





Central Lake Ontario Conservation Watersheds

HOMEOWNER STEWARDSHIP GUIDE



Hello and Welcome to Your Watershed

Living near a creek is something many people want when they choose a place to live. It can be very satisfying to hear the sound of water, watch wildlife in your backyard and to have natural features like woodlots and wetlands adding aesthetic value to your property. Anyone who knows what it is like to live next to water knows the joys, but they also know the challenges.

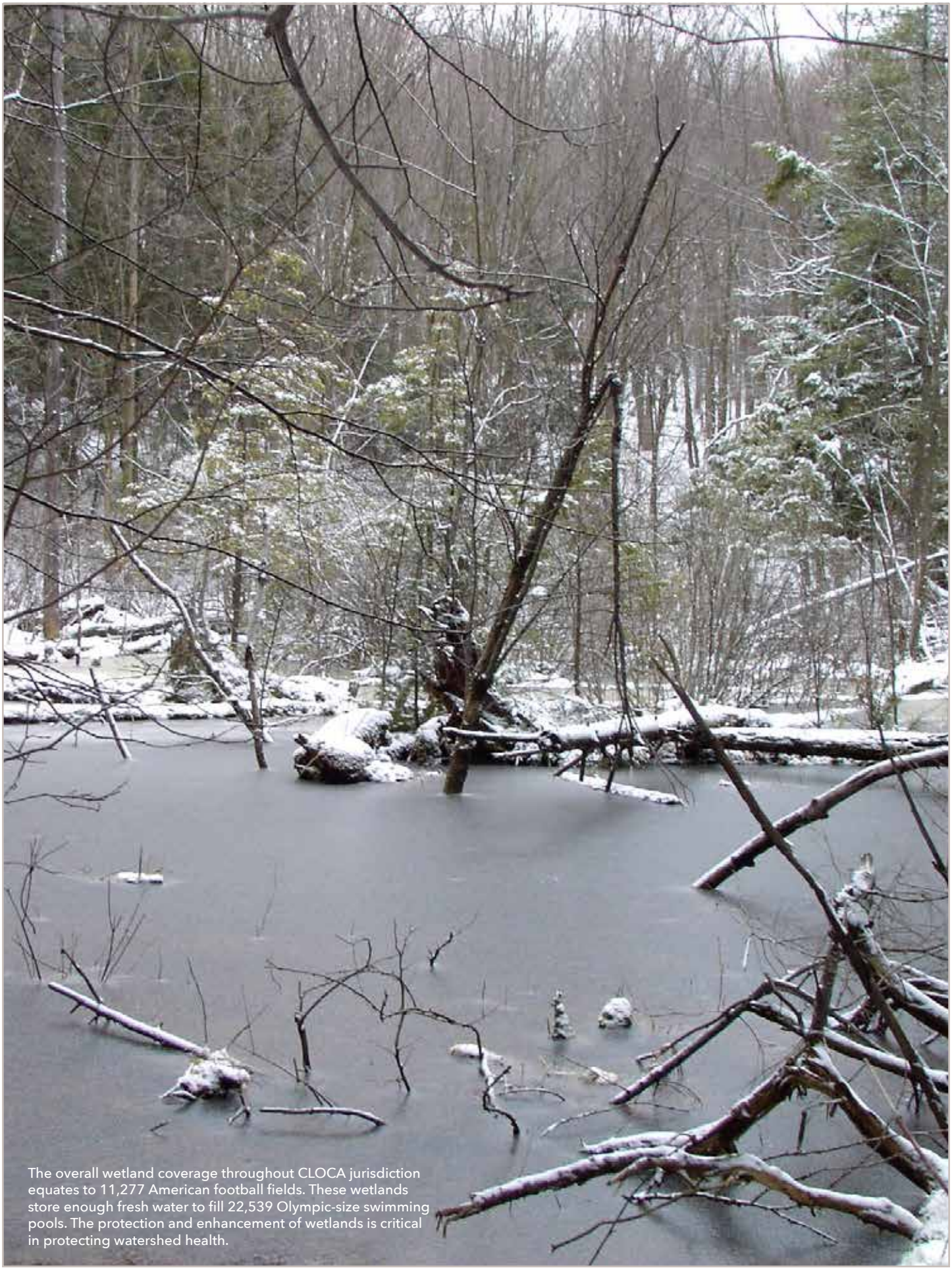
During storm events, the water in the creek can overflow onto your property resulting in flooding, property damage and erosion. Residents are often not aware of how their actions can impact the environment around them. Many problems with our local creeks are caused when property owners do seemingly simple things that collectively, when combined with the activities of other property owners downstream and upstream, result in a variety of issues and concerns.

Sustaining local woodlots, creeks and wetlands contributes to a healthy watershed.

This Homeowner Stewardship Guide was developed for residents living near water within Central Lake Ontario Conservation's watersheds. The purpose of the guide is to provide you with information about how your actions can impact the environment and provide you with options for better environmental decision making. How you manage activities in and outside your home, has a role in determining local water and habitat quality. Although not any one individual can solve the problems and issues facing our local waterways, as a community, if we work together, we can work toward solutions.

Let's start at the beginning. You live in a watershed like every other human being on the planet. A watershed is the land that drains into a common body of water such as a creek, river, lake or pond. Like the branches of a tree, smaller streams or tributaries are connected and drain into the larger system, eventually forming one main trunk. The water, land, air and climate within that watershed are all connected and contribute to creating an ecosystem, one that includes people and families like yours.

Photo courtesy Lou Wise.



The overall wetland coverage throughout CLOCA jurisdiction equates to 11,277 American football fields. These wetlands store enough fresh water to fill 22,539 Olympic-size swimming pools. The protection and enhancement of wetlands is critical in protecting watershed health.

Our Watershed

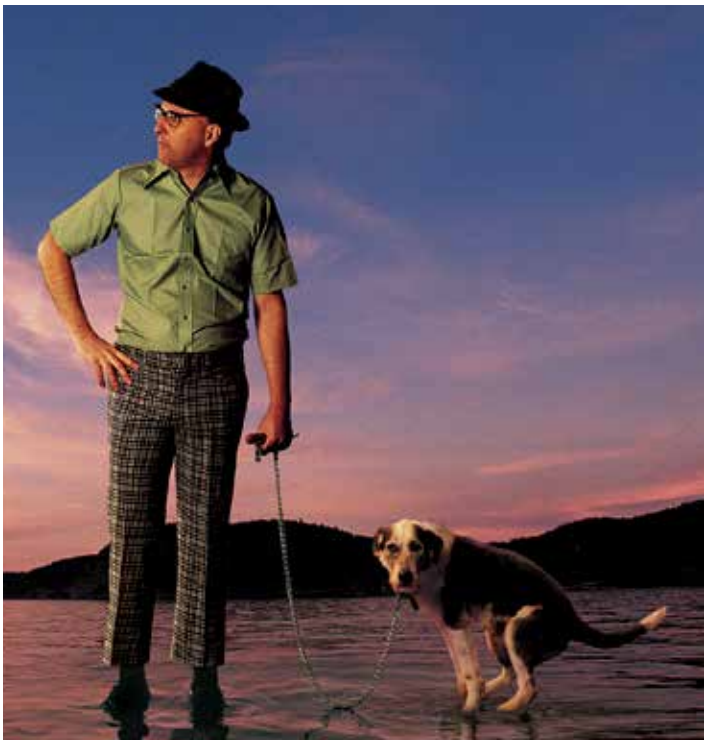
Can you find your watershed?
Take a look at this map of Central Lake Ontario Conservation's jurisdiction to determine your see what watershed you are part of. You may live in one watershed and work or go to school in another. You will notice there are a significant number of creeks which start at the top of the map in the Oak Ridges Moraine, and travel down to Lake Ontario where our municipal drinking water supplies come from. There are a number of conservation areas, highlighted in green, which represent significant protected natural resources like wetlands, valleylands and forests.

How We Impact our Watershed

Our biggest challenge and our goal is to balance human needs with the natural needs and functions of each watershed. Every day we contribute many things which negatively impact the health of the surrounding environment; unfortunately, we don't have to look very far for the evidence. We wash our cars in the driveway washing soap, sediments, oil and grit into storm drains which are connected to local creeks. We might forget to pick up our pet's waste in our yards and public spaces. When it rains the bacteria and other harmful elements from the waste washes into those same drains. We might resort to using lots of chemical fertilizers to make sure our grass looks like a golf course rather than a place for children to play and birds to find food. You guessed it, when it rains, excess chemicals not absorbed by our lawns are washed into the creek too. All of those unnatural chemicals, bacteria and sediment impacts water quality for local aquatic organisms like the resident fish and migrating trout and salmon. Worse yet, all of these pollutants eventually end up in Lake Ontario where, if you are not on a private well system, is likely the source of your drinking water. While you know your water is safe when you turn on your tap, the effort required to get it that way costs you, the tax payer, a significant amount of money. Does it not make "cents" to not put these things into the system in the first place?

Stoop and Scoop

Dog feces is full of bacteria and other harmful elements. Leaving it un-scooped or leaving it behind, in a bag, in a ditch or a natural area, is not ok. It is not healthy for our four legged, two legged and no legged wildlife.



Washing your car on the driveway and not picking up after your pets, has an impact on the fish that migrate up local streams each spring and fall.

What your Environment Does for You

- Supplies good quality ground and surface water to maintain water flows in our local creeks for resident and migratory fish
- Filters pollutants from the air and water
- Provides us with oxygen
- Provides habitat for a variety of plants and animals
- Provides us with natural areas to hike and observe local wildlife
- Reduces soil erosion
- Supplies us with an important natural source of affordable drinking water

Participating in local environmental stewardship actions is key to protecting local natural areas like Oshawa Second Marsh. Photo courtesy of Lou Wise.

What do we know?

We know there is a long list of environmental issues and concerns facing our watershed. These have been highlighted in our Watershed Management Plans and Integrated Watershed Monitoring Program. Some of the issues we focus on when we comment on proposed development are as follows:

- Valley and creek erosion
- Lack of natural cover along the edges of our streams to provide shade, food and habitat
- An increase in the number of Species at Risk
- Warming creek water temperatures which impact the local fish community
- Private property flooding
- Widlife fatalities on our roads
- Invasive species like round goby altering fish communities in Lake Ontario
- Siltation within the creek
- Invasive plant species
- Groundwater contamination risk
- Loss of habitat including forest, wetland and riparian areas
- Dumping of yard waste and litter in valley lands
- Barriers to fish passage
- Impacts to water quality

Based on these issues and concerns, Central Lake Ontario Conservation believes that a cooperative approach between local governments, businesses, homeowners, schools and other stakeholders is essential for improving watershed health. We want to ensure we focus on the ecosystem as a whole and address the source of the problems before they intensify. If you agree with this approach, then read on, we have some ideas that will individually and collectively reduce your impacts to land and water resources and the habitat it provides for local wildlife.




Native species found in the Watershed.
From left to right, dutchman's breeches, showy pink lady's slipper, jewelweed and gray tree frog.

How to Contribute to a Healthy Watershed

When water falls on the earth's surface, it starts to move either through the soil or overland. Before it gets to the creek or the lake, it will run over our lawns, driveways, fields and streets, picking up a variety of contaminants in its path. This can and does have an impact on the local water we use every day. As a homeowner, we need to consider the role our actions have on the land and local waterways. If we can identify sources of pollution, then we can take steps to reduce or eliminate them. Here are some ideas:

Riparian Buffers

Riparian buffers are the strips of land along the edge of a creek or the Lake Ontario shoreline that is maintained in its natural state. Often in urban areas, these areas of natural vegetation are removed and maintained as turf. Turf or grass offers limited infiltration or the ability to control runoff and protect against erosion. Inadequate riparian buffers allow increased volumes of water to enter the creek during storm events and cause water to move through the system quickly, increasing flooding and erosion downstream. A healthy riparian buffer is usually made up of native trees, shrubs, grasses and wildflowers.

See the difference when buffers are in place next to a creek? There is little or no erosion and lots of native plants, like Joe Pyeweed to support native bird and insect populations.

Rain Gardens

A rain garden is an old idea made new and a great way to reduce the speed at which water leaves your property after a storm event. This low maintenance garden takes advantage of rain water from your driveway or roof, via the eaves trough or downspout. They create a natural filtering network of plants, plant roots, soil, gravel, organic matter and rocks filtering and absorbing pollutants found in rainwater runoff. In addition, this process of water filtration allows groundwater to recharge and improves the base flow in local creeks too. We think this is a win-win situation.

Rain Barrels

Install a rain barrel under your downspout to provide you with a handy source of clean water for gardening. It is a great way to collect rainwater, reduce the impacts of storm water runoff and reduce your use of treated water. Rainwater is a healthy alternative to municipally treated water, allowing your plants to thrive on something you have at hand, and reduce your water bill at the same time.

Downspouts, Sump Pumps and Weeping Tiles

Downspouts, like sump pumps and weeping tiles carry rainwater away from your roof and foundation in order to prevent leaking and basement flooding. Some of these systems are directly connected or discharged toward the storm sewer system. This can cause a number of problems including an excess volume of water in the system and eventually in the creek. By disconnecting this infrastructure and redirecting roof flows and runoff to your lawn or garden you can allow the water to infiltrate into the ground, reducing the risk of flooding and recharge the local groundwater supply.

Sustainable communities in the future will have rain gardens and pollinator plants for native bees. You can too.

Septic Systems and Well Water Maintenance

Because parts of our watershed are outside of the urban infrastructure, many residents rely on septic systems to treat their waste and well water to supply them with drinking and potable water. You should consider pumping your septic tank every 3 years and request a full inspection by your septic system pumping service when you have it pumped. If you are on well water, check it at the beginning of each season (4 times a year) for bacteria counts. This water testing service is provided free to residents in Durham Region and is just a phone call away. All you have to do is collect the samples in their sample bottles. Call the Region of Durham at 905-723-3818 or toll free 1-888-777-9613 or visit their website at www.durham.ca/en/living-here/private-well for drop-off locations and water sample bottles.

Upgraded septic system and wells are a priority for protecting groundwater resources.

Stop Mowing

Really!!! Especially if your property is located right along a creek, woodlot or a wetland. While the long grass might look a little messy the first year, you will over time begin to see a variety of trees, shrubs and wildflowers naturalizing along the creek. Be aware of what species are native and wanted and those that are potentially invasive and unwanted, so they can be removed. If the trees and shrubs are blocking your view, do some pruning or "windowing" to allow you a view and not compromise the water quality or bank stability by removing trees and roots. Pruning is best done in early spring or late fall and it can be as simple as removing a few specific branches that obstruct your best views. A natural buffer requires very little maintenance once it is established and can reduce the amount of mosquitos because the buffer provides habitat for mosquito predators like tree swallows and dragon flies. For more information on beautiful native plants like these, check out www.ontarioinvasiveplants.ca for a free `Grow Me Instead' Guide.

From left to right, black-eyed Susan, bunchberry and ostrich fern are native and easy to grow in your garden.

What about the lawn?

Lawns are best if they are maintained for diversity, so allowing clover, and other non-grass plants to flourish on your lawn is not a bad thing. If you must fertilize, look for environmentally friendly alternatives instead of synthetic chemical fertilizers. Remove unwanted weeds by hand. Grass will go dormant during periods of drought, but the roots are still growing. Try over-seeding with drought tolerant grass seed. Adding a mulching blade to your lawn mower will reduce the need for raking and allow the lawn area to re-purpose those grass clippings as nutrients when they decompose. Aerating and top dressing with compost in the spring helps improve the soil and the air and moisture content needed to support the roots of your lawn. In the fall, mulch leaves with your mower or stockpile them to use as mulch on your garden beds in the spring. Both these actions will add nutrients to the soil and create a healthier patch of green for the 6 legged friends who bring many benefits like eating problem insects and pollinating your vegetables. Check out the City of Toronto's "A Guide to Natural Lawn and Garden Care" at www1.toronto.ca.

Give your lawn a makeover by hand mowing (lower left) and hand weeding (lower right). You may find baby snapping turtles making their way from nest to wetland, via your lawn (lower bottom).

Create Habitat

This is a great thing to do as natural areas in Durham Region are shrinking, wildlife often look to our yards as a refuge. Native organisms including plants, mammals, birds, amphibians and insects create a delicate web of life. Each is dependent on the other as part of their life cycles making them extremely dependent on one another. For example, spring flowers on trees, shrubs and perennials are an important source of nectar for native bees and butterflies. The timing for some native bee species, called specialists, is perfectly timed with specific native species of plants on which to lay their eggs or gather food. The real benefit to encouraging habitat is the creation of a more biologically diverse landscape. We know that a healthy, balanced ecosystem cleans our water and our air and that a greater diversity of pollinators will secure our source of food down the road.

Snapping turtles are a species at risk.

Black throated green warbler.

This bee hotel is one way to create habitat for native bees and other pollinators.

Ponds and Swimming Pools

Each spring, the cover on your pool may need to be drained or water emptied for periodic repairs and maintenance. Knowing that water may contain pool chemicals and excessive algae, can be an issue if you drain it directly to a natural area or storm drain. It is best to drain the water to your lawn area, allowing it to soak in gradually and the soil and sand particles to filter the water before it reaches the groundwater below.

If you have a pond that you like to plant each spring, ask for native aquatic plants. If you plant these in your pond, you will attract a variety of native wetland species including frogs, toads, dragonflies and damselflies. We encourage homeowners not to put gold fish in their pond, because they are often transferred from pond to creek or storm water pond at the end of the season or when they become too large.

Some of the invasive critters we find in stormwater ponds, wetlands and the creeks include, goldfish (top right), red eared slider (middle right) and aquarium snails (bottom left). Purple loosetrife is an invasive plant found in local wetlands and along creeks (top left). Native species like great blue herons and Eastern painted turtle need healthy habitats (bottom right).

Managing Winter Ice

Salt, sand and silt enter our creeks from snow and ice removal and management practices. This can have negative impacts on aquatic life and may even be fatal to some species. Excessive salt in particular can burn trees, shrubs and other vegetation. The salt can also infiltrate the ground and reach our groundwater which is where some people in our watershed get their drinking water. Removing salt water from fresh water is very costly. In order to reduce the impact to local water resources, sand is often used as a substitute for salt, however it can clog up storm sewers and contribute to sediment accumulation in the creek. Use these products sparingly and apply salt only if the temperatures are appropriate. More shoveling, which means more exercise can contribute to reducing our use of sand and or salt. Try mixing sand and salt at any opportunity during the winter months or the end of the season, then sweep up remaining excess product around your property and dispose of properly.

How to Reduce Erosion

If your property has a natural valley or slope, you may require some expert advice from Central Lake Ontario Conservation staff, to reduce the potential for erosion. Reducing mowing activities, recreating a natural buffer of native plants or bioengineering with native willow and dogwood, are all proven techniques that work along stream and valley habitats. Contact us if you think you have an erosion problem, we can provide you with technical advice before you start a project. Call us at 905-579-0411 or email at mail@cloca.com.

Bioengineering projects can be low cost solutions for some creek erosion sites.

Invasive Species

Invasive species are exotic plants or animals which have been introduced in an area where they do not naturally occur. This introduction is almost always a result of human activities like landscaping, shipping, trade and commerce. Invasive plants in your garden can escape into nearby natural areas and become even more challenging to manage. Techniques like pulling, cutting, digging and chemicals are costly and require long term commitments to manage because invasive species are so persistent. Once a species is introduced in a natural area, they displace our native species by out-competing them for resources and flourish in an environment where they have no natural predators. When so many of our native wildlife and organisms depend directly on native plants for food and habitat, the potential is there for native species to become Species at Risk or worse, extirpated. This means extinct in that particular geographic area. Check out the 'Grow Me Instead' brochure on the Ontario Invasive Plant Council website at www.ontarioinvasiveplants.ca for suggestions on what to plant and what not to.

Keep in mind that Ontario is now host to a number of non-native insects and plants that can harm humans and pets when they make physical contact. Giant hogweed and black legged ticks that carry lyme disease are common in natural areas throughout our watershed. Dress properly for the outdoor environment, wearing long sleeves, regularly clean your footwear to remove seeds, tuck your pants into your socks and check yourself and your pets regularly for ticks if you both spend time outdoors.

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Common reed (above), garlic mustard (top right) and the black legged deer tick are (bottom right) all found in our watershed

Why Native Plants

Native plants by contrast are plants that have evolved to adapt to our local climate and environment and provide either a source of food or shelter for other native species. They were here long before humans settled the landscape and as a result require little from us to grow and flourish. They are adapted to local insects and diseases and get all they need from the soil they grow in. By incorporating them into your landscaping activities, they can help reduce mowing, improve water quality and reduce erosion, not to mention help maintain or improve local biodiversity.

Blue flag iris (upper right) bellwort (lower left) and sugar maples (lower right) are good native plants for your garden, resistant to pests and disease, naturally.

What to do with your waste?

The Region of Durham offers all residents excellent regular and hazardous waste management services, yet we still find a significant amount of litter in our natural areas, public spaces and our roads and right of ways. While we support and deliver community cleanups on our public lands, it is really unfortunate that we have to do them at all. And of course, compost your food and yard waste in a proper compost unit on your property away from the creek banks. Compost is an excellent natural soil amendment that adds trace and macronutrients to your soil as well as organic matter. Be careful not to dump yard waste or grass clippings on the valley slope next to the creek, thinking that is helpful. It doesn't help. This leaf or grass pile only serves to smother and kill existing vegetation allowing for potential erosion during a future rain or flood event. After that erosion happens, it is costly to re-stabilize your banks and you will be sure to invite invasive plants to your property.

What is Next?

Still looking for ideas to be a good environmental steward in your watershed? Don't forget about the obvious everyday things. You can encourage your children, if possible, to walk or ride their bike to school once a week. You can volunteer for an environmental cause or participate in a tree planting activity in your community, it is a great way to meet your neighbours and reinvest in your local natural areas.

Living Beside a Natural Area?

Resist the urge to tidy up in these areas. Leave the groundcover and natural understory vegetation, unless it is mostly invasive plant species. An understory of native plants is designed to replace the forest above it over the course of time, maybe in the next 30, 50 or 100 years. The leaves and branches that fall decompose and enrich the soil, providing food or shelter for a variety of life, including insects, birds, salamanders and small mammals. Even dead standing trees and branches are important habitat features for a variety of cavity nesting birds and mammals and should be left alone unless they have the potential to cause property or personal liability damage.

Have a bug zapper to control mosquitoes? They only attract insects that are attracted to ultraviolet light and mosquitoes are not. They find their victims by detecting carbon dioxide we exhale when breathing, so turn off your zappers and cover up, use screens or apply insect repellant if you have to.

Reduce your lighting footprint in the evenings with electronic timers and lights designed to reduce light pollution. A number of species, like fireflies, depend on darkness during their lifecycle. Without adequate darkness the female firefly will not be able to see the male sending his mating signal. Darkness also makes star gazing with your friends and family more enjoyable.

Do you live next to a creek or natural area and thinking of building a fence, deck, shed, tree house or build an addition? Check in with your Municipality, Town, City or Central Lake Ontario Conservation (www.cloca.com) first to determine if you are building in a regulated area or if you require a permit.

My Stewardship Plan

Central Lake Ontario Conservation

Member of Conservation ONTARIO Natural Champions

Printed on sustainable forestry certified paper