

Advancing in Ag Through **STEWARDSHIP**



Covering the watersheds of the Maitland, Nine Mile, and Eighteen Mile rivers, and sub-watersheds along the Lake Huron shoreline, Maitland Conservation has various programs and recommendations dedicated to building agricultural resilience through on-farm practices.

These efforts target benefits including, reducing need for non-renewable fuel and

fertilizers, reducing management costs, increasing economic benefit and ecological production, and restoring biodiversity.

Stewardship areas of focus include:

- Cover Crops
- Marginal Land Restoration
- Stream Buffering
- Wetlands
- Windbreaks

Cover Crops

Maitland Conservation delivers cost-share funding for cover crops through County stewardship programs as well as from Provincial/Federal funding programs.

Benefits of Cover Crops

Economic:

Cover crops enhance nutrient cycling, moisture retention, and overall soil health. This can result in increased crop yields. Cover crops diversify a cropping system. This can reduce pressures from insects, nematodes, disease, and weeds, decreasing the need for pesticides and herbicides.

Enhances Soil Health and Structure:

Cover crops improve soil quality in a variety of ways. They increase soil biological activity and enhance biodiversity of soil organisms. Species with deep roots or taproots can help break up soil compaction while fibrous roots systems help bind soil particles together. High biomass cover crops increase soil organic carbon.

Reduce Water and Wind Erosion:

Cover crops protect topsoil from water and wind erosion. The roots stabilize the soil. The stems intercept, slow, and disperse surface runoff. The vegetation reduces the force of raindrop impact and increases surface roughness to slow winds. Water quality is protected as nutrients and chemicals bound to soil are less prone to being eroded by wind and water.

Nutrient Cycling:

Many cover crops act as temporary storage for nutrients. Some cover crop species scavenge nitrogen from the soil. This offers the added benefit of preventing nitrogen from leaching into groundwater, while other species fix atmospheric nitrogen. This stored nitrogen, along with other nutrients, is released as the cover crop decomposes and, if released at the appropriate time, could be made available for use by the subsequent main crop.

Find Out More

Check out the Maitland Conservation stewardship page on mvca.on.ca for landowner testimonials and additional information on cover crop programs.

For grant program information contact:

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Implementing Cover Crops

Crop Rotation

Consider where in your crop rotation to use a cover crop. A rotation that includes winter wheat is a great opportunity to start using cover crops. Seeding a cover crop immediately following wheat harvest provides an extended period of soil cover through the winter. Cover crops can also be planted later season after corn or soybean harvest. Cereal rye is a common late-season cover crop as it does not winter kill and provides weed control benefits to the subsequent crop in the spring.

Choose cover crops that match your goals

Single species cover crops do provide benefits, however, using a multi-species cover crop is highly encouraged because of the suite of benefits biodiversity brings; including increasing available nutrients, increasing weed suppression, and diversifying root structures, thereby reducing soil erosion and nutrient loss. As well, there are a few funding opportunities that require a minimum of 3 species to be utilized.

Examples of Cover Crops Species

Red Clover - a type of legume cover crop, fixes nitrogen making it available to the cash crop that follows, protects the soil from erosion, suppresses weeds, and improves soil conditions.

Oats - a type of cereal cover crop. Aboveground biomass and root growth help to mitigate soil loss and improve water quality.

Tillage Radish - a species of brassica, can alleviate soil compaction and suppress weeds.

Marginal Land Restoration



Agricultural production on fragile lands has limited potential for profit, degrades soil structure, and can negatively impact soil health, wildlife habitat, and water quality. Restoring unproductive areas benefits the farm and natural systems. That's a WIN-WIN! Some areas of your farm may not be making money for you. They might even cost you money. Conservation Authority staff are available to work with you to develop alternative approaches to managing marginal land.

Fragile land may include unproductive lands, lands that are not practical for modern farm machinery (e.g. odd-shaped lands), or areas with steep slopes. An example of fragile/marginal land can include areas susceptible to standing water that is difficult to farm or is subject to soil compaction.

- Tree planting can be used to straighten field areas, retiring marginal edges, and making farming more efficient.
- Tree planting can be used to retire sloped lands that may be subject to erosion.
- Retiring fragile cropland may be cost-effective if crop yield is less than the cost of farming that area.
- Permanent vegetation reduces soil erosion by stabilizing the site. Keeping soil and nutrients on the land and out of waterways improves water quality.

Maitland Conservation currently has funding available to support planting seedlings on this type of land. Email trees@mvca.on.ca for information or call 519-335-3557 ext. 235.

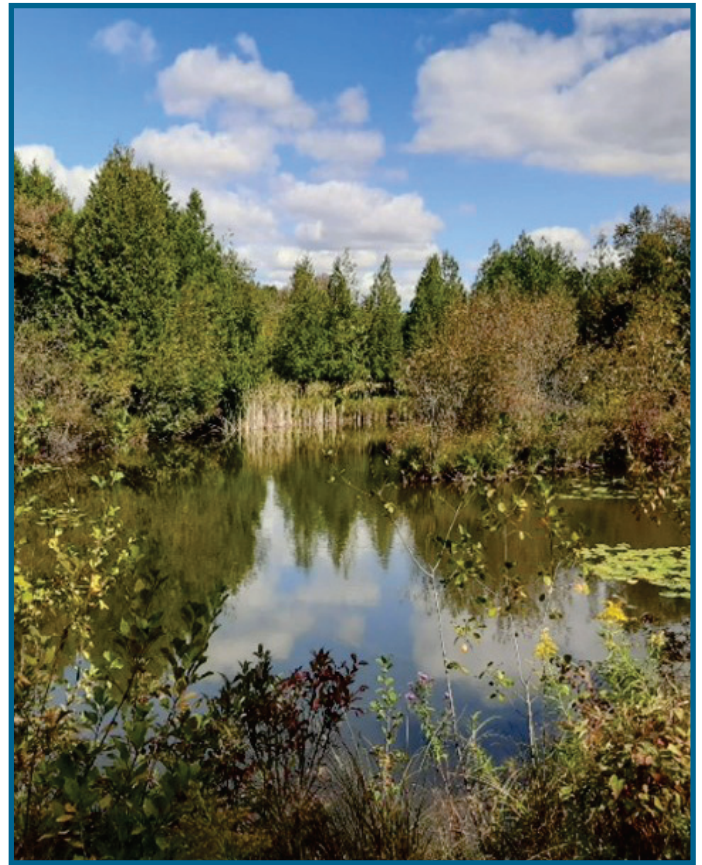
Tree and shrub orders are currently being accepted for spring 2024 planting. Order forms and program information are posted on our website at mvca.on.ca The deadline for orders is Jan. 31, 2024.

Wetlands

Wetlands are areas that permanently or temporarily hold water. They are often shallow pockets of water with water-tolerant plants. Seasonal wetlands can form in low-lying areas or land with poor drainage during winter snowmelt or heavy rainfall. Wetlands can be restored, or new wetlands created in areas where they would occur naturally. Water levels in these wetlands vary seasonally and annually, depending on the weather conditions.

Increasingly wetlands are recognized for the important role they play in reducing flooding and drought, improving water quality, and providing habitat.

- Wetlands collect runoff from fields and allow it to infiltrate, filtering out sediment and nutrients and helps to keep pollutants carried by runoff out of watercourses.
- Wetlands reduce unwanted flooding and soil erosion by providing water storage.
- Wetlands create habitats for all kinds of aquatic and terrestrial wildlife, including pollinator species.
- Wetlands act as groundwater recharge areas.



Riparian Buffers

Riparian (riverbank) buffer strips are areas of permanent vegetation between rural lands and bodies of water such as creeks, rivers, agricultural drains, ponds, and wetlands. Buffers can include trees, shrubs, grasses, or wildflowers, in any combination. As their name suggests, buffers protect waterbodies from impacts of neighbouring land uses.

Buffers help to stabilize streambanks by holding soil in place and reducing soil erosion. Maitland Conservation's modelling in the Garvey-Glenn watershed has shown that bank erosion can contribute up to 50% of the sediment found in watercourses. Vegetation also helps to filter runoff and trap sediment before it enters the stream. This all helps keep soil in fields and out of waterways. Stream buffers also help to reduce downstream flooding by slowing down runoff. As they grow, buffers provide important habitat and travel corridors for wildlife and pollinators.

Funding is available in many areas to establish new stream buffers that use native species, improve wildlife habitat, and increase carbon sequestration.

Windbreaks

Field windbreaks are linear plantings of trees designed to reduce wind speed in open fields and are typically planted in one or two rows at right angles to the prevailing wind. Windbreaks protect the topsoil from wind erosion to a distance 10 to 15 times the height of the trees. Wind protection provided by treed windbreaks can also benefit crop yields. In addition they:

- Provide benefits for water quality and wildlife. Improve wildlife habitat by creating travel corridors.
- Help slow runoff and reduce soil erosion. Reduce blowing and drifting snow.
- Create recreational opportunities by providing sheltered corridors for walking, skiing and snowmobiling.

Information in this newsletter was developed in partnership with:

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