

## Headwater Wetlands ... What are they?

Wetlands cover only 5% of the Oak Ridges Moraine, but each one provides valuable ecological services and habitat for wildlife.

Headwater wetlands occur at the top of watersheds along the moraine's margins where groundwater springs to the surface, giving rise to creeks and streams that flow off the moraine. The wetlands protect water quality, keep water temperatures cool, and are sources of plants and animals for downstream areas.

*Kettle* wetlands, named after glacial depressions, are common on parts of the moraine. Many are in isolated basins, with no defined inflow or outflow. These rare and significant headwater habitats help to preserve local biodiversity and enhance groundwater supplies.

Some animals use more than one wetland. Waterfowl, for example, use small, isolated wetlands in spring for pairing and feeding, large permanent wetlands for raising young, and large open-water habitats during migration. Amphibians, turtles and other animals may travel between wetlands (at great risk) for nesting or feeding.

Private landowners can be stewards of these most valuable Oak Ridges Moraine habitats. We are here to help!



Wetland "clusters" linked by groundwater, streams and habitat corridors collectively sustain local wildlife.

## ROADSIDE GUIDE TO OAK RIDGES MORAINÉ WETLANDS

### Cedar swamp

Dark and densely wooded, cedar swamps are the most common headwater wetland on the moraine. Eastern white cedar, tamarack, balsam fir and other trees shelter headwater springs in these wet woodlands.



### Deciduous swamp

Black ash, silver maple and other hardwood trees that "enjoy getting their feet wet" inhabit many headwater wetlands (*below*). Dead trees in these habitats support wood ducks, hooded mergansers and other cavity-nesting wildlife.

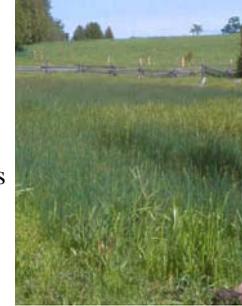


### Thicket/shrub swamp

These "scrubby"-looking wetlands are surprisingly rich in plant and bird diversity, and can also provide fish habitat. Many are found along the periphery of the moraine's small *kettle* landforms.

### Marshes

Cattails, grasses, water lilies and other aquatic plants thrive in these diverse wetland habitats. Marsh habitat rings many moraine lakes and ponds and also lines many streams and springs in *riparian areas*. A mixture of open water and vegetative cover creates ideal conditions for marsh birds such as coots, grebes, herons and ducks.



### Kettle bogs and other kettle wetlands

Typically found in small (less than 5 ha) kettle depressions, these wetlands can be marshes, thickets, swamps, bogs or fens. The moraine's kettle bogs are particularly sensitive and significant habitats that harbour rare and interesting plants and animals. Black spruce, sphagnum moss and insect-eating pitcher plants are at home in these habitats.

### Surrounding uplands—*Brimming with life*



Like the edges of a wide-rimmed bowl, the land surrounding wetlands is closely tied to the health of the wetland area. Some waterfowl, for example, may nest more than 500 metres beyond the wetland edge.

## Headwaters, wetlands and our water

### Natural funnels for groundwater

Rain and snowmelt move through the moraine's permeable soils into *aquifers* that release water to 15 major watersheds (65 rivers and streams) flowing off the moraine. In some areas 80%-90% of the water from a rain event percolates into the ground—often through wetlands—feeding the groundwater that millions of people benefit from downstream.

### Filters for pollutants

Wetlands capture pollutants from surface runoff and bind it up in living and dead plant material. Vegetated wetland buffers, designed to keep pollutants, eroded soil and livestock waste out of wetlands, increase this filtering capacity.

### "Feeding" coldwater to fish habitat

Cold, clean groundwater moving through headwater wetlands often gives rise to high quality "coldwater" streams. Brook trout, redbreast dace and other sensitive fish species benefit from this coldwater habitat. Downstream marshes, with their own ecological values, provide fish habitat for warmwater species such as bass, sunfish and northern pike.

*Thank you, landowners on the Oak Ridges Moraine, for taking care of our water supply!*



## What is the Oak Ridges Moraine Wetland Conservation & Enhancement Program?

The **Oak Ridges Moraine Wetland Conservation and Enhancement Program** is a stewardship support program that can provide financial and technical assistance to landowners who are interested in wetland conservation projects on their lands.

**Ducks Unlimited Canada** and the **Wetland Habitat Fund** (a project of Wildlife Habitat Canada) have joined forces, with support from the **Oak Ridges Moraine Foundation**, to help landowners conserve and enhance wetlands and wetland-related headwater habitats on the Oak Ridges Moraine.

We have been helping landowners with wetland projects for decades as part of the Eastern Habitat Joint Venture, the North American Waterfowl Management Plan and the North American Bird Conservation Initiative. We are now combining efforts to provide additional services to landowners on the Oak Ridges Moraine.

Together with other stewardship partners, we want to help landowners ensure a green, healthy future for the Oak Ridges Moraine.



**North American Waterfowl Management Plan**  
Plan nord-américain de gestion de la sauvagine  
Plan de Manejo de Aves Acuáticas de Norteamérica

## Ten Steps to a Healthy Wetland

### Keep it wild.

Preserve the wetlands on your property and keep them naturally wild and diverse.

### Keep it connected.

Maintain or restore natural corridors to link the wetland to streams and natural cover.

### Keep it buffered.

A natural buffer (grasses, trees or shrubs) around your wetland helps keep it healthy.

### Keep it livestock-free.

Natural cover and water quality both benefit when livestock are fenced from wetlands.

### Keep it wet.

Wetlands can't function properly if their natural water supply is altered by ditches or tile drains.

### Keep in touch.

Talk to conservation agencies if you are planning work around your wetland.

### Help with "housing".

Nesting structures with predator guards can help waterfowl and other wetland birds.

### Watch your pets.

Don't let cats or dogs roam at large around your wetland.

### Watch for the signs.

Put up wildlife crossing or wetland signs to raise awareness of these valuable habitat.

### Watch your wetland!

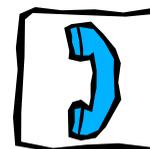
Keep track of wetland wildlife across the seasons and take part in volunteer-based monitoring programs. Visit [www.citizenscience.ca](http://www.citizenscience.ca) for more info!

## Are you a landowner with wetlands on the Oak Ridges Moraine?

**There is help available for your wetland conservation project. Please read on!**

**Ducks Unlimited Canada** and the **Wetland Habitat Fund** (a project of Wildlife Habitat Canada), in partnership with other groups, are combining efforts to serve landowners on the Oak Ridges Moraine.

- Free consultation and site visits
- Technical assistance
- Financial assistance for wetland stewardship projects on private lands
- Presentations on wetland conservation to landowners and community groups
- Recognition of landowners and existing wetland conservation projects



**Give us a call!**

**1-888-402-4444 (DUC)**

or

**1-800-669-7919 (WHF)**



[www.ducks.ca](http://www.ducks.ca)



[www.wetlandfund.com](http://www.wetlandfund.com)



[www.ormf.com](http://www.ormf.com)

# Headwater Wetlands of the Oak Ridges Moraine

**Information and conservation tips for landowners**



**A stewardship project of Ducks Unlimited Canada, Wildlife Habitat Canada's Wetland Habitat Fund and Oak Ridges Moraine Stewardship Partners, with support from the Oak Ridges Moraine Foundation**