

Biodiversity



The Environmental Questionnaire (EN2) in the Environment module of proAction® is designed to help farms take note of the positive actions they already take with respect to the environment and will provide an overview of performance on soil health, greenhouse gases, biodiversity, and other topics. This will help identify potential areas that could further benefit your farm and mitigate impacts on the environment.

Healthy soils and biodiverse areas are important components to maintaining resilient farms. Lands managed with biodiversity in mind not only provide diverse habitats, but also reduce off-site environmental risks. The questionnaire helps evaluate actions related to wetlands and watercourses, biodiversity management, and pollinator habitat and health.



Below are some considerations related to preserving or enhancing biodiversity on your farm:

Conservation groups: National or regional conservation organizations are valuable resources in helping farmers assess the level of diversity in their farm landscapes and to target practices that can help build ecosystem health. Farms can also enter into conservation or stewardship agreements, or Conservation Easements, to set aside portions of their land as wildlife habitat.

Wetlands: Going by names such as bogs, marshes and swamps, wetlands can be natural or artificial (constructed features), with moving water or stagnant water, and with different types of soil and vegetation. They are rich habitat for wildlife, but they also play a role in flood control, erosion control, and absorption of nutrients and sediment.

Wetlands that have been drained can be restored by working with a conservation group. Wetlands can also be carefully designed and constructed to support clean-up functions such as managing livestock yard runoff or managing wastewater, such as milking centre wastewater. Please note that design and construction requirements will vary by province.

Limited livestock access to wetlands and watercourses:

The impacts of dense livestock populations on stream water quality and wildlife habitat can be reduced through careful consideration of key factors. This may include restricting livestock access to bodies of water (e.g., wetlands, ponds, streams) by controlling access (fencing), providing alternate water supplies, or other actions. In some provinces, regulations require that farms that keep cattle in pasture must fence around watercourses to prevent streambank erosion and contamination of watercourses from animal manure. Across the country, it is strongly recommended to also leave a vegetated area around watercourses (buffer) and wetlands to prevent eroded soils or nutrients from reaching the water. These vegetated areas provide habitat for pollinators and other wildlife, and can serve as corridors for wildlife to move.



Upland habitat: Maintaining vegetated areas or buffer strips is an essential part of providing habitat to wildlife. Though wildlife and vegetated areas will look different across the country, the principles are similar – providing habitat, especially native habitat, maintaining connected corridors between habitat, and minimizing disturbance.

Some actions include:



Installing bat boxes, cavity nest boxes or bird boxes.



Set aside natural areas exclusively for wildlife habitat.



Maintain connecting corridors of vegetation between natural areas through active cropping or other agricultural areas, using features such as fencerows, ditches, buffer strips, shelterbelts, flower strips, prairie strips, etc.



Avoid the conversion of forest or native grassland into crop production, or where it has already been converted, return it to forest or grassland.



Retire areas of marginal or fragile lands from annual crop production to permanent cover.



Avoid the conversion of tame pastureland into crop production.

Even passive action, like leaving a pile of rocks from a fencerow, will allow for reptile habitat. Leaving standing dead trees for woodpeckers and cavity-nesting birds will also encourage more biodiversity on the farm. Some farms may also be able to make allowances for a particular species on their farm. For example, some may be able to increase buffer areas around a wetland where ducks were found nesting, or delay haying until after a targeted bird species has nested.



A note on pasturing: Grazing and pasturing cattle can have very important benefits for both soil carbon and biodiversity. It is important to manage time and intensity of pasturing so that plants can sustain themselves. If the farm has native areas, then these would ideally be grazed later in the summer, after tame pasture, to allow for birds to nest. Using rotational grazing to avoid overgrazing of the pasture will also allow plants a chance to establish themselves. Well-managed grazing land provides a significant amount of wildlife habitat for mammals, insects, birds, reptiles and rare animal or plant species.

Pollinators: Globally, more than half of food crops are dependent on pollinators such as bees, butterflies, insects, some birds or some bats. Their health is intrinsically linked to the success of the crops that depend on them. Maintaining biodiverse landscapes, such as through prairie strips, intercropping, or maintenance of diverse habitat around fields can play an important role in making crops more resilient and reducing the need for pesticides. Installing beehives or planting areas for pollinator habitat on your farm can also help.



When applying pesticides, fields should be monitored and pests identified. Application records should be maintained and should include information such as:

- Pesticide vendor
- Reason for spraying
- Trigger for spraying (i.e. Threshold)
- Product name
- Rate applied
- Area sprayed
- Date
- Time of day
- Weather conditions (wind speed, temperature, cloud cover, relative humidity)
- Soil moisture
- Growth stage of crop and growth stage of weeds / insects / disease

Blanket use of pesticides can have detrimental effects on pollinators, and care should be taken to make judicious use of pesticides. All provinces have regulations on pesticide use, and most require applicators to be certified and have completed a course and/or exam. Farms are also encouraged to practice integrated pest management (IPM), which is based on the principles of prevention, observation, monitoring and appropriate intervention in order to reduce use of agrichemicals.

Conservation Groups and Dairy Farms

Many conservation groups partner with farmers across all regions of the country. Some focus on grasslands, while others target wildlife species, soil conservation or re-generative agriculture.

These groups work with farms to evaluate on-farm biodiversity and develop a plan to improve it. This includes biodiversity action plans, woodlot plans, wetland restoration, or other objectives specific to a region or target species.

The following groups commonly work with farmers:

- Ducks Unlimited Canada (DUC)
<https://www.ducks.ca/>
- Nature Conservancy of Canada (NCC)
<http://www.natureconservancy.ca/>
- Manitoba Habitat Heritage Corporation (MHHC)
<https://www.mhhc.mb.ca/>
- Fondation de la faune
www.fondationdelafaune.qc.ca
- Regional conservation or stewardship groups – regional research associations, grazing/conservation groups, or organizations specific to migratory birds and/or rare species
- Regional watershed groups