



Hamilton Watershed
Stewardship Program

the Downstream View

Hamilton Watershed Stewardship Program Newsletter

Spring 2018

Seasonal Stewardship

By Cherish Gamble

Ralph Waldo Emerson wrote that “each moment of the year has its own beauty.” The lives of our flora and fauna and how we interact with them are directly affected by the ebb and flow that is the changing of the seasons. To enhance the quality of life for our native wildlife and our interactions with them, we recommend the following seasonal actions:

Spring

- Thousands of birds migrate each spring, and in urban centres, night lighting confuses them and can lead to fatal collisions. In March, turn off your outdoor lights overnight.
- “Spring cleaning”? Be sure to dispose of old electronics, hazardous materials and bulky materials in an environmentally safe manner.
- Plan and plant a wildlife garden with native plant species and garden features like bare soil and stumps, water and refuge areas that are beneficial to wildlife. Choose a variety of flowering plants to ensure that with each season there is a food source. Not sure what species are native? Check with your local Conservation Authority!
- Prep your garden beds with “brown gold”, compost from your own compost bin where you have faithfully been putting food scraps all year long, recycling phosphorus into the landscape and reducing the amount of food waste to landfill.
- Looking for the perfect host/hostess gift for local friends? Native plant seeds or divided native plants from your garden are a unique thoughtful gift.

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Photo: The [Fatal Light Awareness Program](#) (FLAP) visited our main offices recently to conduct a BirdSafe assessment to identify areas where bird collisions could occur and to prioritize areas for remediation. Visit their website to find out how you can make your home BirdSafe!



In This Issue

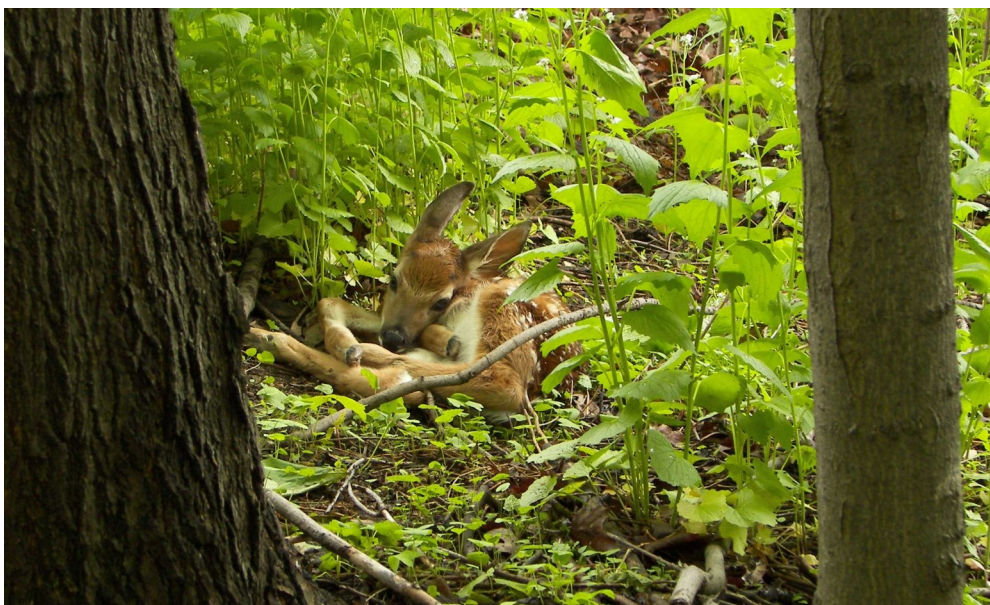
- Lessons from the Garden
- The Field Stream: A Turtle Tale
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- Working in the woodlot? Leave some dead standing trees for cavity nesters. Leave felled trees to decompose naturally on the forest floor, or make brush piles, providing a refuge for wildlife.
- Wet spots in the woods or open areas that dry up in the summer are known as vernal pools and they provide important breeding habitat for amphibians. Leave these areas as natural as possible.
- Provide nesting sites and shelters for birds.
- Take the time to research and read up on what to do if you find what you believe to be an injured/abandoned animal.
- Did you have birds nest in an undesirable area last year? Research and take the time to learn how to deter them from building the nest at this location again before they begin building rather than removing the nest after they have expended energy building it.
- Plant a tree!
- Have spring rains made areas in your yard a soggy mess? Consider installing a rain garden to provide an opportunity for stormwater to infiltrate.

Summer

- Take advantage of the summer sun, reduce your power usage and save money – hang your clothes outside to dry!
- Domestic pets kill billions of birds, rodents and small wildlife annually! Keep pets inside overnight and at dawn and dusk when wildlife is active. Keep your dogs on leash when walking in natural areas and keep your cats indoors.
- Put away the pesticides and learn how to naturally control pests and encourage your garden and lawn to grow.
- Be bug friendly. Enjoy evenings on the veranda? Switch outdoor lights to “bug lights” which make your home/outdoor area less visible to most flying insects (it does not repel them). Put away the bug zapper – mosquitoes are not attracted to them (unless they emit carbon dioxide) and they kill harmless and beneficial insects.
- You don’t litter because you know about the harmful impacts it has on our environment and wildlife, but do you practice disposing of litter that isn’t your own? Put litter in its place.

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Young fawns, like this one above, are often found and mistaken for “abandoned” wildlife.

Young fawns have a difficult time keeping up with their moms. In the pre-dawn hours, before dogs are out and the rest of the world wakes up, the doe will find a safe spot to place the fawn. Call a licensed wildlife rehabilitator if you notice the fawn:

- is crying and or agitated
- has been left for more than 10 hours
- Is in poor condition e.g. dirty coat, insects, lethargic

The Field Stream

A regular column highlighting landowner efforts to enhance and restore habitat.

"I'm so pleased that the current nest protection prototype aided the safe hatching of 20 baby snapping turtles, which were then safely located to suitable habitat. We look forward to continued improvements to this prototype and to working with other property owners who may face the same challenges of egg predation."

**-Jeff Stock,
Watershed
Stewardship
Technician**



Sharon Stewart and the Turtles

I have always had an interest in turtles. I grew up in the era where having a pet turtle was commonplace.....that small 2 tiered plastic habitat in front of the sunny living room window. Turtle care was so simple back then!

Time moves on and in September of 1985 my husband and I moved in to our home overlooking Lake Jojo in Dundas. The 'cottage-like' setting in front of the house was a selling point for us. Back then we had no idea that June of '86 (and every June after that) would be the introduction to a dream come true for me.

I will never forget that first June....I awakened to see carefully planted gardens looking like a 'moonscape'....new plants buried, crushed, dug up....the snapping turtles had arrived from the marsh across the road looking for nesting sites. After my initial shock I was thrilled to find out that our property would be an annual destination for female snapping turtles and midland painted turtles. This was the beginning of a decades long learning process and commitment from our house to accept that the turtles would be here every year. We would find ways to accommodate them and in later years to take a greater role in protecting the nests.

Over the past 30 years I have watched the turtles arrive each June and in late summer I have cheered the surviving hatchlings on as they emerge from the nests. As the years have passed I have watched with frustration as raccoons have become a greater disruption each year....digging up nests and gorging on the eggs. The introduction of a sandy nesting area across the road gradually changed nesting patterns...it became the 'go to' site for many turtles with fewer turtles coming up in to the yard to lay eggs. I have been successful in protecting individual nests within my gardens but have had limited success in protecting nests in the sandy area. Raccoons can be very determined and very resourceful.

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- If you must water your lawn be water smart: use soaker hoses and rain barrels, water early in the morning, avoid watering hard surfaces.
- Unwanted wildlife woes? Bats in the belfry? Squirrels in the walls? Hire wildlife removal companies that use humane solutions for relocating wildlife.
- Learn how to discourage birds from striking your windows. Visit www.flap.org for more information.
- A source of water is important for wildlife. Many property owners have gotten rid of standing water sources to deter mosquitoes. A shallow birdbath in a shady spot can be beneficial to our wildlife friends – keep mosquitoes from breeding in it by simply replacing the water every couple of days and letting it dry completely before water is replaced. If you are going away for more than 4 days simply empty it.
- Make room for our native plants species, which provide forage, cover and nesting material for our native wildlife, by adding them to your garden, or removing non-native or invasive species which compete with them and provide little benefit to native wildlife.

Fall

- Resist the urge to remove decaying hollow-stemmed plant material from the garden – pollinators will utilize these cavities to nest.
- Create cover and roost opportunities for wildlife. When the deciduous cover has dropped, survey your yard to see if there are cover and roost opportunities for our overwintering wildlife. Don't remove old nests as some species will utilize them overwinter and may re-nest or utilize the nesting material in the upcoming season. Encourage shelter areas by planting coniferous species or dense shrubbery and adding bird boxes.
- Compost any garden material safely – do not pile it in natural areas – this can result in the introduction of invasive or non-native species into natural areas and the degradation of habitats.
- Thousands of birds migrate each fall, and in urban centres, night lighting confuses them and can lead to fatal collisions. Turn off your outdoor lights overnight.
- Piles of compost or decaying leaf litter provide overwintering habitat for some adult insects.
- Don't "tidy" natural areas. Decomposing leaf litter and fallen trees/limbs are beneficial for the environment.
- Save money and the environment by insulating your home well and investing in energy efficient appliances (making sure to dispose of any appliances is an environmentally responsible manner!).

Winter

- Reduce waste, save money and skip the gift wrap! Wrap presents in useful wrapping, like tea towels or blankets, or create your own wrapping using recycled newspapers or magazines.
- Remove snow before it becomes compacted/turns into ice, reducing your need to salt walkways.
- Use non-chemical ice melting alternatives when de-icing walkways and pavement or consider mixing your salt with coarse sand to reduce the amount of salt entering our waterways. Apply sparingly and remember to sweep up any fines as the snow melts to avoid them entering our waterways where they degrade fish habitat.
- Permeable paving options help to prevent ice because they are designed to allow snow melt to infiltrate rather than pool.
- Some local conservation agencies, and nature reserves use recycled Christmas trees for habitat and erosion control projects, or even consider buying a small potted Christmas tree that you can plant outdoors in the spring!



Sharon Stewart and the Turtles ...continued from page 3

Two years ago....of the 15 nests that I knew about only part of 1 survived. It seemed that there was no longer a balance of nature. I understand that some nests won't survive but with each year fewer nests survive.

A chance conversation with Hamilton Watershed Stewardship Program staff on the 2016 Salmon Walk was a turning point. It gave me an opportunity to be involved in a problem solving process to try and protect more nests, especially on the sandy site. Our partnership started in April '17 when Jeff Stock and Kestrel Wraggett (Former Cootes 2 Escarpment Technician) came out to assess the site before the nesting season. The obvious problem was how easy it was for the raccoons to access the nests. Another consideration...for approximately a week there are successive visits from turtles ready to lay eggs. Nests can be on top of each other, beside each other....how to protect an existing nest and leave space for others is another challenge. Ideas, big and small, were discussed and within weeks Jeff and Kestrel, with HCA support, created a nest guard prototype.

As with all new ideas, there were glitches and learning curves. It was frustrating to watch the raccoons over at the sandpit overcome the challenge of the prototype and it's modifications....but instrumental in providing information to build on in 2018. The prototype did provide protection for an individual nest in my yard but it's cumbersome size limits it's application in the garden. This year we will meet in March to discuss last year's outcome and incorporate changes that we hope will make the nest guards more effective, particularly over in the sand pit. The goal of nest protection isn't to protect all nests but to protect some nests in order to create a greater balance between nesting turtles and predators.

Stormwater Stewardship

Stormwater runoff is the root of many water quality issues in our local watersheds.

When it rains in an undisturbed landscape, rainwater interacts with the landscape in three key ways. First, rain strikes the tree canopy, shrub sub-canopy and ground cover plants and is slowed down before it interacts with soil. Then, varied topography and soil, vegetation and natural debris provide opportunity for rainwater to be held in place. Lastly, the slowing of rainwater and opportunity to be held in place leads to evaporation, transpiration and increased infiltration of rainwater into the ground, resulting in less soil erosion.

In rural landscapes, alterations to the terrain and soil and the removal of vegetation to accommodate farm fields alters the way rainwater interacts with the landscape. Without vegetative cover, rainwater is not slowed down before it strikes the soil, and the soil absorbs the force of the rainwater. Soil particles become dislodged and are either suspended and carried off (called splash erosion) or they settle into spaces within the soil, making the soil less permeable. Without permeable groundcover, rainwater is not afforded the opportunity to infiltrate the soil, instead it flows accumulating whatever soil particles, debris, pollutants or litter may lie in its trajectory (photo, at right).



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Bringing Biodiversity Home

An Op-Ed by Cherish Gamble

Merriam-Webster defines biodiversity as “biological diversity in an environment as indicated by numbers of different species of plants and animals”.

Did you know that over 2,700 flowering plants carpet Ontario’s forests, fields, wetlands and waterways? Eighty-five species of mammals, 496 species of birds, 55 species of reptiles and amphibians, and thousands of species of insects seek shelter, forage for food and procreate in the natural spaces that dot and blanket our landscape.

Let that sink in. Thousands of species rely on the natural spaces we own for shelter, for food and for life and we are responsible for maintaining, conserving and enhancing these spaces. We are but one species and yet we hold power over so many. It’s hard to sum up the anthropogenic impacts to the environment, and truthfully, we are learning more about those far reaching impacts with each passing day.

In 2017, over 15,000 scientists from 184 countries penned “World Scientists’ Warning to Humanity: A Second Notice”, highlighting trend over time data for a number of environmental issues. It was a sobering read:

The authors of the 1992 declaration feared that humanity was pushing Earth’s ecosystems beyond their capacities to support the web of life. They described how we are fast approaching many of the limits of what the biosphere can tolerate without substantial and irreversible harm.

If not checked, many of our current practices put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world that it will be unable to sustain life in the manner that we know.

The earth is finite. Its ability to absorb wastes and destructive effluent is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. And we are fast approaching many of the earth’s limits.

The developed nations are the largest polluters in the world today. They must greatly reduce their overconsumption.

Acting on this recognition is not altruism, but enlightened self-interest: whether industrialized or not, we all have but one lifeboat.

*No more than **one or a few decades** remain before the chance to avert the threats we now confront will be lost and the prospects for humanity immeasurably diminished. (Ripple et al, 2017)*

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“One or a few decades.” Wait, what?!

This is my first born, Linnea, her name a nod to Carl Linnaeus, the Swedish Botanist and “father of modern taxonomy” and the fragile pink mountain flower he favoured that bears his name, *Linnaea borealis*. In recent years she has become a proud big sister to brother Wilfred, and their favourite pastime is quite simply to be outside. And while the old adage “the apple doesn’t fall far from the tree” certainly applies, their gentle demeanor with, and innate curiosity for the natural world never fails to make my heart swell with pride and bring a tear to my eye. It brings tears to my eyes to think that in their lifetimes we may lose the chance to undo the damage done and that as a result, their lives will be irrevocably afflicted. Truthfully, some days my eyes sweep across landscapes and I feel like I’m surveying a battlefield. I do what I love because of passion. I feel a strong pull to our natural world. I am part of the solution, my work is part of the solution and on those nights I lie awake and worry my eyes eventually flutter to sleep with the confidence that each day I’m doing something about it.



My daughter Linnea, at age 3, in our favourite conservation area admiring a Trout Lily.

You can to.

The opinions, the buzz words, the issues, the facts, the beliefs, the science, the studies. I’ve heard numerous debates, read countless articles and listened to scientists affirm what is “best” for the environment. I have seen these affirmations change, and environmental practices that were once touted years later discouraged. **This doesn’t discourage me** – science is getting better. Our understanding and knowledge of the natural world and its achingly beautiful and stunningly complex interactions is getting stronger with each passing day.

And what we can do - what you can do, is really quite simple.

- **Encourage biodiversity by planting native and non-invasive species.**
- **Make room for nature. Regardless of whether you live in a condo apartment or a large acreage, make room for nature both on the land and in your life.**

Making room for nature in your life is a good start. Research is showing that time in nature has both long and short term positive effects on our physical and mental health. And truly, appreciation is the first step towards advocacy.

Ontario’s indigenous flora and fauna have co-existed together for decades and their relationships are well forged. We can support that dynamic, whether it be adding some native plants to established gardens, removing invasive species, planting forests, creating meadows, adopting non-traditional lawns, or even potting beautiful native plants for urban balconies.

I don’t think I truly appreciated the inter-connectedness of our natural world until I undertook the two simple activities I mentioned above for myself. Quite simply, I added native plants to my established gardens, and created some new garden spaces which I planted as well. And then I waited, and watched, and this is what I learned...

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I’m so thankful that at a young age an appreciation for nature was instilled in me, and it brings me no greater joy than to enjoy these moments with my own children.

Bringing Biodiversity Home Continued...



***Pulsatilla sp.*, Pasque flower/Prairie Crocus** The first of my herbaceous plants I met in that first spring in my new home, its fuzzy neon green leaves registering alarm bells in my mind: intense in direct contrast to the muddy mundane still snow encrusted spring landscape. I was convinced it was an alien species, I couldn't have been more wrong and after a bit of research, this flower will always have a place in my green space. Its early blooms are the true harbinger of spring - an important and abundant pollen source for pollinators early in the season. It is all in the

details, and the saucer shaped petals (like many other spring flowers) is no accident! As the Prairie Crocus flower moves to track the sun across the sky, the shiny petals reflect the sun's energy into the centre of the flower, providing a warm haven for insects to survive and reproduce in cool spring climates. On sunny days, the temperature in the centre of a Prairie Crocus has the potential to be as much as 10° C higher than the ambient air temperature! I was pleased to witness several bird species pulling at its soft fuzzy foliage, a lovely nesting material no doubt.

***Solidago Canadensis*, Canada Goldenrod** I had a spot where I decided to naturalize part of my yard. I wanted a low maintenance plant that would easily fill in a large area both vertically and horizontally, and provide a solid block of colour. The Canada Goldenrod was the perfect choice and certainly met my needs. From a maintenance perspective the stalks would sometimes droop, and to remedy this I would have added a row of a shorter native species with erect stems lower in height in front to support the stalks and add a nice contrast of colour, like Pale Purple Coneflower. You can also prune the stalks just prior to mid-season to encourage regrowth so stalks are shorter. Pollinators flocked to the small dense flowers - an important pollen source as they bloom later in the season. The Goldfinches loved the seed and it is known to support over 100 butterfly and moth species!



***Physocarpus opulifolius*, Common Ninebark** I feel like I could write an entire article touting the beauty and virtues of Ninebark. It is stunning. Its unusual peeling bark provides winter interest and I observed some birds utilizing it for nesting material as well. Its flat topped cluster of white flowers bloom at a time when the late spring blooms are gone and just before the summer blooms begin, making it an important stopover for a variety of pollinators and butterflies. It thrived in my tough soil and required zero

maintenance. The attractive leaves vary in shape and size along the plant adding a very nice structural element. The fruit is a dark glossy red which looks beautiful against its green leaves. Songbirds LOVED their fruits!

***Asclepias sp.*, Milkweeds** If you only add one native plant to your garden, make it a milkweed! Butterfly Milkweed (right) was my favourite herbaceous addition to my garden, the



brilliant orange atop the slender green leaves, erect stems, perfect height. Common Milkweed (left) was my favourite vertical plant - its strong stems adorned by large leaves and pretty pink blooms. I was beyond excited to witness visiting Monarchs and the pollinators flocked in droves to both of these species!



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Rudbeckia hirta, Black-eyed Susan (yellow). *Echinacea purpurea*, Purple Coneflower. *Monarda didyma*, Bee Balm (red). I fell in love with this color combination online and recreated this in my garden. It is absolutely a stunning combination and the pollinators love it!



What really got my attention was how well my native species were utilized – for pollen or nectar, for nesting material, for cover, as habitat, for rearing young... Quite simply, our native wildlife seemed instinctively more comfortable with our native species. My native plants were the community centres of my beautiful garden, alive with activity, giving me cause to reach for various insect identification guides and often for my camera. It was amazing to sometimes see 4 or even 5 different pollinators foraging on one plant!

Certainly pollinators preferred our native species, and it's no surprise to the scientific community. Many varieties and native cultivars (also known as “nativars”) are sterile and don't even produce pollen.

Whoa, wait? Variety? Cultivar? What's the difference? Let's look at an example, the native *Rudbeckia hirta*. The Latin name, consisting of its Genus, *Rudbeckia*, and the species *hirta*, with no suffix. All species also have common names, one or many, that typically vary regionally. *Rudbeckia hirta* locally is most commonly known as Black-eyed Susan, however, it is also called Brown-eyed Susan, Brown Betty and Yellow Ox-eye Daisy. Using the common names can lead to confusion – many other species also share the common name Ox-eye Daisy, so it is always preferable to refer to the Latin name when purchasing or researching plants.

Cultivars, short for cultivated varieties, are often bred to produce variegated petals and foliage and double blooms. The selectively bred patterns or colours of cultivars are sometimes not as visible to pollinators. Cultivars with double blooms or specialized flowers often render the flower structure to a point where the pollen or nectar within cannot be accessed by pollinators. There is concern that pollen or nectar produced by cultivars may not be as nutritional. Varieties occur in nature and are true to type, meaning their seedlings will have the unique characteristics of the parent plant. Planting varieties outside of their native ranges can impact the genetic diversity of native populations.

To avoid buying cultivars or varieties and to obtain the best nursery stock possible, do the following:

- Contact your local Conservation Authority to obtain a list of plants native to your area and to inquire about local options for purchasing native plants.
- Learn the Latin names of the native plants you intend to buy and avoid purchasing cultivars or native plant varieties.
- Wherever possible, purchase plants that have not been treated with neonicotinoid pesticides (or any pesticides preferably). When I have posed this question at my local garden centres I am often given a response that an “integrated pest management” program is utilized – this reply does not guarantee the plants have not been treated with neonicotinoid pesticides.
- Try to purchase native plants that have been sourced locally and ethically. This is ideal as the plants will be assimilated to local growing conditions and will perform better. Plants sourced outside of your region or area may bring genetic adaptations or diseases that are undesirable.

Do not underestimate the impact that small changes to your garden may bring. While we may be at the top of the food chain, the elimination and degradation of any of the trophic levels beneath us results in an imbalance or at worst a complete collapse. By encouraging the presence and biodiversity of our primary producers – plants – high quality, locally sourced, pesticide free plants, we are in turn supporting all the consumers at each of the trophic levels above, and ultimately ourselves.

Stormwater Stewardship... Continued from page 5

Rural farm fields are often contoured/tile drained to optimize drainage – infiltration of water into the landscape is of course encouraged, but soil saturation is not ideal for the majority of cash crop operations. There is less opportunity for the rainwater to be held in place, to evaporate, transpire and infiltrate the soil, resulting in increased erosion and pollution.

In urban landscapes, alterations to topography and soil, the removal of vegetation, and the use of impervious surfacing (e.g. roofs, pavement and poured concrete) and traditional stormwater conveyance systems alters the way rainwater interacts with the landscape. Without vegetative cover, rainwater is not slowed down before it strikes the soil, and the soil absorbs the force of the rainwater, causing splash erosion or affecting the permeability of the soil. Without permeable groundcover, rainwater is not afforded the opportunity to infiltrate the soil, instead it flows accumulating whatever soil particles, debris, pollutants or litter may lie in its trajectory. In stormwater conveyance systems that utilize Combined Sewer Overflows (CSO's), excess overflow from increased runoff or storm events that carries rainwater, domestic sewage and industrial wastewater outlets directly into streams and rivers untreated. There is less, and in some cases no opportunity for rainwater to evaporate, transpire and infiltrate the soil, resulting in erosion, flooding and pollution.



The best way to lessen the harmful effects of stormwater runoff is to **treat it where it falls** – that means on and around your home! There are a variety of small changes that landowners can make on their own properties to:

REDUCE their contribution to stormwater runoff and help to,
REDIRECT some of the runoff away from the storm sewer system.

These small measures can cumulatively add up to big, positive changes in improving water quality and decreasing stormwater runoff.

- Disconnect your downspouts, allowing water to flow onto permeable surfaces.
- Install water conservation features like rain barrels or rain gardens.
- Replace your mowed lawn with gardens that allow for increased infiltration.
- Utilize alternatives to salt in winter, resulting in less sodium chloride reaching our waterways. Sand and or gravel to add traction are good alternatives, but be sure to sweep up any excess before it is carried off in runoff.
- Select permeable paving options over traditional impermeable options. Permeable paving options allow for more infiltration and also require less salt use because they are designed to allow water to infiltrate rather than pool.
- Establish riparian buffers along streams and rivers to filter sediment, decrease erosion and filter pollutants from rural runoff.

Interested in improving water quality or wildlife habitat on your property? Give us a call!

Hamilton Watershed Stewardship Program
Box 81067, 838 Mineral Springs Road, Ancaster, Ontario L9G 4X1
Phone: (905) 525-2181 ext. 181, or ext. 196
www.hamiltonhaltonstewardship.ca



**Hamilton Watershed
Stewardship Program**