Blog

Algae: Pond Scum or Essential?

JULY 20, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Alana Coulombe

Algae occur naturally in ponds, lakes, rivers, and streams, growing in sunlight, warm temperatures, and the presence of nutrients (Watersheds Canada, 2016). Freshwater algae are unicellular microscopic plants that use photosynthesis to convert carbon dioxide, water, and sunlight into oxygen and chemical energy. Although functionally similar, algae are an evolutionarily diverse group of organisms with different classifications (Lowe & LaLiberte, 2017).

Are all algae bad? No! Although algae are sometimes referred to as "pond scum", they play fundamentally important roles in all freshwater ecosystems. Algae are responsible for most of the photosynthesis in sun-lit streams and therefore are at the interface of the biological community and the physical-chemical environment (Lowe & LaLiberte, 2017). As the primary producers of oxygen and energy in aquatic ecosystems, algae form the base of the food web (Chapman, 2013). In addition to its use as a food source for many invertebrates, larger types of algae can also provide shelter for fish and other aquatic species (Watersheds Canada, 2016).

Algae are also essential for humans because they are at the base of the aquatic food web — from which many of our food sources arise — and provide us with air to breathe. In fact, through photosynthesis algae account for nearly half of the oxygen production on earth (Chapman, 2013)! Algae can also be utilized as water quality indicators for environmental monitoring (Lowe & LaLiberte, 2017). For example, benthic algae have short life cycles that result in a rapid response to shifts in environmental conditions (Lowe & LaLiberte, 2017). More recently, the sustainable applications of algae, including removing water pollutants, consuming carbon dioxide, producing biofuel, and its use in the pharmaceutical and agriculture industries are being investigated (Roy et al., 2022).

So how did algae get such a bad rap? Well, some algae species, though still important, can actually be very dangerous. For example, blue-green algae (or cyanobacteria) resemble bacteria and have the ability to produce potent toxins which can be harmful to humans and animals (Codd et al., 2017). An abundance of cyanobacteria can negatively impact the ecosystem biodiversity, drinking water supply, and aesthetic value and recreational use of the affected body of water due to health and safety concerns (Codd et al., 2017).

The common phrase, “too much of anything is bad”, also applies to algae! In excess, algae can trigger an algal bloom which can disrupt the natural balance of an ecosystem. During midsummer to fall when the ideal growing conditions for algae are accelerated and there is a considerable amount of nutrients present, algae can grow at a significant rate resulting in algal blooms (Watersheds Canada, 2016). Algal blooms can form a layer of “scum” on the water surface producing a distinct smell and changing the colour and clarity of the water (Watersheds Canada, 2016).

Blue green algae in irrigation drain at Griffith, NSW. 1989.

Algal blooms flourish due to a complex relationship between the physiological adaptations of the species, the environmental conditions, and interactions with coexisting organisms (Glibert & Burford, 2017). Nutrient enrichment of water, specifically by nitrates and phosphates, accelerates algae growth leading to algal blooms that may alter the water quality (Egan, 2014). Algal blooms may have harmful effects such as oxygen depletion of the water, fish toxicity, and mechanical interference with filter feeding by bivalve molluscs and fish (Glibert & Burford, 2017). The rising increase in nutrient pollution is due to numerous factors including the increase in human population, increased use of fertilizers for agriculture, higher demand for meat production leading to more animal waste, and expanding aquaculture industries (Glibert & Burford, 2017). Additionally, increased nutrient discharge has resulted from increased habitation and landscape development along the shoreline (Egan, 2014). Sewage discharge and increased storm water runoff can also contribute to the accumulation of nutrients beyond the lake’s capacity to utilize the nutrients resulting in excess algae growth (Egan, 2014).

Remember not all algae are bad! Although accelerated algae growth can lead to harmful algal blooms, naturally occurring algae are essential for life. I wonder if we should rethink the nickname “pond scum” and appreciate all that algae does for us and our freshwater ecosystems!

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The benefits of vegetated riprap

JUNE 20, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Alana Coulombe

Developed shorelines have a higher risk of erosion and often require protection of upland areas. The best way to stabilize your shoreline for long-term protection is by enhancing or creating a natural shoreline buffer consisting of native wildflowers, trees, shrubs, and grasses. If, however, your shoreline requires a stronger approach than plants alone, consider installing vegetated riprap instead of typical retaining walls or gabion baskets (Natural Edge, 2022). Riprap uses natural stone/rock placed on a gentle 3:1 angled slope to absorb wave energy on the shoreline (Natural Edge, 2022). To mitigate the issue of traditional riprap not providing sufficient wildlife and fish habitat within the riparian zone, rocks can be combined with native vegetation to provide greater erosion control and habitat preservation (Tron & Raymond, 2014).

Vegetated riprap is both aesthetically pleasing and environmentally friendly for water bodies needing continuous and resistive bank protection (Alberta Environment and Sustainable Resource Development [ESRD], 2011). Vegetated riprap is especially effective against high water, aggressive water flow, and ice movement (Otty Lake Association, 2017). Vegetated riprap offers the immediate and long-term protection afforded by traditional riprap as well as habitat benefits from the creation of a healthy riparian buffer (ESRD, 2011).

From an economic perspective, rocks are less expensive and more readily available than materials used in many other hardening techniques (ESRD, 2011). Since riprap consists of many small rocks, the overall structure is not compromised by the movement of a few rocks or shifts in the shoreline or bottom soil (Otty Lake Association, 2017). Therefore, riprap has the ability to self-adjust and, if needed, can be easily repaired by adding more rock (ESRD, 2011). The use of rough, angular-shaped rock is preferred over smooth, rounded stone because rough rocks can interlock and better resist overturning. Riprap design should consider the source of the rock in relation to sediment introduction as well as the size, type, and configuration of the rock with regard to its hydraulic

relationship. Rock is an ecologically favourable material to use over other hardening materials such as concrete or steel because the rough substrate is available for invertebrates to colonize and can enhance aquatic habitat (ESRD, 2011).

When native vegetation is included in the riprap structure, the root systems lock the rocks in place preventing damage to the riprap and improving the riprap's resiliency (Natural Edge, 2022). Additionally, deep-rooted vegetation, like trees and shrubs, can bind and stabilize the soil along your shoreline, reducing the risk of property loss caused by erosion (Natural Edge, 2020). Using their extensive root systems, these plants will act as barriers to reduce surface runoff, slow floodwaters, and filter pollutants and excess nutrients, thus improving water quality (Natural Edge, 2022). Plants also improve drainage of the slope by removing water from the soil through uptake and transpiration (ESRD, 2011).

In addition to shoreline protection, native vegetation is a vital part of the aquatic and terrestrial ecosystems and improves the aesthetic value and natural appearance of the shoreline property (ESRD, 2011). Overhanging branches and vegetation also provide cover, shade to cool the water, organic debris, food sources like insects, an easy transition from land to water, and other crucial habitat features for fish, frogs, turtles, waterfowl, and other wildlife (Natural Edge, 2020). To soften existing riprap, plant native vegetation behind the riprap and above or between the rocks, moving rocks if necessary to create space (Otty Lake Association, 2017).

To study the effects of vegetation on riprap stability, an analysis was conducted on the vegetated riprap installation along the Columbia River riverbank in British Columbia in 2013 (Tron & Raymond, 2014). While investigating the root system development within the vegetated riprap, it was determined that the additional root cohesion was more effective in the deeper soil layer predominated by the soil matrix (Tron & Raymond, 2014). Additionally, the roots did not increase the cohesion in the upper soil layer, which contains a larger particle size, but rather acted as a network to tie the rocks of the riprap together (Tron & Raymond, 2014).

Vegetated riprap is a biotechnical stabilization technique that combines structural and vegetative elements together in an integrated manner (ESRD, 2011). The rough surfaces of the rocks help to minimize wave action while plantings between the rocks and behind the riprap facilitate the erosion control and create wildlife habitat (Natural Edge, 2022). If an engineer has advised you that creating a natural shoreline buffer is not a strong enough approach for your shoreline property, consider installing vegetated riprap for long-term shoreline protection against erosion. Ensure the qualified engineers or contractors installing your vegetated riprap take all necessary precautions to protect your shoreline and the waterbody during construction (Natural Edge, 2022). This includes the responsible use of heavy equipment to prevent interference with existing vegetation and habitat as well as proper sediment barriers to prevent water quality issues and damage to fish and wildlife populations (Natural Edge, 2022). Please note the need for permits for work in or near water and the governing body responsible for those permits varies from region to region. Be sure to check with your local municipality, conservation authority (if applicable), appropriate provincial ministry and/or appropriate federal department for the permits to do work in or around water.

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Septic Systems: they may be out of sight, but they shouldn't be out of mind!

MAY 19, 2022 BY MONICA SEIDEL LEAVE A COMMENT

written by Terri-Lee Reid, Conservation Researcher, Canadian Wildlife Federation

When you love your lake, you will want to make sure your septic system is functioning properly. Improperly treated wastewater may contain bacteria, viruses, phosphorus, and nitrogen. Inadequate treatment can result in an overabundance of weeds and algal blooms. This can make a lake unpleasant for swimming and boating, affect water quality, fish, wildlife, and their habitats, and it can cause health risks for people.

Maintaining your septic system is your responsibility! Follow these helpful tips to make sure your septic system keeps functioning properly.

Septic System Do's:

- Know where your tank and drain field are.
- Reduce your water use to keep solid sludge settled on the bottom of the tank.
- Have your septic system inspected and pumped regularly and keep a record of all maintenance work.
- Have this done by a licensed professional. Get the contractor to check the scum and sludge depth, inspect for any large cracks or deterioration and check the fit of access lids.
- How often you do this depends on the size of your tank, how many people are in your household and how much it is being used. A general rule of thumb is to have a septic tank inspected and pumped every three to five years.
- Holding tanks may have to be pumped as often as every week, depending on its size and usage. Check your tank regularly and have it pumped before it reaches its capacity.
- The best time to pump out your septic tank is summer and early fall. This ensures the tank will have time to refill and re-establish bacterial activity before winter.

- For systems that receive little to no use over winter, keep about one foot of liquid in the tank to support bacterial action and to reduce any damage from freezing.
- Keep your septic system accessible so it can be properly maintained.
- Keep a perimeter around the edge of the drain field clear of trees and shrubs. How big of a perimeter depends on the species – be sure to do some research!

Septic System Don'ts:

- Don't drive or park vehicles on top of your drain field; this can compact the soil and damage pipes.
- Don't use cleaners, soaps and detergents with phosphates.
- Don't use septic additives. They are not necessary or effective and some may harm your system.
- Don't flush anything that you didn't produce, except for toilet paper! That means no fats, grease, paints, cat litter, sanitary products, diapers, wipes, cigarette butts or kitchen waste.
- Don't water your lawn over the drain field.

What to do if your septic system isn't working properly
It's time to call for help from a professional if:

- Your toilets or drains are backed up
- You have foul smells inside and/or outside your house
- You find soft or spongy ground over the drain field
- Your drain field has patches of abnormally healthy-looking grass on it
- There's surface water leaking into the holding tank
- You are requesting fewer than normal pump outs on your holding tank

For more information on how you can show your lake some love, visit LoveYourLake.ca. Love Your Lake is a shoreline naturalization program developed by the Canadian Wildlife Federation and Watersheds Canada.

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Helping Your New Plants Thrive

APRIL 14, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Samantha Cunningham

The first step in helping your new plantings is ensuring they are properly planted to start. Choose a location for your plant that is best-suited for its entire life-cycle. This includes checking its environmental preferences, for native species check out the Native Plant Database for this info. As well as ensuring the new planting will not need to be transplanted later in its life due to encroachment on pathways, water lines, and electrical wires for example.

There are two main categories of plantings: bare root, and container. Generally, there are three steps to proper planting:

1. Ensure the roots of the plant are healthy and able to expand outward when in the ground. This might require trimming of woody roots and/or anything that appears unhealthy.
2. Ensure your planting hole is the optimal size. The rule of thumb is for the hole to be 2-3 times the size of the original container or root spread. This ensures the soil surrounding the new plant is aerated and roots can easily move through.
3. Ensure you properly backfill/refill the hole once the plant is in the hole. You want to make sure that any chunks of soil are broken up before refilling. In a deeper hole you can consider filling the hole halfway, watering, and then completely filling the hole. This helps ensure moisture is found throughout the soil as well as assists in settling the soil. Avoid tamping the soil down with your feet as this can harm roots and cause compaction which is not good for plant or soil health!

Once your hole is filled, you can consider creating an optional soil berm around the base of the plant to funnel and hold water at the top of the root ball to be absorbed. Be sure not to plant your new planting too deep into the ground. Individual species needs differ. For example, woody plants need soil that is level to the root ball (where root meets trunk) as planting lower than that can cause rot.

Once your plants are in the ground, it is time to really think about how to increase their likelihood of survival. The number one tip echoed by gardeners everywhere is…water! New plantings do not yet have an established root system that helps them get their water requirements from surrounding soils. Water new plantings frequently and thoroughly to avoid creating wilting point conditions. Check watering frequency in accordance with your soil type and plant preference. For example clay-dominant soils will need less frequent water than sand-loam dominant soils. Adding 2-4 inches of mulch around — but not touching the stem — of the plant helps with retaining moisture and preventing competition for growing too close to your new planting. You can also add a hemp fibre mat (pictured above) which can reduce competition from grasses.

If you are trying to keep animals away from your newly planted species, you can use a variety of natural methods to try and keep them away. For the mammals who love a garden salad, a physical barrier like a mesh tent over the planting may be necessary while the plant establishes. For better odds, you can double up the physical barrier with a DIY spray that will not hurt the plant, the pest, or the surrounding environment. There are deer and rabbit-specific repellent recipes, as well as insect-specific repellents. Typically, these mixtures involve common household goods including water, dish soap, garlic, and spicy pepper, making them easy on the wallet and environment!

There is no one way to plant, and no one thing will guarantee plant survival. However, using any of the tips above can help give your new plantings the best chance of growing strong and tall. If you are unsure of where to start, check out our Natural Edge Program for some great (and free!) resources!

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Stay Natural, Stay Safe around Ticks

APRIL 2, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Samantha Cunningham

Ticks are a member of the arachnid family, like scorpions and spiders. They move through crawling movements only, and survive through feeding on whatever blood-flowing creatures are available, humans included.

Ticks in Canada

There are around 40 species of ticks in Canada which range in size from a pinhead to a dime. Ticks are present across Canada, living in wooded areas, tall grasses, and under leaf litter. Ticks can be present in urbanized green spaces as well as rural ones and everything in between. They become active at 4ºC and above, year-round, and their full life-cycle can last up to three years.

Some tick species pose health risks. The main species that can transmit Lyme disease are the black-legged tick (*Ixodes scapularis)*, also called the deer tick, which is found across Canada, and the western black-legged tick (*Ixodes pacificus*) which is specific to British Columbia. However, there are other tick species that can also transmit diseases.

Lyme Disease

To transmit Lyme disease to humans, the tick usually is attached for a minimum of 24 hours.

Lyme disease is an infectious disease caused by *B. burgdorferi* bacteria transmitted from infected ticks to humans or animals. Symptoms typically appear 3 – 30+ days after the initial bite has occurred. For Lyme disease risks, symptoms, treatments, and more, check out the Government of Canada's website. If you have been in an area known for Lyme disease and were bit or have started experiencing symptoms, go see a healthcare provider right away. Tell them where you were when you got exposed, and if applicable how long the tick was attached to you. The earlier Lyme disease is treated, the better as antibiotics given in early stages have proved more successful.

How to Remove and Dispose of the Tick

If you catch a tick attached to you do not panic! Not every tick carries a disease. Do not rip the tick off or burn it or smother it with Vaseline, as these actions will not help. Instead, use clean fine tipped-tweezers as available, or a tick pick (like this one) and firmly grasp the tick as close to the skin as you can get. Gently, pull away from the skin. The goal is to get the entirety of the tick out in one attempt. If this does not happen, attempt to get the remaining tick-bits out of the skin with tweezers.

Once the tick has been removed DO NOT crush the tick between your fingers, as this is incredibly unsanitary and could be unsafe if it is an infected tick. Instead try the "contain and kill" method. For example, put the tick in a container with alcohol and encase it in tape. Before disposing of the tick, take clear, detailed photos showing it from different angles. This will help in identifying it through public databases, or through various online sources like Tick Awareness Canada, CanLyme, or Biological Survey of Canada.

Ticks and Natural Shorelines

The best method to deal with ticks is prevention. With climate change, tick habitat is expanding and changing. Since ticks can tolerate and thrive in such a wide variety of environments, it is unlikely that naturalized shorelines encourage tick habitat any more than a grassy lawn does. This sounds counter-intuitive, but some studies have shown the ability of composition and biodiversity of habitat areas to limit and regulate tick abundance. So in addition to the other benefits of natural shorelines like water filtration, erosion prevention, and providing important aquatic and terrestrial habitat, they also might be able to keep the ticks at bay (or at least not get worse)!

Tick Prevention

Ticks are inevitable when being outdoors. Here are some tips you can follow to help keep the ticks away:

- Wear closed toed shoes and tall socks. Even better, tuck your pants into the socks and your (long-sleeved) shirt into the pants.
- Use Deet or Icaridin-based bug sprays when spending time in tick habitat.
- Many people treat their outdoor shoes, camping gear, etc. to repel ticks.
- Wear light coloured clothing and gear, which helps keep you cool, attracts fewer mosquitos, and makes it easier to spot any ticks.

More important than what you wear, make sure you have a plan on what you do when you take clothing off. Tick checks are critical to safety after spending time outdoors, no matter the location. Ticks can attach to your skin, clothing, shoes, gear, and most materials. It is good practice to leave as much as you can outside the home in a garage or storage area until you can check it over for tick hitchhikers. Clothing can be placed in the dryer on the highest setting for a minimum of 10 minutes to kill any ticks present. While your clothes take a tumble, consider showering. Taking a shower within 2 hours of coming indoors has been shown to significantly reduce the risk of getting Lyme disease. It washes off any loose ticks and provides a great opportunity to check out

other parts of your body where ticks prefer to hide (elbows, armpits, ears, etc.). Do not forget to check over your dog or pets that also spend time outside! Ticks and Lyme disease are not just a threat to humans.

For other tick-prevention actions, stick to paths or trails both on and off your property, including to the dock or shoreline. You can better protect yourself on these paths by laying down gravel or wood chips, providing a buffer between your path and surrounding vegetation. You can also help by trimming areas along frequented pathways to prevent the risk of you brushing up against branches and brush. Ticks can also hitchhike in firewood brought from outside, so do your best to only bring it inside the house when you are ready to burn it.

Conclusion

Keeping constant vigilance is key to keeping ticks off your skin and out of your house. Prevention is easier than treatment, and when you know better you can do better! Your concerns about ticks do not have to keep you from naturalizing your shoreline or keeping up your current one. Follow the available tick prevention tips, contact our Natural Edge Program for native species planting details, and stay safe while enjoying the outdoors!

Additional Resources

1. Provincial Lyme disease information and resources: canada.ca/en/public-health/services/diseases/lyme-disease/provincial-territorial-resources.html
2. A Detailed Guide to Avoiding Ticks: halifaxtrails.ca/blog/a-detailed-guide-to-avoiding-ticks
3. You, Your Pets, and Ticks: ticktalkcanada.com

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Seed and Genetic Diversity

MARCH 7, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Samantha Cunningham

While environmental organizations often differ in purpose and mission, one thing we all agree on is the importance of native plant species. Our Native Plant Database and Natural Edge program are based on equipping landowners with tools to best naturalize their shoreline using native plants. The Forest Gene Conservation Association is another organization educating the public about native plants and the importance of genetic diversity in vegetation. Their primary focus is Ontario forests, but their principals apply almost universally. Flora and fauna require a large enough gene pool to ensure offspring have the best chance of survival. One way that nurseries, greenhouses, and growers ensure they have the best seed possible to grow their plants is by working with seed collectors.

Now I am sure you are asking yourself: what on earth is a seed collector?? Well, it is exactly what it sounds like! A seed collector is someone who goes out to healthy forest stands to gather the good seed from targeted species. Collectors then pass this seed to the people who treat, plant, and sometimes store the seed for upcoming seasons.

Recently I completed the final workshop in the Certified Seed Collector course offered by the FGCA in Southern Ontario. This course is a mix of classroom and hands-on learning about native species and their seeds. The certification is provided by Ontario's Natural Selections and utilizes *Seeds of Ontario Trees & Shrubs Field Manual for Crop Forecasting and Collecting*. This book is great to better understand everything vegetative related in Ontario, but other provinces have similar manuals as well.

Plant health starts with its seed. It is especially important to promote the health of native species as we all experience the impacts of climate change. Plants that come from a good seed stock and that are native to the area have a better chance of surviving turmoil environmental conditions. Vegetation is often the base of the food pyramid for animals, so by supporting native species you are helping to buffer your area from the effects of climate variations.

As a property owner you can help contribute to native species and their genetic diversity through your garden. By choosing plants that are native to your eco-zone, you are helping to support all of the other local species, both plants and animals. When choosing your plants for the season, go to local nurseries, greenhouses, and growers to support local business and local genetic diversity for your native species!

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Get to Know your Pollinators

FEBRUARY 28, 2022 BY MONICA SEIDEL

LEAVE A COMMENT

by Samantha Cunningham

We often talk a lot about pollinators as a general grouping of insects we see in our gardens and hear about on the news. Recently, there are major concerns about the health of honeybee populations in North America and how a decline in pollinators has many severe implications. Aside from honeybees, there are about 800 other species of bees in Canada, and as well as countless other species of butterflies, moths, beetles, and hummingbirds that are considered pollinators. Today we want to get to know some of Canada's lesser-known pollinators!

But first, an important side note. Bats are a critically important pollinator in North America, but not present in Canada as a pollinator. Supporting Canadian bat species is still important to maintaining a well balanced ecosystem. However, if you like tequila or mizcal, you should especially care about bats as pollinators in other countries!

Bees

As bees are the most common and important pollinator (with over 800 species in Canada), let us get to know a native species found across Canada. The Mining Bee does indeed mine, or burrow, into the ground to make a nest and raise its young. These bees are only active in the springtime, which is why historically they were believed to be the original primary pollinator of native fruit trees and other food sources. Typically, they are a fuzzy rust colour, and they are docile with their sting being too weak to penetrate human skin. In addition to being an important pollinator, these bees also help to aerate the soil through their nesting activities.

Butterfly

The Canadian Tiger Swallowtail present from the bottom tip of Ontario, across the country, and up past the Arctic circle. You can often find males huddled around puddles to get nutrients and water. They are a very common, and beautiful, pollinator species found in Canada. With a wingspan of up to 8cm they have a large wingspan to transport pollen! Swallowtail presence in your garden can also help to deter predators like birds and lizards.

Canadian Tiger Swallowtail (Simon Lunn).

Bird

Ruby-Throated Hummingbird is another species spread across virtually all Canadian provinces. Its presence is only in the warm months as these hummingbirds spend the winters in Central America. It has been proven that these hummingbirds fly the 800km over the Gulf of Mexico in a day and they do not hitchhike on the backs of other birds as previously thought! Another curious feature of these cool little creatures is their ability to remember the placement of food sources from the previous summer. If you are looking to attract some hummingbirds to your property, pick tubular shaped flowers, or use a hummingbird feeder and keep it in the same area of your property year to year. Make sure to keep the food source away from windows, and keep the space dedicated to hummingbirds and not near other bird feeders or food sources. This is because hummingbirds are very defensive over their food! Make sure to regularly clean your hummingbird feeder, too. While being beautiful and a great pollinator, ruby-throated hummingbirds also consume smaller insects like spiders and aphids, making them a great defence for your garden.

Male Ruby-throated Hummingbird (Simon Lunn).

There are over 1,000 species of pollinators in Canada that support our agricultural industries and who are critical for general ecosystem health. Not only do these species complete the important task of pollination, they also fill other ecological niches in their environments. Supporting pollinators is a key component of promoting a well-balanced ecosystem on your property and beyond!

Pollinators are primarily threatened by habitat loss and degradation, and pesticide use. As individuals, we can all do our part by avoiding the usage of harsh lawn chemicals and by planting native flowering plants wherever possible. A great place to start to naturalize your shoreline property is our Natural Edge Program, including the Wildflower Garden Guide, and Native Plant Database where you can see what native plant species are best suited for your eco-zone. Whether you create a designated pollinator garden or just add some wildflowers among your normal plants, every little bit helps to support these important creatures.

For everything pollinator-related, be sure to check out the Pollinator Partnership.

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This blog post is part of an education and engagement series that is generously funded by the RBC Foundation through RBC Tech for Nature, a global, multi-year commitment to support new ideas, technologies, and partnerships to address our most complex environmental challenges. To learn more about Watersheds Canada's project that is funded through RBC Tech for Nature, please read this media release.

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Top 5 Ways to Support Winter Wildlife

FEBRUARY 12, 2022 BY MONICA SEIDEL LEAVE A COMMENT

by Samantha Cunningham

Winter in Canada officially lasts a total of 4 months, although sometimes it can feel much longer! This season can be a difficult one, especially for wildlife. Canadian species have either evolved to migrate to warmer climates, hibernate, or adapt to these seasonal changes. Some of these adaptations include hibernation, storage food, physical changes, and other location dependent characteristics. The increased development of natural areas has placed stress on species throughout the year but particularly in the wintertime. The silver lining is that there are things you can do to help support your shoreline wildlife this winter.

1. **Support Native Plants!**

Prioritizing native species on your property has year-round benefits. Native plants are more suited to Canadian climates meaning they are typically more winter hardy, and often fill an ecological niche throughout each season. For example, black chokeberry (pictured below) blooms lovely flowers in early spring that support pollinators, provides cover and edible greenery during the summer, then grows edible berries in the fall that last throughout the winter. Even native plants that do not act as a direct food source will provide valuable habitat and help diversify the landscape. If you have specific animals you want to support or see, you can look up native plants they frequent and plant those species next growing season!

2. **Naturalize your Shoreline!**

A naturalized shoreline not only provides valuable habitat for animals year-round, but it can also provide benefits such as soil stabilization, flood mitigation, and climate control. It has been shown that some freshwater fish species prefer the near-shore area during the wintertime, especially if the area has overhanging vegetation present. As well, leaving areas of woody debris, large cobbles, or other such natural features is beneficial in supporting both aquatic and terrestrial species. The Natural Edge Program can help support you in planning and planting your shoreline with your choice of native vegetation!

3. **Limit your disturbance**

The best way to limit your impact on the shoreline is to create pathways through your property and stick to them. This can be beneficial year-round, but especially impactful in the wintertime. Many terrestrial creatures take shelter in and under snow piles, typically at the interface between the snow and earth. Try to avoid near-shore activities that disturb the water under the ice. In winter, terrestrial or aquatic animals have metabolic limitations and finite food supplies. It is important that they limit their movement to preserve energy and not increase their risk of predation. There are options and opportunities to create or help enhance winter habitat, like restoring in-water structures for local fish species (pictured below).

4. **Start planning for spring!**

Nothing helps beat the winter blues quite like planning next season's gardens. Winter is a good time to look into local programs, like Love Your Lake and the Natural Edge Program. You can also check out your local Conservation Authority or Lake Association for additional programs. If you are more of a do-it-yourself type person, check out the Native Plant Database to find native species for your eco-zone.

If you are planning to do major work along your shoreline or in the surrounding areas, look into environmental guidelines and local by-laws for any potential permits needed. This is especially important if you are doing any in-water work as spawning times of fish should be considered. Finally, winter is a great time to look back into your maintenance records and see if any upkeep is required. If you have a septic tank, when was the last time the honey-wagon paid a visit? If you have eavestroughs, do they need to be cleared out? Often, it is good to book these services ahead of time as they can book up quickly right when you need them.

5. **Winterize your chemicals.**

Any chemical compound, especially in liquid form, should be stored year-round in a cool, dry, well-ventilated place, away from heat sources, and in an area that is not susceptible to flooding. This can be in a garage or shed outside the home that is well set-back from your shoreline. It is important to store all materials according to the manufacturer's instructions. This is because many commonly used chemicals can freeze, expand, break their container, or leak if they are not stored correctly. These chemical spills pose a threat to human health and environmental health. The accidental leaching of chemicals into the surrounding environment or the cleaning of spilled chemicals can often lead to harmful contaminants entering the local watershed. Proper storage is also important to ensure the product is usable post-winter. For example, freezing will ruin many types of paint and alter the colour of the product, which would be a nasty surprise when you want to use it in the spring! Do not wait for winter to hit to store your fertilizers, pesticides, paints, and gasoline. Many of these common chemicals have a freezing point above 0°C. The best thing to do is to read the instructions on the label or look up the specific Material Safety Data Sheet (MSDS) online.

Winter can be a tough time out in the natural world, but by following these five simple tips and tricks, you can make a positive impact on your local ecosystems. Summer might seem like a long way away, but it is never too early to reach out to start planning for better weather. Watersheds Canada has many different programs, partnerships, and free resources that are available to help you support your shoreline health.

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Creating a Resilient Shoreline: Keeping a natural shoreline that benefits your family and local wildlife

NOVEMBER 26, 2021 BY MONICA SEIDEL LEAVE A COMMENT

by Monica Seidel, Communications and Fundraising Coordinator, Watersheds Canada

This past summer, you might have enjoyed the company of a northern map turtle, green frog, calico pennant dragonfly, or Great Blue Heron along the shores of Georgian Bay. Like you probably did, these charismatic and iconic species spent a large part of their summer near the shoreline. In fact, these species depend on the shoreline and riparian zone for their very survival. This zone includes the first 30-metres of land around a lake, river, or bay and is often seen as a ribbon of life because it supports 70% of land-based wildlife and 90% of aquatic species at some point in their lifetime (Kipp & Callaway, 2003). Wildlife will use this area for food, water, shelter, breeding, and nesting.

Wild Bergamot (Monarda fistulosa) is a perennial wildflower that blooms a beautiful pink/lavender flower between July and September. Photo: Monica Seidel.

In addition to supporting wildlife populations, shorelines are important to Canadians – 53% of surveyed Canadians said natural shorelines was an element that affected their personal enjoyment of being by the lake (Love Your Lake, 2020). Shorelines provide people with important cultural, recreational, and economic opportunities and can be fundamental in shaping our connection and relationship with freshwater and nature from an early age. Ontario is home to more than 250,000 lakes which means many of us have (or know someone who has!) a waterfront property that we can visit and enjoy.

Increasingly though, these important areas and the wildlife that live there are under threat. Over 55% of Canada's

species or unique populations of freshwater fish are at risk (Cooke, et al., 2021), with the Eastern Georgian Bay sub-watershed being scored as "very high" for various threat indicators including pollution, habitat fragmentation, invasive species, and overuse of water (WWF-Canada, 2020). Facing increasing pressures from development and the changing climate, it is important to look at nature-based solutions to protect our freshwater areas.

Planting on-land native vegetation

The best way to create wildlife habitat and protect your shoreline from erosion is to start or enhance a native plant buffer. By planting a variety of native trees, shrubs, and wildflowers, your shoreline will benefit from different root structures that work to hold your shoreline together.

This property was re-naturalized in 2018 using a variety of native plants. The photo on the right shows the transformation as of 2020.

When choosing suitable plants for your shoreline, it is important to consider your site conditions (sunlight, soil, moisture), personal preferences (plant type and height), and goals of planting. If protecting waterfront views is important to you, you will want to plant low growing species. Or, if your main priority is attracting wildlife and pollinator species to your property, you may want to plant a variety of flowering and fruiting shrubs and wildflowers. By choosing many plants that bloom and fruit throughout the year, you will increasingly help local wildlife. Some examples include:

- Wildflowers: Blue Lupine (blooms in spring), Wild Columbine (spring), Wild Bergamot (summer), Common Milkweed (summer), New England Aster (late summer/fall)
- Shrubs: Allegheny Serviceberry (spring/summer), Shrubby Cinquefoil (summer), Black Elderberry (late August),Smooth Arrowwood (fall), Winterberry Holly (winter), Red Osier Dogwood (winter)

A great free tool you can use to pick native plants best suited for your property is the Native Plant Database. This database selects plants based on Canada's hardiness zones; much of Georgian Bay is located in zone 5b. Once you decide what you want to plant on your property, it is important to consider the size of your buffer. One study found that a 30-metre buffer removed more than 85% of all studied pollutants including suspended sediment, nutrients, and pesticides (Zhang, et al., 2010)!

Compared to turf grass, deep rooted plants like silver maple, black chokeberry, and nannyberry have extensive root systems, making them valuable for filtering runoff and stabilizing loose soils that may be vulnerable to erosion, ice push, and boat wakes. Any sized buffer is better than no buffer at all! Remember that your buffer can be completely customized based on your preferences and budget.

Protecting and enhancing in- and near-water habitat

Another critical component of a resilient shoreline is the presence of different types of habitat features which provide shade and protection for fish, turtles, and macroinvertebrates. Start enhancing in- and near-water habitat this fall by doing…nothing! Fallen branches, leaves, and downed trees in the water and along the shoreline act as a valuable land-water interface for species like northern map turtle and Great Blue Heron and provide protection for fish and frogs. You likely already have some of these features on your property and they simply need to be left alone if it is safe for you to do so.

Fragrant White Water Lily (Nymphaea odorata) is an example of a floating aquatic plant as it has most or all of its leaves floating freely on the water's surface. Photo: Monica Seidel.

As for aquatic vegetation, you may have seen these plants and not thought about their many amazing benefits – aside from being beautiful! Aquatic vegetation absorbs wave energy, protects water quality, produces oxygen, takes up nutrients, stabilizes shorelines and bottom sediments, and protects against invasive species and algae competition. They keep busy! In order to experience these full benefits on your property, you are best to manually clear a small path through any existing aquatic vegetation so you can get to deeper waters. You then leave the rest untouched.

Additional resources

If you are looking for more information about taking local action, please visit watersheds.ca/resources to access free fish habitat enhancement guides, plant care guides, and self-assessment tools to help you protect Georgian Bay for years to come.

About Watersheds Canada

Watersheds Canada is a federally incorporated non-profit organization and registered Canadian charity (863555223RR0001) that is committed to building and sharing education and stewardship programs in communities across the country. Since 2002, these programs have engaged and helped youth, property owners, community groups, and organizations enhance and protect the health of their lakes, rivers, and shorelines.

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Article originally posted in the fall 2021 Georgian Bay Forever newsletter.

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Know, and love, your lake!

NOVEMBER 2, 2021 BY MONICA SEIDEL LEAVE A COMMENT

by Mario Garavito

In its simple definition, a lake is a body of water that is surrounded by land. A lake can be found in every continent around the world, varying greatly in size and in depth. It could be small enough to fit in your backyard – like a pond – or so big that it is known as sea – the Caspian Sea is the world's largest inland lake, measuring over 371,000 km^2 in size!

Canada is exceptionally fortunate when it comes to lakes. According to different studies, our country is home to the largest number of lakes in the world, with about 7.6% of Canada's nearly 10 million km^2 being covered by freshwater. Therefore, despite an apparent abundance, the freshwater resource must be managed carefully. We have a responsibility of protecting these important bodies of water!

Lake-side adventures (photo: Mario Garavito).

Why are lakes important?

Lakes are ecosystems: areas where biological energy flows through a food chain that is used by many different types of organisms like birds, mammals, plants, and insects. In other words, a lake is a community where living organisms live and interact. Its health is vital for maintaining the equilibrium, or balance, of the whole system.

***Did you know**: Some scientists believe the first living organisms on Earth developed in lakes?*

Likewise, lakes are important in preserving and maintaining wildlife populations. These freshwater areas serve as migration stops and breeding grounds for many birds and as refuges for a wide variety of other animals. For people, lakes are valuable resources in a variety of ways. For example:

- Farmers use lake water to irrigate crops;
- Lakes supply many communities with water; and,
- Because they are often very beautiful, lakes are popular recreation and vacation spots, and, for some fortunate ones, their permanent homes.

Is my lake healthy?

We are completely sure that if you are reading this article, you care about Canada's lakes. Because of that, you probably wonder if the lake where you live or which you constantly visit is in good health. The answer is not as simple, as not all lakes are alike, but there are some common aspects that can help to make a first evaluation:

- **Healthy characteristics:**
  - **Life**! If you see fish and plants, it is a good sign;
  - **Turbidity**: the less, the better;
  - **Wildlife**: have you seen deer or other animals drinking water from the lake?
  - **Water circulation**: allows oxygen to be spread throughout the lake and is an essential part of keeping the lake alive.

Pied-billed Grebe with baby (photo: Simon Lunn).

- **UNhealthy aspects:**
  - **Eutrophication:** when a lake gets too many nutrients, it causes blue-green algae growth;

- **Blue-green algae** (cyanobacteria): It stays on the surface of the water and forms a sort of mat. When the conditions are just right, the algae multiply quickly. This is called an algal bloom and is harmful to lakes, animals, plants, and people; and
- **Invasive species**: can change the natural habitat of the lake and are known as biological pollutants when this happens.

Algae bloom (photo: Barbara King).

What can I do for my lake?

There are many actions that you can take to protect and take care of your lake. At Watersheds Canada, we have been working all over the country alongside local community groups and individuals with the mission to protect and restore freshwater. One of them is **Love Your Lake,** a shoreline evaluation and stewardship program that provides individuals with a property specific report outlining voluntary actions that can improve the health of your lake and shoreline property.

The Love Your Lake Program has successfully assessed more than 150 lakes across Canada which includes almost 40,000 shoreline properties. You can learn more about the Program at loveyourlake.ca

Also, we would love to know which is your favourite lake in Canada and what you are doing to protect it. We invite you to write it in the comments and share this article with some friends or family that **love the lakes as much as you**. You can also fill in this short survey to let us know what you love about your lake: loveyourlake.ca/survey

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Using Benthic Macro-invertebrates as a Way to Assess Aquatic Pollution Levels

AUGUST 24, 2021 BY MONICA SEIDEL LEAVE A COMMENT

by Ian Grist

If you are a property owner with a river, creek, or stream nearby, you may be concerned or curious about the health and pollution levels in the water. There are ways you can find out the contaminate levels present in your water by what aquatic organisms you observe. In particular, benthic macro-invertebrates are excellent bio-indicators of freshwater health. Macro-invertebrates do not have a backbone and are visible to the naked eye. They live on the bottom of a water body, often in the substrate. Since they spend large parts of their lifecycle in the water, they are very sensitive to different levels of pollution they encounter over their lifetime.

Researchers use macro-invertebrates as bio-indicators, or "living indicators", because of their short life-cycle, the fact that they are all genetically similar, and because of their sensitivity to a broad range of contaminants and pollution. In each aquatic ecosystem, there are tons of different macro-invertebrate species present and every species has different tolerance levels to pollution. For example, *Daphnia sp.* (pictured below), also known as water flea, is very sensitive to contaminants. Finding these species in your stream is a good sign of a healthy ecosystem. The presence or absence of zooplankton is also a good indicator of a polluted stream or river.

Some of the low tolerance macro-invertebrates include caddisflies, dragonflies, water pennies, stoneflies, and mayflies. Finding these means the ecosystem is healthy. If, however, you only find any black flies, aquatic worms, or midges, this may indicate your stream or river is contaminated as these species are all tolerant to higher levels of pollution.

I encourage you next time you are out on the water to bring a net and some small containers to see what species of benthic macro-invertebrates are in your local stream or river. Not only will you discover a bit more about the health of your local aquatic ecosystem, but you can also submit your findings to an online citizen science platform like iNaturalist. Happy adventuring!

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What, When, and How Much to Prune

OCTOBER 19, 2020 BY MONICA SEIDEL LEAVE A COMMENT

Pruning is a technique used to help support the growth of native trees and shrubs, and while it is not required, it may be a good option for your property to protect pathways, sight lines, or protect plants from neighbouring competitors. It can be a tricky and overwhelming task if you don't know what to look for or how to properly prune.

What Should I Prune?

First, you will want to determine which species you want to prune. It is best if you watch your property throughout the year while different plants are in bloom. You will notice their height, width, and if they block any important views or pathways. You may also want to identify different plants and see if they are native or non-native species. It may be the case that you want to pull a plant rather than prune it! Use the free Native Plant Database to see what species are native to your Canadian hardiness zone.

Once you have decided which species you would like to prune, you have to decide how much to prune. Branches that are dead, diseases, or damaged should be removed to protect the plant from further health risks.

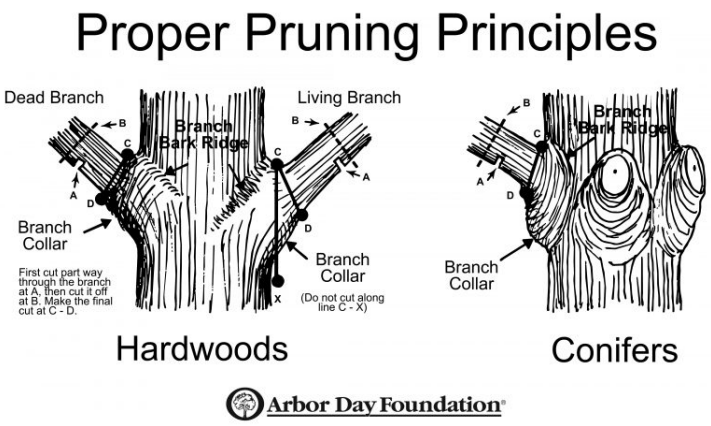
When to Prune

Pruning can cause stress to trees and shrubs so it should only take place while the plant is in dormancy. This happens in the late fall and early winter. Leaf loss in the fall is good indicator that a plant has gone dormant. If you want to prune a shrub that flowers, it is best to prune in the early spring before the buds emerge, or after the flowers have died. Removing the dead flowers can help the shrub leaf out by encouraging nutrients to access the leaves.

How Much is Too Much?

Pruning should never remove more than 25% of the crown of the shrub or tree. Branches should compose at least two-thirds of the shrub or tree to ensure that the vegetation has enough mature leaves to support growth and survival.

Once shrubs begin to show signs of aging, rejuvenation pruning can be done to encourage new growth. Gradual rejuvenation involves removing old growth by one-third every year until all old growth has been removed. Complete rejuvenation involves cutting the entire shrub back until just the stump remains – about 15-25 centimetres above the ground.

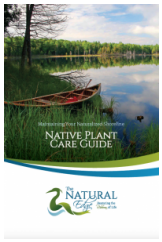


How to Prune

Cuts should be made on the branch that is to be removed at the branch collar (see diagram above). Pruning at the branch collar reduces the risk of unwanted damage and infestation, and allows for faster healing.

Tools and materials to prune can include: pruning shears, a hand saw, step stool or ladder, gloves, eyewear protection, a bucket, and tool cleaning solution. Infection and disease can spread from plant to plant via pruning tools. Be sure to clean tools after every tree or shrub before starting on another one. Possible disinfecting solutions can include one part bleach, dish soap, or pine oil cleaner in three parts water.

To prune, start by making a wedge shape cut, roughly one-quarter of the branch diameter on the underside of the branch. This wedge should be approximately 12cm from the branch collar. This wedge-cut in not intended to remove the branch. Next, approximately 20-30cm away from the branch collar, cut the branch completely, starting at the topside of the branch. This will leave a branch stub with the initial wedge cut. Finally, cut off the stub by cutting parallel to the collar. Cutting the collar can damage the tree or shrub by increasing healing time and susceptibility to infection.



This information, along with topics like mulching and watering, are explored in the Natural Edge Native Plant Care Guide. You can download a free copy of the Guide here or you can purchase a hard copy here.

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Pollinator Champion Feature – Alan and Joyce

JULY 23, 2020 BY MONICA SEIDEL LEAVE A COMMENT

After retiring and moving to the countryside seven years ago, Alan and Joyce are enjoying the peace and quiet of life on the water. Having both grown up going to cottages for vacation, they now are able to spend more time in nature and enjoy the panoramic views with little evidence of people around. "Natural shorelines are important to us because it draws in more nature – plants and animals – to our property. We enjoy looking around and seeing and living beside the natural shoreline", said Alan, a participant in the Natural Edge Program from Watersheds Canada.

The Natural Edge Program

The Natural Edge Program works with waterfront property owners to restore their shoreline by planting native trees, shrubs, and wildflowers. Each landowner receives a full-service restoration program, which includes a free site visit, and the creation of a shoreline restoration plan for their property using Watersheds Canada's self-developed App. Each customized plan provides detailed descriptions of native trees, shrubs, and wildflowers suitable for planting based on their site conditions and preferences.

Alan and Joyce's custom planting plan was created using the Natural Edge App. Landowners walk their property with trained Natural Edge staff to pick appropriate tree, shrub, and wildflower species based on light and soil conditions, and aesthetic and height preferences.

By planting, Alan and Joyce are helping to improve their lake's water quality as native plants filter excess nutrients and toxins out of water run-off. Vegetated shorelines also stabilize the shore and reduce soil erosion as plant roots hold soil in place, a problem that their lake has been susceptible to: "we'd rather have erosion control that is natural, rather than human-made", said Alan. "In recent years we've lost four trees along the shoreline that have come down due to erosion".

Welcoming Pollinators to the Property

An additional benefit to participating in the Natural Edge Program is the anticipated increased presence of pollinators to the property. Wildflower species like Butterfly Milkweed, New England Aster, Black-Eyed Susan, and Wild Bergamot, and shrub species like Red-Osier Dogwood, Bush Honeysuckle, Chokecherry, Canadian Serviceberry, and Snowberry were all planted along their shoreline property to provide pollinators like bees and butterflies with food and habitat. While they "do see some hummingbirds, a few butterflies, and very few bees" on their property, they would like to see more! By taking action on their property and planting local plant species, pollinators will be welcome and will continue to support "an environment that takes care of reproducing itself and doesn't rely on human input", said Alan.

These insects and animals play a critical role in natural ecosystems and in human food production. For example, butterfly species are beautiful, but they also provide an incredible service to the planet. As pollinators, they move pollen from one plant to another, which allows the plant to become fertilized. Pollinators fertilize fruit-producing plants like blueberries, strawberries and pumpkins.

Why Participate in the Natural Edge?

What was Alan and Joyce's experience with the Natural Edge Program and staff? "Our contacts have been very professional, proactive, and flexible. The staff are excellent communicators and clearly know their science and understand how to apply it. Since we did not have the expertise to do the job, we couldn't have done it without the Natural Edge Program – it's a great program!"

About Watersheds Canada

Watersheds Canada is a non-profit organization committed to providing programs across the county that work to engage and help shoreline property owners, lake associations, and community groups enhance and protect the health of lakes, rivers, and shorelines. Despite their big name, Watersheds Canada is a very small charity based in Perth, Ontario that raises every dollar each year from donations, grants, and foundation support as they do not receive any yearly support from government funding. What has always set Watersheds Canada apart is their dedication to the local communities: by taking the time to listen to the communities' local needs, programming is always specific, impactful, and as efficient as possible.

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Happy Earth Day! 3 Free and Easy Ways to Create Wildlife Habitat

APRIL 22, 2020 BY MONICA SEIDEL LEAVE A COMMENT

Many of our native wildlife populations are declining due to urban development and the removal of natural habitat features. However, there are many ways that landowners can preserve and create habitat on their property so that we can co-exist with these species. Celebrate Earth Day by protecting sensitive shoreline habitats and the wildlife that live there.

In many cases, creating wildlife habitat is as easy as doing nothing! Allowing vegetation to grow naturally to create "no mow" areas, leaving aquatic and terrestrial logs in place, or removing leaf litter are all examples of how you can preserve wildlife habitat by doing nothing.

Create a "No Mow" Zone

Creating a "no mow" zone can be a good way for shoreline landowners to start adding wildlife habitat to their property. Manicured, mowed lawns that are missing natural features like trees, logs, or leaves create a very poor habitat because there is no shelter or food sources available. One exception is Canadian Geese who are known to be attracted to mowed lawns along the water because they prefer open visibility and easy access to spot and escape from predators.

Leave Aquatic Logs

Fallen trees and woody debris that settle along your shoreline, partially or fully in the water, provide crucial habitat for fish, birds, and reptiles like turtles. Fish use woody debris as a shelter from predators, a place to lay their eggs, and to find invertebrates to eat. Turtles need these habitat features to bask in the sun because as reptiles, they receive energy from the sun's warm temperatures. Waterfowl like ducks and herons use partially emerged logs as resting spots, as well as a place to look for food.

Leave Terrestrial Logs and Leaf Litter

Terrestrial logs, old stumps, fallen branches, woody debris, and leaf litter are essential habitat for small mammals, birds, toads, salamanders, and an abundance of insects. As the log rots, reptiles and amphibians lay their eggs in the moist wood. A decaying log is home to many insects like beetles and ants that burrow under the bark. These insects provide valuable and nutritious food for many other wildlife species. Additionally, these structures provide valuable shelter and protection from predators. In the fall, the leaves that drop off nearby trees add insulation and shelter before the winter as well as adding decaying organic matter and nutrients to the soil.

—

Wildlife like fish, birds, mammals, amphibians, and reptiles are the citizens of the natural world. They maintain the environment through actions like pollination and nutrient cycling while also amazing us with their natural beauty. Using these simple and free methods, you can help protect critical habitat areas and food sources on your property for wildlife for years to come.

To learn more about creating shoreline habitat on your property, visit http://naturaledge.watersheds.ca

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Meet Your Butterfly Neighbours

MARCH 12, 2020 BY MONICA SEIDEL LEAVE A COMMENT

By Monica Seidel

Did you know that there are over 300 butterfly species in Canada, with 150 in Ontario alone? While most people are familiar with the iconic monarch and swallowtail butterflies, there are many other species fluttering around that would love to meet you.

Great spangled fritillary

You may have seen this butterfly on a large native plant, like milkweed or spotted Joe-Pye weed. Great spangled fritillaries are found from British Columbia to Nova Scotia, living in marshes, damp meadows, clearings and sometimes along roadsides. They are very active and have wingspans up to 88 millimetres wide! Caterpillars crawl under leaves to hibernate soon after hatching over the fall and awake in the spring to feed on violets. Since fritillary species are very similar to each other, they must rely on pheromones and smell to find a mate of their own species.

Question mark

This is the largest butterfly in the angelwing family and has a wingspan of 45 to 68 millimetres. They are easily recognized by their distinctive wing shape, brown-orange colour and silver question mark shape found on their underside. They can be found in woodlands or urban areas, looking for animal droppings or sap from trees and rotting fruit to eat. This butterfly is thought to migrate to the U.S. for the winter and breed in Canada during the summer, though their migration is not well known.

White admiral

Adult white admirals are usually seen in June and July in Canada in upland hardwood forests, clearings and barnyards, as they are attracted to the strong smell and moisture in poop! White admirals drink nectar from flowers and sap from rotting plants and have a wingspan of 50 to 80 millimetres. The caterpillars feed on willow, aspen and poplar, and other subspecies feed on birch, cherry and oak trees.

More than meets the eye

Butterflies are beautiful, but they also provide an incredible service to the planet. As pollinators, they move pollen from one plant to another, which allows the plant to become fertilized. Pollinators fertilize fruit-producing plants like blueberries, strawberries and pumpkins.

Threats

Butterflies' critical food sources and habitat are impacted by heavy herbicide and pesticide use. Caterpillars often feed on one species of plant, which may be considered a "pest" or an unattractive species that people then mow or pull.

Another threat to butterflies, as with many wildlife species, is habitat loss and fragmentation. As human development replaces natural areas, butterflies are forced to ditches and roadsides where lack of appropriate habitat threatens the viability of caterpillars, and adults are often struck by oncoming traffic. Since butterflies migrate far distances, having suitable habitat across their entire range is not always easy.

How can I help?

You can help butterflies by providing water for them to drink from and bathe in. Natural areas with uncut grass, thistles and milkweed provide food and habitat. Leaf litter and tree debris on your property can provide a hibernation site for caterpillars. You can also plant a butterfly garden that features gorgeous native trees, shrubs and wildflowers.

Make sure to report your sightings to a database like eButterfly, Journey North or iNaturalist. By doing so, you will contribute to conservation research, meet other butterfly enthusiasts and grow your knowledge of local species.

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This article was originally submitted as a guest blog contribution to the Nature Conservancy of Canada's Landlines blog.

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Blog

"Natural Is Gorgeous!": Jane Discovers the Benefits of the Natural Edge

OCTOBER 8, 2019 BY MONICA SEIDEL

LEAVE A COMMENT

Because of support for generous granting programs and individual givers, Watersheds Canada is able to offer people like Jane an opportunity to naturalize her shoreline at a reduced cost. Jane was a Natural Edge participant in September 2014, and first contacted Watersheds Canada with concerns about erosion along her shoreline. As we walked the shoreline together, Jane told us about her reservations for losing her shoreline view, and about her plant preferences for her 20.5 m of shoreline. Together we picked native species like red osier dogwood, gray dogwood, silky dogwood, highbush cranberry, and bush honeysuckle to plant on her property. Since initially participating in 2014, Jane has had Watersheds Canada staff come out to her property to help re-plant trees that were lost to erosion and animals, and also for help identifying native and non-native species growing on her property.

Jane's shoreline in September 2014 before participating in the Natural Edge program.

What made you decide to naturalize your shoreline?

“I could see some erosion happening so I wanted to prevent that. I also wanted to keep the geese from coming up so frequently on my property, so participating in the Natural Edge program would help address both of those problems. It would make the shoreline beautiful with native plant species. The plants are also in between my septic system and the water, so they can take up any extra nutrients that aren’t dealt with in the soil, making sure excess nutrients don’t end up in the water.”

Have you had any geese coming up on your property since participating in the program?

“They haven’t come up through the dense foliage but they still come up around the dock. That’s why this year [2019] I thought I would contact Watersheds Canada again to get more plants along the shoreline. I am fine with there being foliage along the edge of the lawn to deter the geese, and I will still be able to bring canoes down to the water and lift them over the low growing plants.”

Jane’s naturalized shoreline in September 2019.

Do you have other recommendations for other property owners who are thinking about naturalizing their shoreline?

“Well, I was apprehensive at the beginning because I didn’t want to lose any of the water view – I wanted the ‘walk right onto the beach’ effect for my property. Now when I sit on the dock, I really enjoy the look of the natural plants rather than grass coming right to the water’s edge. Natural is gorgeous! I get the view of the water from the porch and the dock but I don’t need it for all along the shoreline. An unforeseen bonus is the return of the Monarch and other butterflies. There must be some Milkweed sheltering among the Dogwoods.”

What was your experience like with Watersheds Canada and their staff?

“Everybody was great. The staff have been out a few times to plant and identify plants for me.”

Is there anything you’d like to tell someone who is considering having the program done on their property?

“Well I don’t know why anyone wouldn’t follow Watersheds Canada’s suggestions because it adds to the overall natural environment – there’s really no downside.”

Shorelines are one the richest environments on earth, but they are also among the most threatened. Habitat loss and degradation, water quality impairments, and increasing pressures from shoreline development can deteriorate our lakes and rivers, making them a priority for environmental stewardship and restoration. The Natural Edge program offers you will a free site visit to give you advice and voluntary recommendations to improve the health of your shoreline property. Contact us to learn more and book your site visit!

Blog

The Many Health Benefits of Nature

APRIL 28, 2017 BY JORDEN KEELEY 2 COMMENTS

Written by: Chlöe Lajoie, 2017

Spring is here! That means that it's time to start spending more of your days outdoors. Have you ever noticed how you feel better, both mentally and physically, when you spend some time in nature? There's a reason for that: there are many health benefits related to being outside.

Vitamin D

Vitamin D is an essential vitamin that your body requires to function properly; without it, you're at risk of muscle weakness, increased blood pressure, cardiovascular disease, autoimmune disorders, and even cancer. Vitamin D is unique because its main natural source is the sun. In order to get your daily dose of vitamin D, it is recommended to get 10-30 mins of sun exposure. Spending this short amount of time in the sun is well worth it!

Mental Health

Being outdoors has a number of positive effects on your mental health. It aids in lowering depression, reducing stress, and increasing your focus.

With current increases in depression and anxiety related illnesses, studies show that simply walking outside in nature can reduce stress and increase positivity which, in turn, reduces feelings of depression. Vitamin D, which we know comes from the sun, has been linked to depression levels; low vitamin D levels = a higher chance of depression. So get outside on your lunch break to give yourself a mental boost for the afternoon.

Eye Health

Myopia, more commonly known as nearsightedness, is a refractive error of the eye which causes one to have trouble seeing objects in the distance. It's marked by having difficulty seeing road signs or reading from a chalkboard; however, reading objects up close, such as a computer screen or book, is perfectly clear. Doctors feel it is partly the result of increased computer and TV time and according to a study by the National Eye Institute, myopia has increased from 25% to 41.6% between 1971 and 2004.

Being outside gives your eyes a rest from the strain of looking at a computer or watching television, so remember to take breaks at work and head outside to help keep your eyes healthy.

Air Quality – Clean Air

After being stuck inside all day, there's nothing better than a breath of fresh air! It seems to give you that extra boost of energy just when you need it, and there's a reason for that. Simply put, there is a higher concentration of pollutants present in indoor air compared to outdoor air, largely due to poor ventilation.

Outdoor air contains fewer pollutants since gases and particulate matter are diluted due to the larger area they have to spread out. In addition, trees, shrubs and other vegetation provide clean air through absorption of gases and deposition of particulates onto leaves. Air pollutants such as gases (ozone, and oxides of both nitrogen and sulfur) and particulate matter can have negative effects on our health. They can affect our respiratory systems by causing asthma, bronchitis, and emphysema. Therefore, it's best to spend as much time as you can outside to reduce the amount of pollutants you breathe in.

Exercise

It's common knowledge that eating healthy plus exercising regularly improves our overall health. A great way to accomplish this is by getting outdoors. It's easier to exercise when you step outside. Whether it's walking, hiking, kayaking, biking, or swimming you are exerting some form of energy. Furthermore, a study published in 2013 in Extreme Physiology and Medicine concluded that exercising outdoors is more effective than exercising indoors as you will increase your physical activity levels without realizing the amount of energy exerted. Exercising outdoors involves terrain challenges which you don't perceive to be as hard and tiring as when you increase the resistance or speed on a cardio machine.

So take the time to get out and enjoy nature with all the benefits it has to offer!!

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Roy | September 27, 2017 3:19 am
amazing post with great info
google

Reply

Junayedseo | August 1, 2017 5:52 am
Nice information, valuable and excellent design, as share good stuff with good ideas and concepts, lots of great information and inspiration, both of which I need, thanks to offer such a helpful information here

Reply

Submit a Comment

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