A NEWSLETTER FROM THE CATARAQUI REGION CONSERVATION AUTHORITY

CAT TALES

FALL 2016

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Drought was the headline event of the summer throughout southeastern Ontario

For farmers, tourism operators, campers, well owners and anyone who relies upon an abundance of water, the summer of 2016 has truly been a season of discontent of dramatic – perhaps even Shakespearean – proportions.

Until a spate of rainy days in the middle of August revived some of the greenery, it was a very brown, tinder dry environment throughout the Cataraqui watershed, with every municipality within the CRCA borders and beyond instituting total fire bans.

And it started not long after the Victoria Day long weekend in May when, after deliberations by the Cataraqui Region Water Response Team, a 'minor' drought condition was declared in a press release and public information campaign that began on May 26.

According to provincial guidelines a minor drought condition is the lowest of three levels of concern. At the time, CRCA Water Resources Engineer Sean Watt said that "we've seen less than 50 per cent of the normal amount of rainfall over April and May and stream flows are at approximately 25 per cent of average flows for this time of year, and already near summer low flows."

At the time, a 'normal' amount of rainfall for the summer season was predicted, meaning water levels would remain at their 'normal' seasonal levels as well. By late May, area residents were already noticing that creeks were flowing at a low rate or drying up earlier than expected. Farmers were also seeing their fields drying out quicker than usual as well, prompting the warning. The rainfall prediction was quite obviously incorrect.

At the time, area residents and businesses were asked to be mindful of their water usage and to start conserving where they could, especially outdoor watering and other household usages.

A smattering of rain in early June proved to be of little relief and the minor drought scenario was reinforced with an updated statement to stakeholders, the media and the general public on June 7. It was noted at the time that the rainfall was not uniform throughout the CRCA region with more rain falling in the far east of our watershed (Brockville) and northern part of the territory (Sydenham) than in the southern and western portions (Loyalist Township and Greater Napanee).

It was noted at that time that overall

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CREATURE FEATURE:

Five-lined Skink, Plestiodon fasciatus

Ontario's only lizard struggling to stay off endangered list

Believe it or not, there is only one cold-blooded lizard species that is native to the Province of Ontario. It's Latin name is Plestiodon fasciata, but it is better known as the five-lined skink, and its primary habitats are in southwestern Ontario and in the Great Lakes – St. Lawrence region, including in the territory under the jurisdiction of the Cataraqui Region Conservation Authority.

The former is called the Carolinian population and it lives in a different type of habitat from its eastern kin. This group prefers to live under woody debris in clearings with sand dunes, as well as open forested areas and wetlands. The ones in our area, also known as the Southern Shield population, prefer more rocky terrain and can be found living under rocks and on portions of exposed bedrock in forests. In the winter, both branches hibernate in crevices in rock or bury themselves in the soil.

Although of limited numbers in Canada, the five-lined skink is fairly common through a wide swath of hardwood forests from the east coast, southwest to Texas and as far northwest as Minnesota. Populations have been found also as far south as the Gulf of Mexico.

The five-lined skink can grow to be as long as 21 centimetres but are generally smaller. Their appearance changes with age as juvenile and young adult females are shiny black with five cream-coloured stripes running the length of their bodies on the back, ending in a bright blue or bluish-grey tail. Males and older females fade from black to a more bronze colour with the stripes often fading altogether or remaining faint. When males are of breeding age they often have a bright orange area around their mouth and jaw. Unlike salamanders, which are amphibians, the five-lined skink has scales on its body and claws at the end of his four feet.

PHOTO: TRAVIS YORK

These lizards generally reach sexual maturity anywhere from 18 months to two years of age, breeding in the late Spring, often in May and June. Females can produce anywhere from two to 15 eggs not long thereafter and lay them in nests created under some sort of cover or within the body of a rotting log. Interestingly, a number of females may put their nests together in one spot to collectively protect their offspring from a host of predators. The females will bask in the sun and warm their bodies before returning quickly to the nest to use that stored heat to keep their eggs warm.

As for a diet, the five-lined skink prefer bugs, spiders and worms and are able to track their prey through their keen olfactory senses, hunting primarily under cover in leaf litter or wood debris. They are also able to scramble up trees to hunt, bask in the sun or escape from ground-bound predators.

One of the coolest adaptive features of the skink is that if a predator is able to grab it by the tail, the tail will fall off and begin to thrash about. The odd motion of the still moving tail will distract the predator long enough for the skink to get away – this process is often called 'automatizing.' A new tail will grow over time (generally at a rate of six millimetres a week), but the process of losing the tail and re-growing it means using up a lot of its fat reserves on which is needs to survive the winter.

The Carolinian population of the five-lined skink is already considered to be endangered for a number of reasons. According to the Ontario government, a combination of urban sprawl and expanding agricultural operations has caused a rapid decline. A lot of the woody debris that the five-lined skinks used for cover is also being removed from beach areas for aesthetic reasons or for firewood.

The Canadian Shield population in the St. Lawrence region is considered to be of 'special concern' to government scientists as its population is starting to feel the effects of increased encroachment by humans, including many being run over by ATVs, having the rocks used for their homes and breeding grounds moved or removed altogether for land clearing or landscaping purposes for new cottages. There is also an increase in these animals being taken from the wild to stock pet stores.

So what can individuals do to help protect this species? First off, the Ministry of Natural Resources and Forestry, which keeps track of the species at risk data, has an online form where you can report any findings of the five-lined skink. Photographs and very specific locations or even mapping co-ordinates would be very helpful.

Those who own property can also play a key role in species recovery. If you find a five-lined skink on your land you may actually be eligible to receive funding for stewardship programs that support the protection and recovery of species at risk.

It is also important that you never buy a five-lined skink which has been caught in the wild as a pet – actually, you should never buy ANY native species that has been removed from the wild as a pet.

If you see any illegal activity surrounding native plants and animals, you are encouraged to call **1-877-TIPS-MNR (847-7667)**

CATARAQUI REGION CONSERVATION AUTHORITY

CAT TALES

Cat Tales is published three times per year by the Cataraqui Region Conservation Authority.

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Drought

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there was 50 mm less rainfall than normal for the three months ending May 31, and that there would have to be an extraordinary amount of rainfall in coming weeks to alleviate the minor drought scenario.

As we all know, this did not happen.

Two weeks later, with nary a drop in sight or a cloud in the sky, the Cataraqui Region Water Response Team issued an update saying the minor drought scenario was very close to being upgraded as the soil was continuing to be drying and creek beds dropping in water levels or drying out altogether. Water conservation reminders and public relations campaigns were ramped up by local governments and the CRCA to help alleviate what was beginning to be a true crisis.

On July 5, the inevitable happened and the CRCA, as well as many neighbouring conservation authorities, raised the drought condition from minor to moderate. It was pointed out that while there were a few downpours in June, they were spaced so far apart that the soil and watercourses dried out in the incredibly hot days in between. The rainfall deficit had grown from 50 mm to 75 mm and was rapidly closing in on 100 mm, as even inland lake water levels were starting to drop at an alarming rate.

Water conservation became of crucial importance and all pertinent agencies began throwing more resources at getting the word out through traditional media, social media and other methods.

Three weeks later the moderate condition was upheld even though there was a significant day of rain on July 25. Two days later the CRCA issued a reminder of the situation, stating the seriousness of the crisis in bold terms.

"Most of the days of June and July have had no rain at all, so even with rainfall, things dry up again quite quickly. Stream flows have been well below normal summer low flows for multiple months now, and continue to fall. Lake levels across the CRCA, and eastern Ontario, have been falling due to evaporation and are lower than normal in most cases, potentially exposing hazards that are normally irrelevant."

By this point, precipitation levels were, on average, at least 100 mm below normal levels over the previous three months. Emphasis of public education was focusing on those on wells to do whatever they could to conserve water, fire bans were becoming blanket bans and those living on municipal water were asked to curtail unnecessary water use, including outside watering of lawns and gardens.

By the Civic Holiday long weekend, the situation had become more dire and the officials comprising the Cataraqui Region Water Response Team, which includes municipal water managers, major water users, public health officials, farmers, school boards, marina operators, golf courses, upper-tier governments, dam operators and more, raised the water condition level to the highest – severe.

Boardwalk at Little Cataraqui Creek

Some measurements showed that the current summer drought was the worst since 1888 with some stream flow levels being the lowest ever recorded. Lake levels were dropping by as much as 2.5 cm a day through evaporation and these conditions were expected to remain warm and dry into the fall.

Folks with lawns were told that brown did not equate to dead; that under extreme circumstances (as in the frigid winter chill) grass goes into a self-protective dormant state. This was proved in mid-August when a couple of days' worth of precipitation had a quite substantial impact on 'greening' up everybody's lawns.

A declaration of a severe drought basically means that there is not enough water to meet demand. It is not a declaration of an emergency but an indication of the critically low water levels throughout the entirety of the CRCA watershed and how that impacts the region. It is up to an individual municipal government to declare an official emergency.

As part of its mandate, the CRCA continues to monitor water levels and will also continue to release updates as to the status of the drought through various channels on a regular basis. If your personal well has run dry or is showing signs of stress, we would appreciate you letting us know. Please visit **www.crca.ca/drought** to fill in a short survey. This data collection exercise can help us identify prone areas in the future.

When the Well Runs Dry – How to Adapt in A Drought Situation

The summer of 2016 was one of the driest on record, with some saying the low amount of precipitation rivalled that of the drought of 1888. Agricultural operations were hit hard, many streams slowed to a trickle or dried up completely. Municipalities instituted wide-ranging fire bands as well as ramping up water conservation public information campaigns.

Some of the hardest hit folks were those who relied on well water, as there were many instances of wells running dry during the most intensely hot and dry days of summer.

Here are some alternative measures well owners can take to mitigate the negative impact of a dry well.

Long-term Option:

Excavate into your property and install a 1,000-gallon storage tank. Hook the well and pump to this tank. Water from the well gets pumped into the tank and then into the home for use. If the well goes dry then the tank can also be filled from the outside by a water-supply company.

Less-expensive Option:

If you have the room, link together a number of 300-gallon tanks inside your house. Use the same pumping scenario from the well to the tank and then throughout your home. It works out to cost about ½ of what the first scenario does because there is no excavation expense involved. The downside is because the tanks are indoors it's more difficult to fill the tanks from an outside source if the well runs dry.

Shorter-term Option:

It's similar to the less-expensive option but the smaller tanks are stored outside and above ground, which means it's more readily available for filling from an outside water source like a water hauler. The significant drawback is that it probably won't work in the winter, as any lines coming to and from the house would likely freeze.

BUT:

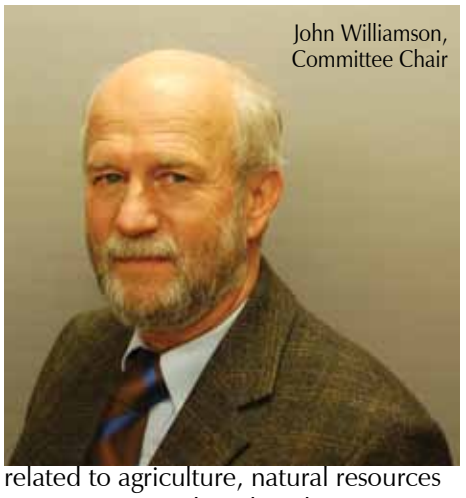
Adding a storage tank/cistern for either a short or long-term solution means that the system is now considered to be 'non-secure,' meaning that it is more likely to be contaminated. So if you're going this route, CRCA and public health officials recommend more frequent testing of the water as well as additional treatment protocols such as a UV light, a softener and other filters.

Meet the Cataraqui Source Protection Committee!

Drinking water source protection activities across Ontario are guided by nineteen Source Protection Committees. Each Committee is responsible for overseeing technical work and policy development for one or more watershed-based source protection areas. The Cataraqui Source Protection Committee has been active since 2007.

The 12 voting positions on the Cataraqui Source Protection Committee are divided equally among the municipal, economic and community sectors. The Committee is led by a chairperson (appointed by the Province) and also includes one non-voting liaison member from each of the Cataraqui Source Protection Authority, public health units and Ministry of the Environment and Climate Change.

John Williamson of Inverary has served as Committee Chair since 2007, and has recently been re-appointed by the Minister of the Environment and Climate Change for an additional term. Mr. Williamson brings a wealth of experience to the Committee



John Williamson, Committee Chair

related to agriculture, natural resources management and work with First Nations.

The Committee members are appointed by the Cataraqui Source Protection Authority which is composed of the CRCA Board plus a representative of the Township of Frontenac Islands. Earlier this year the Committee membership was re-confirmed for a period of at least three years.

The names of the current members are listed on the sidebar. Their biographies are posted at **http://cleanwatercataraqui.ca/cataraqui-source-protection-committee/**.

The founding members of the Committee were successful in their work. They helped bring forward a technical Assessment Report (2010) and the first Cataraqui Source Protection Plan (2014). These documents assess the local drinking water sources and identify how to address risks to them.

Looking ahead, the Committee will evaluate the need to update the technical work, and will consider the effectiveness of the Source Protection Plan.

Ontario's drinking water source protection initiative under the Clean Water Act, 2006 is led by the Ministry of the Environment and Climate Change and supported by Provincial funding. The role of CRCA staff is to provide support to the Committee and local communities throughout the assessment, planning, implementation and monitoring phases of work.

MEMBERS	
Municipal	Richard Bresee, Amherstview
	Greg Newman, Kingston
	Peter Raabe, Lyn
	John Conley, Athens
Economic	Kim Sytsma, Athens
	Jeff Peters, Inverary
	Michael Farrell, Bath
	Chris Mangan-Greene, Gananoque
Community	Nona Mariotti, Inverary
	Richard Lindgren, Wolfe Island
	Dr. Kathleen Laird Kingston
	Gary Davison Sydenham

Staff Comings and Goings

SAY HELLO TO…

Please welcome Katrina Furlanetto to the CRCA. Katrina started as a summer student doing watershed monitoring work in May 2016 and is now the Source Protection Assistant, taking over for Erin Murphy-Mills who has moved on to high-level academic studies.

Katrina is originally from Richmond Hill, ON, and has a background in biology and environmental science and she will be doing work with our drinking water source protection team throughout the watershed.

Nathan Jousmaki also began working with the CRCA in May 2016 filling in for a staff member on maternity leave as a GIS Technician. He is originally from Thunder Bay, ON and has a background in forest ecosystem management and GIS (Geographic Information Systems).

Please welcome both these talented, hard-working individuals to the CRCA.

SAY GOODBYE TO…

Erin Murphy-Mills was a valued member of the CRCA team from July 2014 to July 2016 as the source protection assistant. A native of Kingston, she has an extensive academic background in environmental studies and is leaving the CRCA to pursue her doctoral studies in water policy this fall. We thank Erin for her hard work, dedication and good humour and wish her all the best with her future endeavours.

Former resource planning assistant Tony To has moved on to a significant position with another Conservation Authority in the Toronto area. The native of southwestern Ontario has a background in planning and provided plan review assistance to the CRCA team from February to July 2016. We thank him for his service to the CRCA and wish him well on the next phase of his professional journey.

Friends of Mac Johnson Wildlife Area Celebrate 20th Anniversary

Congratulations to the Friends of Mac Johnson Wildlife Area on their 20th Anniversary!

Over the past 20 years, the Friends have contributed thousands of hours of volunteer labour to preserve, protect and promote the Mac Johnson Wildlife Area in Brockville. Most people know the Friends from their annual Fall Festival or Winter Fun Day events, or perhaps have enjoyed a cup of hot chocolate at the skating shelter on Saturday Skate days. But did you know that the Friends also contribute heavily to the maintenance of the Area and have established a vibrant tree nursery? Over the course of 20 years the Friends, working alongside the CRCA, have tackled a number of projects such as fencing, brushing, trail resurfacing and maintenance. They have also taken on numerous building projects such as the skating shelter, new docks, the Centennial Road canoe launch, and the native tree nursery expansion and garden shed. Over the past few years the Mac Johnson tree nursery has flourished thanks to the hard work of the Friends and local school and business volunteers. They have held very successful Mother's Day Tree sales to the public and have worked with the community and local municipalities to plant hundreds of trees in the Brockville area.

The Board and Staff of the Cataraqui Region Conservation Authority would like to thank the Friends and their volunteers for all of their hard work and dedication, congratulations!

The Friends are always looking for more members and volunteers. If you are interested in making a contribution or becoming a member visit their website at **www.cybertap.com/~macjohnson/**.

On June 29 the Friends of MJWA gathered for their annual potluck and celebrated their 20th anniversary. Chair Ron Evers was assisted by Board Member Lesley Rusk in serving the anniversary cake.

Mac Johnson Wildlife Area Tree Nursery.

Work begins on the Tree Nursery garden shed.

WHAT'S HAP

Enjoy the beauty of fall in one of our Conservation Areas. Each area offers places to enjoy nature, see the fall colours, relax outdoors or get active. You can even take part in some fun family friendly activities or learn a new outdoor skill. To find a conservation area near you visit www.crca.ca.

NATURE PROGRAMS FOR HOME & EARLY LEARNERS

Come explore the wild spaces of Little Cataraqui Creek Conservation Area at our popular Nature Programs for Home and Early Learners. Programs start in September and registration is required. Nature programs take place in fall, winter and spring and children will come away with new nature knowledge and a greater connection to the natural world. Visit **www.crca.ca/nature-programs** for details.

NEW this year – we are offering Nature Programs for Home Learners at Mac Johnson Wildlife Area in Brockville. For details visit **www.crca.ca/mjwa-home-learners**.

LITTLE CATARAQUI CREEK CONSERVATION AREA

DUCK DAY – FREE ADMISSION

Saturday, September 17
(11:00 a.m. to 2:00 p.m.)

Come and spend a great day outside in nature with family and friends! Nature lovers and outdoor enthusiasts of all ages: grab your camera and hiking shoes and come celebrate the wonder of wetlands. Free admission and free activities: guided hikes, critter dipping, canoeing and kayaking, scavenger hunt, face painting, mobile library, games and much more! Food truck will also be on site to purchase lunch and snacks. Duck Day is presented in partnership with: Ducks Unlimited Canada, Cataraqui Region Conservation Authority and the Kingston Frontenac Public Library.

BUG SAFARI

Sunday, October 2
(2:00 p.m.)

Join in on the bug safari and see what friends live in the marsh and on land at Little Cataraqui Creek Conservation Area. You'll even get to use some of our cool bug catching equipment. All of our bug friends get put back gently in their homes. The program runs for approx. 1.5 hours.

FALL COLOURS WEEKEND

Sunday, October 9 and
Monday October 10
(10:00 a.m. to 4:00 p.m.)

Enjoy the fall foliage at Little Cataraqui Creek Conservation Area. Bird watch, go for a hike, or view the fall colours from the water paddling the reservoir. Canoe and kayak rentals will be available at the Outdoor Centre or bring your own to launch off our dock. Rentals will be available from 10:00 a.m. to 3:00 p.m. Rental rates begin at $8.00 per hour. If canoeing is not for you, take a hike on our trails. CRCA staff will be on hand to suggest routes and provide maps. Come into the Outdoor Centre and purchase a slice of pie and a mug of cider, or just sit and enjoy the colourful view from the West Hall.

PHOTOGRAPHY WORKSHOP (BEGINNERS/AMATEUR)

Sunday, October 16
(2:00 p.m.)
REGISTRATION REQUIRED

Explore the possibilities of nature photography in every season. Join local photographer Rob Mooy on an autumn walk in search of photographic treasures. Learn tips and tricks on how to see nature's art through a lens. Bring your own digital camera. The session will be cancelled if the weather conditions are poor. Registration is required for this workshop. Cost is $15 for annual pass holders and $21.50 for non-pass holders (this includes the gate fee). Register online at **www.crca.ca/online-services**.

PENING 2016

THE REAL BAT MAN
Sunday, October 30
(2:00 p.m.)
For ages 7 and up

Bat Expert Matt Saunders is back by popular demand. Matt will introduce you to the fascinating world of bats. Seating is limited, so be sure to come early! Matt's one hour presentation is suitable for ages seven and up. Bat house construction follows – kits will be available to purchase for $20 after the talk. You can stay and assemble your bat house with us (please bring a hammer) or take it home to build.

FAMILY FUN DAY – HIKING, COLOURING & S'MORES
Sunday, November 6
(2:00 p.m.)

Head out to Little Cataraqui Creek Conservation Area for an afternoon of family friendly activities. CRCA staff will be on hand to suggest hiking routes or take part in our eyes only scavenger hunt. After your hike, head into the West Hall for some colouring fun - activity books and supplies will be provided. We will end the afternoon by the campfire making S'mores at 4:00 p.m.

CREATURES OF THE NIGHT HIKE
Saturday, November 12
(6:30 p.m.)
REGISTRATION REQUIRED

Enjoy the brisk fall air and learn about the creatures that come out at night at Little Cataraqui Creek Conservation Area. Cost is $2 per person plus the regular gate fee and registration is required. Be sure to register early – this popular hike fills up fast. Register online at **www.crca.ca/online-services**.

KNOT TYING 101
Beginner & Advanced sessions
Sunday, November 20
Beginner Session
(2:00 p.m.)
Ages 6 and up

Basic beginner knots for everyday use. Learn four to six knots, with a few tricks, activities and point of interest thrown in.

Advanced Session
(3:15 p.m.)
REGISTRATION REQUIRED

Join Rob Chisnel for an advanced knot tying workshop. Is there a knot you have always wanted to learn how to tie? Send your request beforehand on our registration form. Register at **www.crca.ca/online-services**.

LANTERN HIKE

Saturday, December 3
(6:30 p.m.)
REGISTRATION REQUIRED

Join us under that stars as we explore the trails of Little Cataraqui Creek Conservation Area. Afterwards warm up with a hot drink by the fireplace back at the Outdoor Centre. Cost is $2 per person plus the regular gate fee. Registration is required. Register online at **www.crca.ca/online-services**.

HOLIDAY CRAFTING
Sunday, December 11
(2:00 p.m.)

Join us in the West Hall and turn your old holiday cards and wrapping paper into unique new holiday decorations. Bring your own supplies or use some of ours.

OUTDOOR CHRISTMAS PARTY FOR THE ANIMALS
Sunday, December 18
(2:00 p.m.)

Take a break from the bustle of this busy season with some time outdoors. Bring you family out and join us for an outdoor celebration. We will feed the birds, play some games and have a great old time. We will also leave a nature present for our animal friends.

MAC JOHNSON WILDLIFE AREA

Take Highway 29 north from Brockville to Tincap, turn east on Debruge Road and drive for 2 km to the main entrance. Enjoy 11 km of hiking and cross-country ski trails, nature centre, picnic facilities and a skating rink. For trail and rink conditions please check our website at ***www.crca.ca*** *or call 613-345-1990.*

BUG SAFARI
Saturday, October 1
(2:00 p.m.)

Join in on the bug safari and see what friends live in the pond at Mac Johnson Wildlife Area. You'll even get to use some of our cool bug catching equipment. All of our bug friends get put back gently in their homes. The program runs for approx. 1.5 hours.

FALL FESTIVAL
Saturday, October 22
(10:00 a.m. to 3:00 p.m.)

Admission is $5 per car. The Friends of Mac Johnson Wildlife Area are hosting their annual fall celebration - lots of great activities for the whole family. You can enjoy the fall colours on a hike, watch the waterfowl on the reservoir in a canoe or kayak courtesy for the CRCA, carve a pumpkin at the picnic shelter and enjoy live music. At 11:00 a.m. don't miss the popular dog cart races put on by the Mush Larose Association. If the fresh air makes you hungry, the Friends will have a BBQ lunch available at the Nature Centre.

SAVE THE SALAMANDERS
Saturday, October 29
(2:00 p.m.)

Join award-winning salamander conservationist Matt Ellerbeck (aka the salamander man) for an insightful look at nature's tailed amphibians. Meet at the Mac Johnson Wildlife Area's Nature Centre for a presentation featuring live species both local and exotic.

LEMOINE POINT CONSERVATION AREA

Lemoine Point Conservation Area is located in the west end of Kingston on the shore of Collins Bay. There are entrances off Front Road and Coverdale Drive. Enjoy 11 km of hiking trails, picnic facilities, and many opportunities for wildlife viewing and nature appreciation.

FALL TREE PLANTING – TD TREE DAYS
Saturday, October 1
(9:00 to 11:00 a.m.)

Join the Friends of Lemoine Point for theirannual fall planting to extend the forest cover of Lemoine Point. Meet at the south parking lot (off Front Road). Bring a shovel, gloves and proper footwear. For information, contact Verna Corlett at 613 549-1724. You can also register online at **www.tdtreedays.com**.

Utilities Kingston - Conservation Tips

By: Keiran Brackenbury, Water Conservation Intern

The CRCA's declaration of severe drought conditions in August highlighted the increasing importance of practising water conservation to not only reduce treated water use, but to also maximize the effectiveness of rainfall collection and run-off control.

As a result of dry conditions in the Cataraqui region, many gardens, grassy areas, trees and shrubs were under stress from inadequate water supply over the summer months. This has a variety of long-term effects including poor soil absorption, erosion issues and degraded soil quality. In addition, the stress of drought can severely impact the survival of larger foliage over the winter months, as lack of adequate water prevents trees and shrubs from building essential water storage.

One sign of long-term drought effects is through a process called 'stem dieback,' which is visible when the top part of a tree or shrub's foliage begins to die - a direct result of the plant curbing back further growth because of imbalance in the root system. Conventional grass lawns will have a far better chance of surviving prolonged drought conditions, as they become dormant until regular rainfall returns. Similarly to lawn grass, perennial plants and annuals go dormant and can survive the severe drought.

Soil condition should be the primary focus to plant recovery. Soil suffers during protracted periods without water. You can take some crucial steps to ensure healthy soil that will help reduce water use and maintain a vibrant garden.

This fall, take these five actions to add moisture-retentive organics to garden areas and rehabilitate any hard-impacted areas for the following spring:

1. Add compost: reintroduce the important nutrients that were lost over the summer months. Add a layer of compost to soil patches to provide rich nutrients to the soil. This added organic matter that will absorb and hold moisture longer. A combination of manure and compost is ideal: manure introduces the organic material that traps water, while compost adds the important nutrients. Tip: with a garden fork, gently loosen bare soil patches, allowing nutrients and rainfall to absorb into topsoil.

2. Cover your garden for winter: layer leaves over the garden to create a protective barrier over soil. This will help reduce weed growth and shield soil from heavy fall rains. Even better, shred the leaves, helping them break down more quickly to add nutrients to your soil. This means less work in spring, too. Bag excess leaves in spring and start your compost! Tip: vegetable beds benefit from a nitrogen-rich 'cover crop' such a rye or winter wheat. Plant this in the fall and it will add to the soil for next year's planting.

Two leaves from a drought-stressed sugar maple. The leaf collected from a higher branch (right) is displaying severe drought symptoms, a result of "stem dieback" affecting the young tree.

3. Prune and weed: prune back perennials and dispose of diseased foliage. Remove weeds that will compete with plants for nutrients and water. Don't put these in your composter, as they will create more problems in the spring!

4. Provide water to trees and shrubs: using water collected in rain barrels, continue to water shrubs and trees into the fall, especially young ones, as they will be suffering from the severe drought conditions experienced throughout the summer months. Dry soil puts stress on trees and shrubs, and can kill roots. It is important not to overwater- a deep watering in the morning every couple of weeks before temperatures drop can help negate the effects of the summer drought. Tip: as temperatures drop, empty rain barrels and turn them upside down to prevent ice damage.

5. Mulch around trees: add a layer of mulch around the base of your trees to help retain moisture and insulate roots over the winter months. Mulch at a depth of three to four inches, but be sure to pull the mulch six inches back from the base of the tree. Mulch left against the base of a tree can prolong exposure to moisture, fostering disease and suffocating the tree.

Preparing your garden for winter, as described in the steps above, can reduce the use of treated water in the long-term. Poor soil condition is a major hindrance to a well-kept garden, and leads to a greater drain on water resources.

Soil that has suffered severe drought conditions will be dry and compacted, which can present a number of problems. Dry soil in the garden will require a greater volume of water to restore. As rainfall returns in the fall, the above steps to maximize nutrient content and water absorption in the garden will counteract a serious side effect: the threat of flooding.

Drought-compacted soil loses absorption, and can act like a concrete "hardscape", absorbing minimal water and leading to an excess of water run-off that can overwhelm storm sewer systems and threaten low-lying properties and basements with flooding.

These water conservation tips, combined with homeowner education to reduce flooding in neighbourhoods, can help mitigate the impacts of this year's drought.

Further resources:

- Water wise gardening: **www.UtilitiesKingston.com/ConservationGarden**
- Basement flooding prevention: www.UtilitiesKingston.com/FloodFacts

About Utilities Kingston: Utilities Kingston operates multiple utilities through a single service structure, allowing it to deliver cost savings and customer service excellence. The company is unique in Ontario, combining water, wastewater, gas and electrical services, and broadband fibre optics in one company. Trusted by customers to deliver reliable utilities for more than 150 years, employees are proud to provide personal, responsive services.

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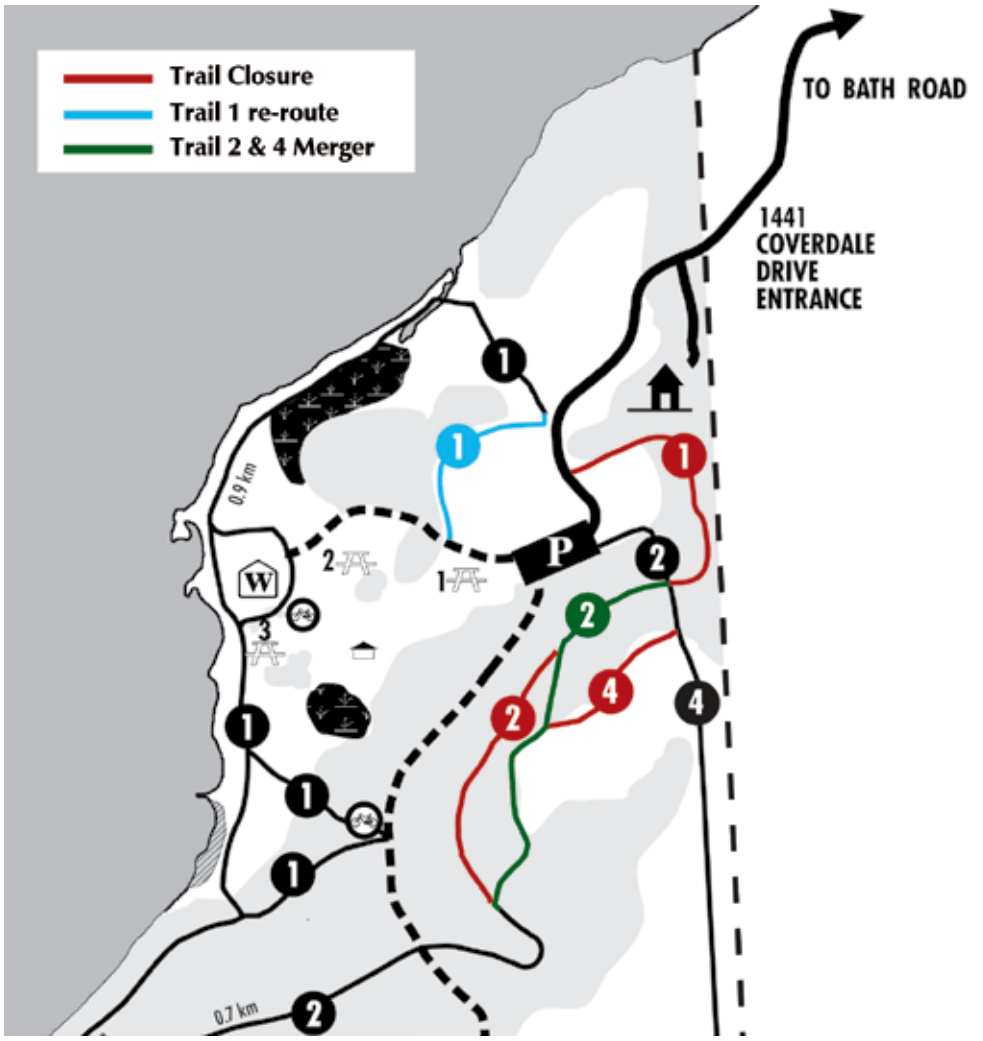
Changes coming to Lemoine Point Conservation Area



NEW SIGNAGE

Thanks to a grant from the TD Friends of the Environment Foundation over the summer the CRCA has developed a comprehensive plan to upgrade signage at Lemoine Point Conservation Area. As part of this project the CRCA is creating a more modern, user-friendly look, replacing way finder signs, adding new point of interest signs and upgrading the kiosks to include information about user safety and permitted uses on the property. These new signs will highlight significant features of the property such as wetlands and grassland habitat. The new way finder signs will make the Conservation Area easier to navigate for all user groups. As part of the new look the CRCA has colour coded the trails for easier identification and some have been re-numbered: make sure to check out the kiosk and brochures for these changes. Installation of the new signs will begin in late September. If you spot one of the new signs share your thoughts with us on Facebook, Instagram or Twitter #LPsigns.

TRAIL RE-ROUTING AND CLOSURES

Over the past year CRCA staff has been working on assessing Lemoine Point's trail system for user safety and impact on the natural habitat. As a result of these deliberations, a section of Trail 1 that comes out at the road (near the tree nursery) will be re-routed along the field by the north parking lot. As well, the sections of Trail 2 and Trail 4 that run parallel to each other at the northern part of the property will be merged into one trail - please see the map above that highlights these changes.

Trail 1 – northeast section re-route: The reason for the re-route of the northeast section of Trail 1 was its proximity to the main entrance road. Under the current configuration, users have to cross the road to continue along the east section of the trail. It was determined that re-routing it away from the road was in the best interest for user safety. The new section of Trail 1 will now take you along the edge of field at the north parking lot and bring you out near Picnic Area 1.

Trail 2 & 4 – northeast section merger: In the 2016 Winter/Spring issue of Cat Tales we highlighted an ongoing study taking place at Lemoine Point to identify ash trees that posed a risk to user safety if infected by the emerald ash borer. Results from this study determined that there is a large concentration of ash trees along the northeast section of trail 2, 4 and the service road. As the trails stand now, hazardous ash trees will have to be removed so they do not pose a threat to users on these sections of trail – that would mean cutting down a lot of trees which will have a negative impact on the natural habitat which we are trying to preserve at Lemoine Point. To lessen the risk to users and the impact on habitat, CRCA staff will be closing the top part of Trail 1 (at the entrance road), and merging sections of Trail 2 and Trail 4 to create a single trail that offers opportunities to enjoy both the meadow and woodland environments. In addition the trail rationalization aims to decrease the fragmentation of habitats which will encourage greater biodiversity and wildlife viewing opportunities consistent with the Lemoine Point Conservation Plan for the property.

It is our hope that with these changes to the trail system that the CRCA has been able to balance the priorities of protecting the natural habitat of Lemoine Point as well as user safety, while still allowing the public to enjoy the lovely natural spaces of the Conservation Area.

CRCA to Introduce 'Forest Therapy Walks'

It's one thing to spend time in nature, hiking, walking, cycling or skiing through the bounty of the forests and fields for exercise, or to be instructed on the various flora and fauna – but it's another thing to treat the forest as a source of relaxation, comfort and catharsis.

Since the 1980s, Shinrin-yoku (translated as 'forest bathing') was developed in Japan and is viewed as an integral part of the Japanese health care system as a way for individuals to achieve greater health and well-being in their lives. Shinrin-yoku is the process of immersing individuals in the canopy of a designated forested area. For more than 40 years, research conducted mainly in Japan and South Korea has proven countless health benefits such as boosted immune system functioning, an increase in the count of the body's Natural Killer (NK) cells, reduced blood pressure, reduced stress, improved mood, increased ability to focus even in children with ADHD, accelerated recovery from surgery or illness, increased energy level and improved sleep.

In 2012, Amos Clifford, inspired by the Japanese practice of Shinrin-yoku, founded The Association of Nature and Forest Therapy Guides and Programs. According to the Association of Nature and Forest Therapy Guides website: "Amos combined descriptions of Shinrin-yoku practice in Japan with his four decades of experience in wilderness guiding, Zen meditation, psychotherapy, and nature connection to begin creating a framework for Forest Therapy. Sky Maria Buitenhuis joined the organization in 2013, contributing to the further development of the practice through bringing her in-depth knowledge of nature connection mentoring, peacemaking, and naturalist knowledge."

The value of the approach, also known as Forest Therapy, is catching on in other parts of the world. The Association of Nature & Forest Therapy Guides and Programs continues to train and educate guides from around the world about the positive benefits of spending mindful time in nature. Stana Luxford Oddie, the CRCAs Education Officer, recently attended an intensive and fulfilling training session to become a Forest Therapy Guide certified through the Association, where she learned about the principles and protocols involved in guiding Forest Therapy Walks.

CRCA education officer Stana Luxford Oddie has always considered herself to be a lover of nature. She has taken her passion for the natural world to the next level by training to become a certified Forest Therapy Guide.

Since her training she has been involved in a rewarding six-month practicum which includes deepening her nature connection through daily "sit spot" practice, taking a bioregional inventory of the CRCA watershed and leading and reviewing a series of practice Forest Therapy Walks with various groups and individuals. Beginning this fall, Forest Therapy Walks will be part of the CRCA outdoor and environmental education programs.

"I read about the concept of 'forest bathing' almost two years ago in a book called Your Brain on Nature and I was really intrigued. It's about taking time to immerse yourself in nature and giving yourself permission to just be in the moment. What really inspired me to do the training was the concept of being 'truly' present, mindful and slowing down, which has not really been the focus of most campaigns encouraging people to get out in nature," Luxford Oddie said.

"I think it's key for people to understand what these walks are not. It's not for exercise: the walks can range from two to three hours depending on the participants we have in the group, but we may actually only travel less than one kilometre. And it's not about identifying things. You are not going to learn about all the names of the trees and plants and animals. It's about relating 'the more than human world' in a very present way. So it's getting people out of their heads and into their bodies and using their senses."

"So many people are stressed and the forest really does offer everyone what they need, be it just being quiet, still and more mindful or something on an even deeper level. It's about unplugging from our phones, our tablets and our computers and re-connecting with our bodies, our senses and the natural world around us."

The program would see a small group immerse itself in a forested property, such as any one of the CRCAs conservation areas, under the direction of Stana as the certified a Forest Therapy Guide. At various points within the walk participants receive optional invitations from the guide that would help them achieve a more mindful, present, relaxed state.

"In a Forest Therapy Walk, the guide 'opens the door and the forest is the therapist.' A walk can be transformative for some people. The hope is that it can help people relate to the nature that's around them and really receive the restorative power that is out there waiting to be embraced. A lot of people have lost that connection."

Luxford Oddie said she is excited to launch Forest Therapy Walks this fall by engaging various groups, businesses, organizations, and schools within the CRCA watershed. Everyone can benefit from a Forest Therapy Walk.

If you are interested in booking a Forest Therapy Walk, please contact Stana Luxford Oddie at **educate@crca.ca** or call (613) 546-4228 ext. 251.

Follow the progress of the Forest Therapy program these programs at our website **www.crca.ca** and in upcoming editions of Cat Tales.

Foundation News - Photo Contest

Overall winner John Lynn Bell, Hummingbird Moth taken at Little Cataraqui Creek Conservation Area.

The Cataraqui Conservation Foundation would like to thank all of the people who submitted photos for our 50th Anniversary Photography Contest. We were very pleased with the response to our contest and the quality of the photos. They truly represented the beauty and diversity of the Cataraqui Region. We were inspired by some of the wildlife shots to take a closer look the next time we go for a hike! The hummingbird moth is a great example of one of the wonders that live in our area. It was also lovely to see people's photos of themselves and their families enjoying the conservation areas in all seasons. We especially enjoyed speaking with the winners and finding out the story behind of each of the photos. What impressed us was how proud they were of their photos and how much they all enjoyed their time spent outdoors and in nature!

We are very pleased to announce that due to the response and interest in the contest and with Camera Kingston's generous support we hope to make this an annual event.

The winning photos will be on display at the Outdoor Centre at the Little Cataraqui Conservation Area for all to admire and enjoy. They can also be viewed on the Cataraqui Conservation Foundation website at **http://www.cataraquiconservationfoundation.org/**

We would also like to announce that we will not be holding our annual Fundraising Gala in November this year. Instead, the Foundation will be holding several other fundraising initiatives to support the work of the Foundation. Please check our website for details on upcoming events as they are announced. We look forward to your continued support in our Partners in Education fundraising and to seeing you at one of our new events!

Conservation Ontario Stresses Importance of Authorities in CA Act Review Submission

With so many new variables at play in our society, economy, culture and with the advent of rapid human-made climate change, the Province of Ontario decided to begin a review of the Conservation Authorities Act (CA Act) in 2015 with the issuance of a discussion paper in the fall, a second one in the Spring of 2016, as well as with a broad consultative process that included inviting submissions from various stakeholder groups, including the conservation authorities themselves.

After seeking opinion from the various conservation authorities at both the staff and board levels, Conservation Ontario released its submission towards the end of July, 2016 to the Environmental Bill of Rights Registry.

CO broke down its views into five key themes, encompassing what it refers to as "both legislative and shared workplan priorities."

1. Confirm an integrated watershed management approach and the current broad mandate of Conservation Authorities as watershed management agencies. A new 'Purpose Statement' and 'Preamble' are recommended to be included in the CA Act for clarity.

2. Establish a formalized provincial multi-ministry body to clarify a broader integrated watershed management approach with Conservation Authorities through an eventual Integrated Watershed Management Provincial Policy.

3. Modernize governance and accountability provisions within the CA Act in order to ensure more consistency across Conservation Authorities while strengthening oversight and accountability.

4. Establish a cost-shared, multi-ministry sustainable funding model for any provincially mandated programs best delivered with an integrated watershed management approach on a watershed basis. Investing in Conservation Authority programs and services that protect water, build ecosystem resilience and provide greenspaces, prevents costly expenditures for flood damages, business disruptions and health care.

5. Establish a multi-stakeholder table to regularly address client services issues. And updated and develop provincial process and technical polities and guidelines to facilitate consistency. Conservation Authorities will streamline and improve client service delivery standards for planning and permitting practices within current capacity. Additional provincial support will facilitate that ability.

For more information on the CA Act Review, and the Conservation Ontario response to its discussion papers, visit **http://conservationontario.ca/about-us/conservation-authorities/conservation-authorities-act-review**.

Conservation Areas are natural areas that protect important ecological features and functions as well as provide a chance for you Step Into Nature or participate in Healthy Hikes.

Kids Love Nature and Conservation Authority Education Programs help approximately 400,000 Ontario kids to learn about nature every year. Water festivals are one of the great tools they use.

One of the most important jobs for **Conservation Authorities** is to Protect Sources of Drinking Water. We get our drinking water from different places – the Great Lakes, other lakes and rivers, and groundwater. You can learn more about drinking water sources and how we protect them. Do you want to find your source protection plan?

Climate Change is creating stronger and more frequent flooding in Ontario. Conservation Authorities work with municipalities and other levels of government to prevent or reduce flooding which can result in costly property damages, a disruption of business, and threats to public safety. Check out how Conservation Authorities do this by looking at our infographics.