

The report to the Legislative Assembly respecting the Round Table on Resource Land Use and Stewardship by the Standing Committee on Agriculture, Forestry and Environment included a discussion paper on watercourse buffer zones. The Legislative Assembly has asked the Standing Committee to consult with the general public about the need for watercourse buffer zones and how these might be implemented.

This discussion paper outlines the concept of buffer zones and proposes a new definition of the term “watercourse”. It also outlines the proposed width of buffer zones and the activities permitted therein. Finally, the discussion paper contains a proposed new policy for highway construction and maintenance.

The Standing Committee will hold public hearings beginning in January on the issue of watercourse buffer zones. Groups and individuals wishing to present their views can do so by registering their interest with the Office of the Clerk of the Legislative Assembly at 368-5970.

The Standing Committee will report its findings and recommendations when the Legislative Assembly sits again in the spring of 1998.

A DISCUSSION PAPER

ON WATERCOURSE BUFFER ZONES

A. General intent and objectives

Buffer zones, in concert with other conservation practices, provide a transition area to protect surface water systems from the adverse effects of agriculture, road construction, forestry and other land development activities. Buffer zones are effective in the filtration, absorption and assimilation of the sediment, nutrients, bacteria and pesticides contained in surface runoff. In addition, buffer zones enhance the diversity of wildlife habitat and the variety of landscape. Buffer zones work best when integrated with other management practices, including crop rotation, residue management, terracing, strip cropping, mulching and cover cropping.

B. Definitions

For the purpose of interpreting this document:

- (a) “buffer”, “buffer zone” or “buffer area” means a grassed or treed area that is effective in the filtration, absorption or assimilation of sediment, nutrients, bacteria and pesticides contained in surface runoff, measured from the bank of a stream channel or edge of a wetland;
- (b) “highway ditch” means a permanent, designed and constructed waterway, shaped, sized and lined with appropriate vegetation or structural material used to safely convey storm water run-off within and away from a highway or developing area;
- (c) “open feedlot” means a site where cattle are confined within a fenced area but outside of buildings, either part of the time or all of the time, and where all feed and water is delivered to the site;
- (d) “perimeter coastline” means that area of the outer coastline of Prince Edward Island where the Island landmass borders directly on waters of the Northumberland Strait and the Gulf of St. Lawrence;
- (e) “permanent forage” means a field on which only forages are grown and which is not tilled more frequently than once every 7 years;
- (f) “watercourse” means any stream, creek, brook, spring, or river with a definable sediment bed and/or continuous defined banks, which maintains continuous flow during any 72 hour period

during the months of June, July, August, September or October as well as any permanent stream, lake, pond, bay, or estuary and includes associated fresh water marshes and salt marshes. Landlocked ponds and the perimeter coastline are excluded from this definition.

C. Buffer zones

Forested land cannot be converted to other uses:

- within 20 metres of a watercourse, where slope is 9% or less;
- within 30 metres of a watercourse, where slope is greater than 9%.

It is proposed that the following buffer zones adjoining all watercourses be established:

a) Standard 10 metre buffer:

It is proposed that a 10 metre buffer will be required along all watercourses and that the following conditions will apply:

- i) no tillage will be allowed;
- ii) no broadcast application of pesticides will be allowed; spot applications of pesticides will be allowed under permit for cases consistent with the buffer zone concept;
- iii) fencing of livestock will be required as follows:
 - 5 metres from the watercourse in pastures which are in permanent forage;
 - 10 metres from the watercourse in pastures which are not in permanent forage;
- iv) the 10 metre buffer zone may be utilized for forage crop production in those years that the adjacent field is not in row crop production, or may be planted, maintained or permitted to regenerate in trees and shrubs;
- v) forest management will be allowed within the 10 metre buffer in some circumstances (see Section F).

b) 20 metre buffer (standard 10 metre buffer plus an additional 10 metres)

It is proposed that a 20 metre buffer will be required where:

- i) agricultural land is in row crop production and where field slopes within 30 metres of the watercourse are 9% or less, or
- ii) cattle are housed in existing open feedlots.

It is proposed that the following conditions apply where a 20 metre buffer is required:

- i) no fall tillage is allowed;
- ii) row crop production is not allowed; where the area is not in trees, the additional 10 metres must be in grass during the row crop production year and may be used as a grassed headland; the grass cannot be mowed during the row crop production year;
- iii) where cattle are housed in existing open feedlots, fences must be constructed at least 20 metres from the edge of the watercourse;
- iv) a 20 metre buffer must be maintained on forested sites with slopes greater than 9%; some management practices will be allowed (see Section F).

Note: If adjacent fields are strip cropped and/or terraced in combination with other soil management practices approved by the Department of Agriculture and Forestry, the buffer may be reduced to the standard 10 metres.

c) 30 metre buffer (standard 10 metre buffer plus an additional 20 metres)

It is proposed that a 30 metre buffer will be required where agricultural land is in row crop production and where field slopes within 30 metres of the watercourse are greater than 9%.

It is proposed that the following conditions apply where a 30 metre buffer is required:

- i) no fall tillage is allowed;
- ii) row crop production is not allowed; where the area is not in trees, the additional 20 metres must be in grass during the row crop production year and may be used as a grassed headland; the grass cannot be mowed during the row crop production year.

Note: If adjacent fields are strip cropped and/or terraced in combination with other soil management practices approved by the Department of Agriculture and Forestry, the buffer may be reduced to 20 metres.

D. Highway construction and maintenance

It is proposed that the following soil conservation practices be established on public roads:

- a) Where roads intersect with watercourses, no ditching or excavation will be carried out:
 - i) within 10 metres of the watercourse where the slope of the road has a profile of 4% or less;
 - ii) within 20 metres of the watercourse where the slope of the road has a profile between 4% and 9%;
 - iii) within 30 metres of the watercourse where the slope of the road has a profile of 9% or

more.

A watercourse alteration permit will be required in these zones when ditching or excavation is proposed.

b) On improved unpaved roads:

- i) check dams, silt traps and diversion ditches will be installed and maintained;
- ii) hydro seeding of all existing bare soil ditches will be carried out within 2 years of the effective date of this policy;
- iii) hydro seeding of all areas affected by ditch construction and maintenance will be carried out where the ditch slope profile is 4% or greater;
- iv) ditch maintenance and construction will not be carried out between September 30 of a given year and March 30 of the following year; all bare soil will be stabilized by September 30 of each year.

c) On unimproved roads, including scenic heritage and seasonal roads:

- i) the travelled surface of the road within 100 metres of a watercourse will be covered and maintained with durable, non erodible material;
- ii) wherever feasible and practical, diversion ditches will be constructed;
- iii) grading and scraping operations will be followed immediately by compacting operations.

E. Proposed time frame

The initial thrust should not be on enforcement; rather the primary focus will be initially to provide information and public education. Therefore, the following enforcement schedule is proposed.

Year one: Focus on education and providing assistance to the farmer and/or property owner to determine exactly what he or she is expected to do.

Year two: An increase in emphasis on compliance; this will entail the issuance of warning tickets where necessary.

Year three: Full enforcement of the regulations.

This enforcement approach is not intended to interfere with situations where, due to special circumstances (eg. repeated warnings), charges may be warranted.

F. Management of forested stream buffers

a) The following definitions are proposed:

“heavy equipment” means equipment classified as excavators, mechanical harvesters, porters, skidders, wood processors, tractors over 50 horsepower, trucks and bulldozers. It excludes such equipment and other forms of wheeled and tracked equipment when it is being used in the active suppression of a wildfire;

“microsite site preparation” means the removal by manual or mechanical means of vegetated surface and duff layer of the soil so as to facilitate the planting and survival of trees and shrubs. This is normally restricted to a maximum site diameter of 60 centimetres;

“uniform removal” means the removal of stems evenly across the area to be thinned in a manner that is silvicultural appropriate for the species to be retained;

“wildfire” means an unplanned or unwanted nature or human-caused fire which has escaped control, is spreading in a manner that forest fire officials deem hazardous, or is being conducted contrary to the provisions of legislation.

b) Activities permitted within the forested watercourse buffer zone:

Pesticide application - no broadcast application;

Road construction - no roads to be built within 10 metres of a watercourse except by permit under the *Environmental Protection Act*; no ditch run-outs permitted within a band that is 10 metres from a watercourse plus 1.5 times the slope percent;

Stream crossings - to be constructed to an entrance size as determined by the Talbot formula (i.e., entrance area in sq. ft. = 0.2 times 4th root of the drained area in acres).

Harvesting is allowed within the buffer zone without a permit under the following conditions:

- i) no heavy equipment within 10 metres of the watercourse;
- ii) no soil exposure within 20 metres of the watercourse except at permitted road crossings, microsite preparation, or mechanical site preparation conducted under a permit and where 30% or more of the soil is exposed;
- iii) no brush from the harvest is to remain in the watercourse;
- iv) a maximum 35% basal area uniform removal every decade except in the following

stand types:

- old field white spruce and balsam fir: clear cutting of stands (>35 years of age) is allowed (white pine, hemlock, red spruce and all hardwoods within the buffer are to be retained unless a permit has been issued for their removal) (age is determined at 1.3 metres above the ground);

Note: The retention of narrow buffers of old field white spruce or balsam fir in a buffer would increase blow down rates and cause trapping of excessive silt in the stream. As this would be detrimental to the trout and salmon utilization of this habitat, clear cutting older stands of these species within the buffer would be preferred over methods that accelerate blowdown;

- black spruce and larch (>40 years of age): maximum basal area removal is 50% every 25 years, preferably in strips 10 metres wide running at right angles to the watercourse (age is determined at 1.3 metres above the ground);

v) where the volume to be removed is less than 2 cords per year on an individual property.

Note: All other harvesting within the buffer that exceeds 2 cords per year on an individual property will require a permit issued by the authority having jurisdiction.