

Wetlands & Agriculture

Wetlands are an area of land that is covered or saturated with water either permanently or seasonally. They have rich soils and support wetland vegetation and aquatic life. Wetlands range from open water habitats to rich forest swamps. The diversity of wetlands depends on hydrology, soil material, and plant species. In Nova Scotia there are four general wetlands known as bog, fen, marsh, and swamp.

Wetlands are an important part of our ecosystem and provide multiple benefits for farmland and the surrounding communities. These include, but are not limited to:

Biodiversity

Wetlands are home to a wide variety of plant and animal species. This can benefit to crop production by increasing pollinators and other beneficial insects such as predators of common crop pests.

Flood Mitigation

Wetlands are well known for holding water and releasing it at a slower rate. This is an important function due to the higher frequency of extreme weather events that cause flooding.

Nutrient Loading

Wetlands can improve water quality by filtering contaminants (livestock waste, pesticides, chemical fertilizers) from surface run-off.

Livestock Watering

Wetlands can provide a water source for livestock.

Carbon Capture

Wetlands can play an important role in our approach to climate change adaptation, through capturing and storing carbon to reduce atmospheric greenhouse gases.

Minimizing Impacts to Wetlands

Restrict Access

Wetlands can be used as a source of water for livestock when out on pasture. To prevent any disturbance, it is recommended to limit or restrict livestock access to the wetland. Another option is remote offsite watering systems.



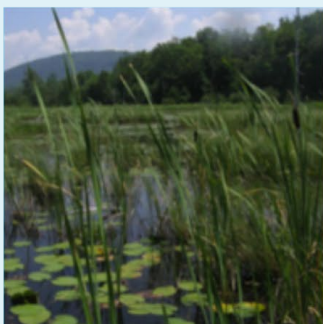
Bog

The spongy ground surface is dominated by peat moss. Bogs may have trees (black spruce and tamarack) or can be treeless. Source of water for bogs is snow melt and rain.



Fen

Fens are saturated with water from ground or surface water from river channels, pools and other open water bodies. Fens are more diverse in plant species than bogs, mainly dominated by sedges and brown moss.



Marsh

The water level in a marsh can be shallow or deep, often having an open area of water. Plant species consist of both floating plants (water-lilies) and emergent plants (cattails, sedges).



Swamps

Woody vegetation (tree or shrub) dominates swamps. They are generally found in floodplains, riparian areas of rivers and streams. They have rich mineral soils, and the water tables are typically at or below the surface.

Separation Distance-Setbacks

It is generally recommended to leave areas between the wetland and farmland where no farming activities occur (10-15 meters). These areas are known as riparian zones, where natural vegetation such as grasses, trees, shrubs grow and filter any contaminants from runoff before reaching the wetland.

Nutrient Management Plans

Integrated pest management (IPM) is an approach that can reduce the need for pesticides and ensure their proper use. Pests are controlled by using crop rotation, conservation tillage, and selecting pest-resistant varieties. Developing a nutrient management plan (NMP) for your fields, which involves testing soil, manure, and compost, will help with applying the right amount of nutrients at the right time. Over application of nutrients and pesticides can impact water quality in wetlands and other water sources.

Best Management Practices for Field Operations

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Prevent Soil Erosion

The potential for fields to erode depends on many factors. Erosion and sedimentation impacts the water quality of wetlands by carrying contaminants and reduces storage volume. Vegetation is the most effective means of stabilizing soil and controlling erosion. Planting cover crops after harvest will reduce runoff and enhance soil health. Other control measures include reduced tillage or no-till.

Wetland Research in Agriculture

To better understand the impacts to the ecosystem services of wetlands and the effectiveness for treating wastewater and sequestering carbon, on-farm research is conducted by Agriculture and Agri-Food Canada on constructed wetlands in Nova Scotia. For more information on this research, visit [Agriculture and Agri-Food Canada Wetland Research](#) or contact Dr. Erin Smith, erin.smith2@agr.gc.ca Ph: (902) 305-3371.



Constructed wetland research on Bacon Farms by Agriculture and Agri-Food Canada.

Ducks Unlimited Canada works with farm owners across the Atlantic provinces on wetland restoring and constructing projects. For more information, please contact: Santina Beaton-MacEachern, s_beaton@ducks.ca Ph: (902)-218-2246

For farmers looking for ways to mitigate the effects of climate change, improve water quality, reduce flooding, and increase biodiversity on their property, contact the Environmental Farm Plan Program efp@nsfa-fane.ca.