands must be clearly delineated in the field or with an "on-board" GPS prior to commencing harvesting operations. The presence of forested wetlands shall also be identified in the field or with an "on-board" GPS system prior to commencing harvesting operations.

Machinery must not track within 15 metres (50 ft) of a watercourse/non-forested wetland.

Machinery must not track within 30 metre (100 ft) of a watercourse/non-forested wetland on slopes greater than 40%. On slopes greater than 25% but less than 40%, harvesting can occur using one of the following methods: (a) harvesting must be performed using a "cut-to-length" criterion whereby both the harvester and forwarder may only travel on trails covered by a brush mat of tops and branches provided by the harvester, or; (b) harvesting and forwarding must occur under frozen conditions.

Grubbing must not take place in a non-forested wetland nor within 30 metres (100 ft) of a watercourse/non-forested wetland.

Within 30 metres (100 ft) of a watercourse/non-forested wetland, at the first evidence of machinery cutting through the duff layer to mineral soil deeper than 15 centimetres (6 in) and longer than 4 metres (13 ft), the machinery must exit the 30 metre (100 ft) buffer, and the rut must be immediately smooth graded and blanketed with mulch, slash, and/or brush mats. Machinery may only advance beyond this point on pre-fabricated/engineered swamp maps which must be removed as the machinery leaves the area, brush mats, or when the ground is frozen solid.

Within forested wetlands, at the first evidence of machinery cutting through the duff layer to mineral soil deeper than 15 centimetres and longer than 4 metres, the machinery shall exit the 30-metre buffer and the rut shall be immediately smooth graded and blanketed with mulch, slash, and/or brush mat. Machinery may only advance beyond this point on pre-fabricated/engineered swamp mats which shall be removed as the machinery leaves the area, brush mats, or when the ground is frozen solid unless the permittee has a “best management plan” which addresses rutting risk in forested wetlands. Any “best management plan” shall be reviewed and approved by DELG.

No more than 30% of the merchantable trees within 30 metres (100 ft) of a watercourse/non-forested wetland must be harvested from the same area once every ten years (with a valid permit). This harvest may be carried out either by a uniform selection of trees or by harvesting evenly spaced strips. The amount and type of trees that may be harvested shall be determined as follows: a) both merchantable blowdowns and live trees shall be included when determining the total number of trees to be taken; b) all merchantable blowdowns on the site shall be selected for removal before any live trees are harvested; c) if the number of merchantable blowdowns is greater than 30% of the number of merchantable trees on site, all of the blowdowns may be removed, but no live trees shall be cut.

Trees overhanging or rooted below the shoulder of the bank of a watercourse must not be harvested.

No woody vegetation (*e.g.* alders, bushes, or trees) smaller than market size must be intentionally cut or uprooted in a non-forested wetland or within 30 metres (100 ft) of a watercourse/non-forested wetland unless considered hazardous or located in the footprint of the forest access trails.

Trees must not be felled into or across a watercourse or the open water portion of a non-forested wetland.

Harvested timber must not be stacked in a non-forested wetland or within 15 metres (50 ft) of the shoulder of the bank of a watercourse.

All slash and woody debris generated by the project must be removed and disposed of such that it cannot enter a watercourse or open water portion of a non-forested wetland and be washed downstream by floodwaters or high flows.