

**Department of Environment and Local Government  
Source and Surface Water Management Branch**

**Watercourses and Wetlands and Agricultural Activities**

Watercourses and wetlands can be found throughout New Brunswick, including on agricultural lands.

The *Clean Water Act* defines a watercourse as the full width and length, including the bed, banks, sides and shoreline, or any part of a river, creek, stream, spring, brook, lake, reservoir, channel, ditch or other natural or artificial channel open to the atmosphere, the primary function of which is the conveyance or containment of water, whether the flow be continuous or not.

Wetlands are characterized by areas that are saturated with water either permanently or seasonally and have soils and vegetation which have adapted to wet conditions. Wetlands are an important part of an agricultural landscape because they perform important ecological functions, such as habitat for pollinating insects, flood buffering, water storage, erosion control, and filtering of surface runoff while maintaining or enhancing biodiversity.

As per the *Clean Water Act*: Wetland means land that: (a) either periodically or permanently, has a water table at, near or above the land's surface or that is saturated with water, and (b) sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions.

**How do I know if I have a wetland or watercourse on my property?**

To identify whether a watercourse or wetland is present on your property please refer to our [Watercourse and Wetland Identification](#) fact sheet.

Determining a watercourse channel width

At a minimum, five measurements should be taken at least 5 metres apart upstream of the location of the proposed alteration, from the top of both stream banks (shoulder of the banks). If this is not possible, then measurements should be taken immediately downstream of the proposed alteration site.

## Do my existing agricultural activities require a permit?

Under the *Clean Water Act*, the continuation of existing active agricultural activities within 30 metres of a watercourse or a wetland does not require a Watercourse and Wetland Alteration Permit. Existing agricultural activities should not expand to include new agricultural production near watercourses or wetlands or to convert a wetland to a non-agricultural use. This includes such actions as infilling or otherwise disturbing the soil to build a barn, house, road, a subdivision, or dredging to construct an irrigation pond or manure holding structure.

It is important to note that re-development of inactive agricultural lands that are located in a wetland or within 30 metres of a watercourse or a wetland may require a permit. Please contact the Department of Environment and Local Government to determine the requirements for development. Agricultural areas that are fallow that require the land to be cleared of woody vegetation are considered inactive.

## Agriculture and Provincially Significant Wetlands

Provincially Significant Wetlands (PSW) include all coastal marshes and other important wetlands in the inland area of the province. PSW's are highlighted in yellow on the WAWA Reference Map. Although existing activities are allowed to continue, only limited new development will be permitted in or within 30 metres of PSWs. A Watercourse and Wetland Alteration Permit will be required for these new activities.

A list of which agricultural activities are exempt and which would require a Watercourse and Wetland Alteration permit are listed below.

What agricultural activities are exempt?	When do I need a Watercourse and Wetland Alteration Permit?
<p>The following activities are exempted from the permit requirements:</p> <ul style="list-style-type: none"><li>• The installation of drainage tile and outlets for drainage of agricultural land, provided they comply with installation standards imposed by the Minister of Agriculture, Aquaculture and Fisheries.</li><li>• The construction and</li></ul>	<p>As prescribed by the <i>Watercourse and Wetland Alteration Regulation</i> under the <i>Clean Water Act</i>, <b>new</b> agricultural activities within 5 metres of a watercourse or wetland.</p> <p>Clearing of undeveloped land within 30 metres of a watercourse or wetland for the purposes for a new agricultural activity (such as crops and blueberry production) will require a permit for clearing of the</p>

<p>maintenance of an agricultural drainage ditch provided it does not break the shoulder of the bank of a watercourse or enter a wetland, no change is made to the alignment of the ditch and there is no danger of pollution as a result of the maintenance.</p> <p>Furthermore, the following activities are exempt if they are taking place at 5 metres or more from a watercourse or wetland:</p> <ul style="list-style-type: none"> <li>- tilling, ploughing, seeding and harrowing of land,</li> <li>- grazing by animals, or</li> <li>- harvesting of crops.</li> </ul>	<p>land but not the ongoing agricultural activity.</p> <p>In addition, any activity or alteration involving deposition, disturbance, or removal of soil; cutting of trees; alterations to facilitate the expansion or construction of a structure including a barn, dwelling, roadway, or fence; or infrastructure improvements, are examples of activities that require a Watercourse and Wetland Alteration Permit if the work is in or within 30 metres of a watercourse or wetland.</p>
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**Beneficial Management Practices for Field Operations**



There are several options available to help best manage agricultural activities in and around wetlands and watercourse buffers. Good practices for field operations can include activities such as proper nutrient and integrated pest management, as well as practices that prevent soil erosion and sedimentation. These practices include tools to assist with proper planning and management of field operations.

Nutrient Management Plan (NMP): This site-specific management tool has the goal of applying the right amount of nutrients at the right time, to maximize crop uptake, reduce the over application of nutrients and therefore cut costs. A Nutrient Management Plan should involve the testing of soils, manure and compost as well as adjusting commercial fertilizer quantity to meet on-farm available nutrient resources. The plan should be prepared and certified by a Professional Agrologist and updated on a regular basis.

Integrated Pest Management (IPM): Integrated Pest Management is a way of controlling pests without relying solely on chemical pesticides. It is an effective tool that combines various pest control methods, sanitary measures and knowing the economic threshold for pests. IPM involves identifying and learning about the various pests that inhabit a property and then considering the different methods of removing them. This can be done by removing hospitable environments for unwanted pests, luring predatory bugs to

naturally handle pests and making additional treatment decisions to reduce the levels of pests, keeping in mind that some insects are beneficial.

If chemical application is necessary under IPM, it is important to pay close attention and follow the instructions and restrictions of the product label.

Conservation tillage or zero tillage: Tillage is a mechanical form of loosening the soil that disturbs the structure of the soil and reduces its stability. Conventional tillage puts agricultural land at increased risk of soil erosion and increases the deposition of sediments into the waterways and wetlands. The loss of topsoil can be reduced by simply modifying existing tillage practices to include spring and fall conservation tillage or zero tillage which may improve the quality of the soil, conserve moisture and reduce labour requirements.

Drainage (surface and sub-surface): Used in agricultural fields to control water levels on or in the ground, proper drainage can also enhance crop production, help control soil loss and prevent water pooling following a significant rainfall event. In order to keep drainage working properly, drainage ditches should be properly maintained. Discharge should flow into a sedimentation pond, catch basin, or vegetated buffer strip before entering a watercourse or wetland. Drainage plans should be designed by an engineer qualified to do the work and carried out by an experienced contractor.

Other field practices to prevent erosion and sedimentation: In addition to the various field practices already listed, additional practices can be adopted to prevent soil erosion and sedimentation into a watercourse or wetland. These efforts will not only benefit watercourses and wetlands, but agricultural land as well. Consider the following:

- Develop soil conservation structures: These are engineered structures whose purpose is to reduce water runoff and soil erosion. They may include: diversion terraces, grassed waterways, rock lined waterways, rock chutes, sedimentation ponds, and basins.



- Establish cover crops: Usually grown in rotation with regular crops, winter rye, winter wheat and oats are good examples of crops that are grown for ground cover and erosion control rather than harvest. These crops can also absorb residual nutrients from the soil and may release them to the next crop. Mulch can also be used to replace a cover crop.

- Establish field headlands: Grass on the lower end of row crop fields will help to filter runoff.



- Crop Rotation: Helps to maintain or increase organic matter. In addition, crop rotation improves crop yields and makes it easier to control insects, diseases, and weeds. If legumes are included in the rotation, nitrogen will be available to the next crop.
- Prevent soil compaction: This can be avoided by selecting a crop that will help to break down the soil compaction or by choosing field operations that have low impact on soil. This useful technique may help to prevent water ponding, the increase of surface water runoff and additional soil erosion.

## **Beneficial Management Practices for Livestock Operations**

In addition to field operations, many farms maintain livestock which can contaminate surrounding surface and ground water resources (farm well), such as streams, ponds, and wetlands, through runoff. When pastures and farm infrastructure, such as feedlots and manure stockpiles, are managed properly the risk of runoff into water resources decreases therefore reducing the risk of fecal coliform and nitrate contamination in a farm's water well(s) from occurring.

Pasture Management: One way to reduce runoff and erosion in pasture lands involves introducing a grazing rotation system where livestock are moved around to allow for the regeneration of vegetation in previously grazed pastures. When using livestock fencing, be sure that fences are placed at least 5 metres from any watercourse or wetland.

Farm infrastructure, feedlots and manure stockpiles: New structures should be located at least 30 metres from watercourses and wetlands. Adopting beneficial management practices for existing structures in proximity to a watercourse or wetland is strongly encouraged and will help to control farmyard runoff.



Whether new to agriculture or an experienced farmer, it is important to remember that maintaining wetlands within agricultural landscapes is beneficial to all and if activities are managed properly.

## **Did you know?**

The Environmental Farm Plan (EFP) is a tool within the agricultural community that promotes environmentally responsible and economically viable farming by encouraging the adoption of beneficial management practices. It is a voluntary, confidential and proactive tool which can help agricultural producers to assess the environmental strengths and potential environmental risks related to their farm operations.

In New Brunswick the EFP Program is delivered by the Agricultural Alliance of New Brunswick and funded under the *Canada-New Brunswick Agreement on Growing Forward 2*. For more information on the Environmental Farm Plan please contact the Alliance at 506-452-8101 or by email at [efp-pfe@fermeNBfarm.ca](mailto:efp-pfe@fermeNBfarm.ca). Additional information is available online in the environment section of the [www.fermeNBfarm.ca](http://www.fermeNBfarm.ca) website.

## **INQUIRIES**

For additional information or to discuss permit requirements, please contact the Department of Environment and Local Government:

Source and Surface Water Management Branch  
20 McGloin Street, P.O. Box 6000  
Fredericton, NB E3B 5H1  
Tel: 506-457-4850  
Email: [wawa@gnb.ca](mailto:wawa@gnb.ca)

For detailed information on beneficial management practices, please contact your local office of the Department of Agriculture, Aquaculture and Fisheries.