



GRAND Actions

The Grand River watershed newsletter



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Cover photo

Firefighters, emergency services and GRCA staff at a mock emergency exercise. Photo by Steve Murphy



Preparing for an emergency at Rockwood Park

By Janet Baine
GRCA Communications Specialist

Camper and park visitors may have been very surprised when Rockwood Park became chaotic one balmy evening at the end of May. But fortunately it was all planned.

This was a mock emergency exercise code named “hell on wheels.” It was devised to give park staff the chance to work with local emergency services personnel and to develop a co-operative approach to emergency planning.

In the scenario, a speeding truck crashed through a fence into the park from Guelph Line. It toppled over, leaving the driver unconscious and the passenger injured. The truck happened to be carrying hazardous material that then spilled into the water, so an emergency spill cleanup also

had to take place right away.

If that was not enough, two fishing rods were found unattended, and this was the last known location of two children whose mother was frantic to find them.

GRCA staff receive extensive training, but this hands-on test brought it all to life. They knew an emergency exercise was being planned, but they didn't know the details.

“Everyone learned something,” said Rockwood Park Superintendent David Townsend, who devised this scenario with Steve Murphy, Emergency Management and Communications Coordinator Dufferin County. While David was the lead on this exercise, he said he could not have done it without Steve, because he was also a participant. The scenario was based on incidents that have taken place at the park.





Top: emergency exercise participants gather to debrief at the end of the evening. Left: firefighters remove a passenger from a vehicle. Right: a victim is treated.

The park staff called David right away but he waited 20 minutes to arrive, just as if he had been coming from home. For this reason, the staff took charge and called the emergency services, extinguished a small fire and started searching for the missing children.

Working with EMS

Agencies that participated in the exercise have a high interest in future partnerships, as it helps them learn their way around and know what to expect once they arrive.

Participants in the training included Dufferin Emergency Search and Rescue (DESAR), 25 members of the Guelph/Eramosa Volunteer Fire Department and staff from Wellington and Dufferin counties.

Fifteen GRCA staff members, including those who came in to play the role of victims, were also part of Rockwood's mock exercise.

One thing David learned from the exercise is to have staff clear the beach right away when someone may need to be airlifted to a hospital, because this can take time. There was a full debriefing for everyone involved.

This is the second mock emergency exercise at the park. During the first scenario in 2015, a tornado tore through the park, leaving some havoc in its wake.

Life experience

David's interest in preparing for emergencies is heartfelt, since it reflects his life experience. He received a Medal of Bravery from the Governor General for his actions when he came upon a car crash on his way home from work in 2009. He was also recognized by the provincial government and the OPP for rescuing two people from a burning car in Eramosa Township.

According to the citation from the Governor General, David broke through a door to reach an injured passenger, who was being held upside down by her seat belt. Despite flames hindering his efforts and multiple cuts he sustained, he worked quickly to free the woman and finally dragged her out. Others stepped in to help bring the woman a safe distance away, moments before the vehicle became completely engulfed in flames.

Stay safe in natural areas

Perfection can be found in the great outdoors as the sun rises, as it sets and all times in between.

Wide open sky, trails and a water-side view — what can go wrong?

It's good for physical and mental well-being to get outside and enjoy nature, but there are risks. Here are a few tips to guide you on being prepared for the curve balls that can happen during an outdoor trip on GRCA parks and properties.

Severe weather

Pay attention to weather alerts and seek safety in the event of a storm.

Get tick smart

Ticks are usually found in wooded areas. They may carry bacteria that cause Lyme disease, a serious illness. There are many things you can do to minimize exposure to ticks, such as tucking your pants into your socks and checking for ticks after visiting a natural area. Consult the local health unit or a medical professional for information.

West Nile virus

West Nile virus is primarily a disease of birds, but if a mosquito feeds on the blood of an infected bird, there is the potential for you to get this virus. Although most people don't get sick from an infected mosquito, symptoms ranging from mild to serious may develop. Check with the local health unit or a medical professional to learn more.

Who to call in an emergency

If you find yourself or a companion in a serious emergency situation when you are in a park or natural area, call 911 for immediate assistance. Try to provide your exact location so assistance arrives quickly.

Swimming and health

Natural bodies of water are great places to play, swim and cool off on a hot sunny day. However, swimming in these areas is not risk-free. Natural water bodies, such as rivers and reservoirs, are exposed to contamination

from various sources. The conditions and quality of the water can change quickly due to a number of environmental factors, which can influence the level of bacteria in the water. Check with your health unit or www.grandriver.ca/beaches for more information.

Water safety

Rivers and reservoirs are a part of nature and are always changing. Whether you are fishing, boating, paddling, swimming or walking near water, please make sure you and your family members put safety first. Transport Canada has regulations for boating and human-powered crafts, such as canoes, kayaks, paddleboards and paddle boats.

Stay on trails

Severe weather and disease, such as emerald ash borer (EAB), can result in hazardous trees on and near trails. These may not be immediately visible. For this reason, please ensure that you stay on trails and respect yellow and black caution tape, fencing and signs on GRCA properties. These are in place for your protection.

Wildlife worries

Natural areas are the home of many animals, so please recognize that you are a visitor in their home. In Ontario, the Ministry of Natural Resources and Forestry (MNRF) is the agency responsible for the management of wildlife. If you have a concern related to wildlife, please call the MNRF's Information Centre Line at 1-800-667-1940.

Have a problem or concern?

If you have a question or concern when visiting Grand River Parks, please speak to a staff member at the park; they are happy to assist.

If you have a problem or concern related to a trail or other GRCA property, please email property@grandriver.ca, or call the GRCA head office at 519-621-2761 and ask to speak with someone in the property department.



Shade's Mills has 12 kilometres of trails available to hikers.

Spend your summer at Shade's Mills in Cambridge

It's summer, and that means it's a great time to head outdoors to take advantage of the wonderful spaces and amenities nearby.

At Shade's Mills Park in Cambridge, families can enjoy nature and any number of outdoor activities without going far from home. Here's a quick look at some of the most popular events and activities.

For a full schedule of what's available at Shade's Mills including many nature activities, check out grandriver.ca/events.

Namaste in nature

Get your Downward Dog on Wednesday evenings at Shade's Mills. These popular Yoga classes are held near the Trail Shelter Wednesdays at 7 p.m. until September 5. Whether you're a beginner or advanced, everyone age 10 and up is welcome to join in. Don't forget to bring a yoga mat, water and insect repellent. In the case of rain, call the park to make sure class is on. (519-621-3697).

Paddle your own way

The reservoir at Shade's Mills is an ideal place to get on the water. Rent canoes at the gatehouse, or bring your own. New for 2018 — Shade's Mills now has kayaks and

paddleboards for rent. Rentals are available during regular gatehouse hours every day throughout the summer (rentals are available on weekends only after Labour Day and until mid-October).

Fish tales

Great fishing is just minutes away at Shade's Mills! Northern pike, largemouth bass, smallmouth bass, yellow perch and black crappie are plentiful in the reservoir so cast a line and see what you reel in.

Watch movies under the stars

Come watch movies outdoors under the stars, starting at dusk every Friday night until August 31, at the new Toyota Amphitheatre at Shade's Mills. Movies start shortly before sunset, and are all family friendly. Come early and enjoy a campfire before the movie. Don't forget to bring along a lawn chair or blanket to sit on; snacks will be available for purchase.

Swimming, cycling and hikes

There's a long sandy beach on the reservoir at Shade's Mills, which makes for a perfect place to cool off on a warm, summer's day. Swim, picnic, or just enjoy the sunshine. New this year and located right at

the beach are three professional beach volleyball courts, equipped with Olympic-quality sand, that are available for public use.

Shade's Mills also features 12 kilometres of trails for both hikers and cyclists that wind through a mature hardwood forest along Mill Creek. The park brochure includes a map of all of the trails and is available online and at the gatehouse.

New natural playground

Shade's Mills continues to work to improve its offerings to the community. One of its new additions is the Shade's Mills Natural Playground, located right beside the new Toyota Amphitheatre.

The natural playground provides both active and creative play opportunities for park visitors, and learning opportunities for students visiting the nature centre. Natural playgrounds use materials that fit into the landscape, such as boulders and logs. Children enjoy creative play in nature, and over time find new ways to enjoy the playground as they grow.

This park is open year-round.

For more ways to enjoy Shade's Mills Park, visit www.grandriver.ca/parks.

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Photo by Janet Baine

Playing on the beach is one of many favourite activities for kids at Shade's Mills.

Wastewater flowing cleaner

By Janet Baine

GRCA Communications Specialist

Care and close scrutiny by wastewater plant operators in the Grand River watershed is leading to cleaner water flowing in the Grand River and its tributaries — an improvement that benefits aquatic life, recreational river users and taxpayers.

“This is truly a collaborative effort, because it takes all of us working together to improve the quality of the water coming out of wastewater plants. It really is making a difference,” said Mark Anderson, GRCA Water Quality Engineer who oversees the watershed-wide Wastewater Optimization Program (WWOP).

Here are recent examples of the dramatic benefits of this program.

Cutting ammonia in Hespeler

Over three years, the discharge of ammonia from the Hespeler plant in Cambridge has been cut from 8.2 mg per litre to 2.0 mg per litre or less. This change resulted from better data collection that changed the way the plant was operated. Ammonia is toxic and removes oxygen that is needed by living things. The water quality in the Speed River has improved as a result of this change.

Phosphorus reduced in Brantford

Brantford has been successful in making a striking reduction in phosphorus, from as high as 1.4 mg per litre to only 0.2 mg per litre. This change resulted after a few years of background work that included an overhaul of the city's sewer use bylaw. Phosphorus is a nutrient, but when there is too much in the river, plant growth gets out of hand and uses up so much oxygen that there isn't enough left for the aquatic animals that help to clean up the river.

These successes weren't accomplished with heavy-handed threats, stringent laws and big fines. Instead, they came about thanks to collaboration and a helping hand that has been extended through the Wastewater Optimization Program, spearheaded by the GRCA.

“Our approach really focuses on people

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and improving their skills and knowledge to optimize the operation of their plant,” Mark explained. “These are great demonstrations that the quality of the effluent can be improved simply by changing the way the plant is operated. Nothing was spent on new staff or equipment.”

The program resulted from one of many recommendations made in the Grand River Water Management Plan in 2014 after the success of a pilot optimization program. It



Kelly Hagan (left) is the GRCA's Optimization Extension Specialist. She works directly with the plant operators to make improvements to wastewater effluent.

involves people from every level of the plant.

Benefits of optimization

The WWOP is a cost-effective approach to improving effluent quality with many benefits:

- Encourages stewardship within the wastewater community
- Empowers staff with tools and approaches to make good, data-based decisions
- Provides timeliness and confidence in data
- Improves water quality in the Grand River
- Improves understanding of plant capability and needs
- Builds connections among wastewater operators in the watershed

All municipalities can participate

Wastewater optimization has now received external funding from the province and other sources so that it can continue until 2022.

The funding pays for a full-time staff member at the GRCA and some consulting support. It offers workshops where wastewater operators can learn and share information. In addition, the GRCA works one-on-one with municipalities and operators to encourage continuous improvement.

The program will also look into the specific challenges of climate change on wastewater plants and incorporate climate adaptation measures. This includes finding better ways to deal with the impact of high flows during storm events.

In addition to Brantford and Waterloo Region, the GRCA is working one-on-one with Southgate Township and Centre Wellington. The WWOP program is available to all of the municipalities within the watershed that would like to participate.

“If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in” and this is the premise of these two programs.

-Rachel Carson, *American conservationist*



Rhonda Sage (above) is one of many nature guides who share their love of nature with children.

Wild Wednesdays at Shade’s Mills

By Rhonda Sage
Interpretive Program Guide

Again this fall, home schoolers will gather on Wednesday afternoons to learn about nature at Shade’s Mills Park in Cambridge.

The program called Home School Wild Wednesdays was developed especially for six- to 12-year-olds who are being taught at home. It launched last year and it brings together home school families so they can participate in weekly outdoor field trips suited to their unique style of learning.

Each afternoon, children and their parents are led on an experiential journey of outdoor discovery to develop skills through nature and science. The curriculum is tied to the season and the weather. Each weekly journey builds on the last nature experience and each student stretches their comfort and knowledge through activities, core routines and hands-on experiences.

I enjoy working with youth and seeing them blossom from being unsure of their natural surroundings into children who navigate through natural areas with confidence. Seeing that transformation is why I enjoy teaching kids so much.

NATURE CENTRES

Rhonda Sage is one of the many dedicated GRCA staff members who share their love and understanding of nature in a variety of nature education programs that are offered year-round at the GRCA’s five nature centres.

Kids benefit from connecting with nature in many ways

Recent research has led to a better understanding of the importance of nature for children. These are some of the findings of studies.

- improves ability to handle stress
- reduces attention disorders
- helps centre the mind
- encourages creativity
- improves understanding
- increases physical activity
- lowers stress hormones
- improves blood pressure
- increases endorphins, the feel-good neurotransmitters of the brain
- develops a life-long appreciation of nature

Letter from a parent

We feel very fortunate to have accidentally happened across the Home-School Wild Wednesdays in November of 2017 when it was just beginning. From the first class we were hooked — what a breath of fresh air (literally).

Rhonda is certainly a dedicated instructor who is passionate about nature and her students. She always strives to be better, to continually learn. She is a much needed role model in our current society.

We learned to follow the seasons; we watched the animals, plants, water and sky. We observed the changes in the woods and how this affected the animals that lived there and how this in turn affected us. New friendships were formed and a reverence for nature began to develop in the children.

The program is just the right blend of outdoor learning, skills building, quiet time, patience, laughter and smiles.

Every Wednesday we would come together around the glowing warmth of the fire pit and share our thoughts and experiences. If I may be totally honest, I looked forward to our class just as much as the children did.

In our world's present state of constant intrusion through a plethora of electronic devices, the 'Wild School' woods at Shades Mills is a safe place where children/young adults can go to learn, to imagine and to 'just be' children in nature.

I am excited to see where this unique program will take us. Looking forward to coming back in September.

*Cherie Denison,
Cambridge*

Wild Wee Ones for preschoolers

Have preschoolers? Sign up for Wild Wee Ones, another nature-based program for two- to five-year-olds and a parent or guardian that takes place at Shade's Mills in Cambridge. This group also meets and stays outside. At this age, the sense of exploration is uninhibited and playing is the core method of learning. Each morning is greeted with a welcome and gratitude for the day. The children learn to focus their attention, ask questions and work together to build confidence.

Register online at
www.grandriver.eventbrite.ca.

G R C F

Groundwork laid for new centre

About 80 per cent of the \$2.5 million goal has been committed to build the new Guelph Lake Nature Centre, and the groundwork has been laid.

Nearly 40 students from the Heavy Construction Equipment Operation program at Conestoga College in Guelph have built the road access, parking lot and school bus turning circle that will serve as the future entrance to the building once it is constructed. The nature centre, which will be inside Guelph Lake Park, is expected to open in the fall of 2020.

"This partnership is a win-win. Our students have the opportunity to get hands-on experience, and GRCA gets a lot of work done," said Paul Pacheco, coordinator of the program. "The students encountered the same challenges they will in a real-life setting, like more groundwater here than we expected. That's a reality that they will encounter on the job. No matter what, we are excited to be part of building the new nature centre and we look forward to future partnerships with the GRCA."

Student Samantha Scully said she valued the experience of working in this environment, where it was necessary not



Students from Conestoga College build the road access, parking lot and school bus turning circle for the new Guelph Lake Nature Centre.

only to keep an eye out for other students and equipment, but also ensure that people in cars and joggers were safe. The work done by the students is valued at about \$30,000.

"It is really exciting to see the ground getting broken as Conestoga College starts the process of getting the nature centre built," said George Lourenco, Grand River Conservation Foundation (GRCF) board member. "The donors that regularly help fundraise or do in-kind work or come out here and help plant trees are all incredibly important. Without our donors, it would not be possible."

There have been many recent donations. These include this year's four-course River Dinners held at four restaurants on June 25, which raised \$15,600 for the new nature centre. Since 2011, Guelph's The Neighbourhood Group has raised more than \$90,000 for the new centre through this annual event. The company operates three restaurants in Guelph — the Woolly, Mijiidaa, Borealis Grille and Bar and a second Borealis Grille and Bar in Kitchener.

Stay tuned for a special sunset concert at the Guelph Lake Nature Centre on Sunday, August 26 by Guelph band The Lifers, to conclude their Honey Suite album tour. Released in May, proceeds from the album will support the purchase of terrariums, aquariums and other homes for creatures at the new nature centre.

"It's a real thrill to see this project coming together with donors giving in so many ways," said Sara Wilbur, Executive Director of the GRCF.

DID YOU KNOW?

Facts about local mussels

By Crystal Allan
Supervisor of Natural Heritage

Freshwater mussels lie hidden in the river and stream beds in the Grand River watershed, where they are not easy to spot. But they are important for healthy rivers, streams, lakes and ponds, because they help filter the water and make it cleaner.

These soft-bodied mollusks are animals



This flutedshell mussel is common in the Grand River.

Mussels depend on fish

As part of their life cycle, tiny juvenile mussels (called glochidia) spend their first one to three months living on the gills of a host fish. The nutrients in the fish's blood develop the internal organs of the glochidia. The juvenile mussels also hitch a ride to habitat that they may not have reached if they were simply released into the water by an adult. When the juveniles fall off, they will grow into adults if they land in a suitable part of the river.

Mussels lure fish

There are several ways that a female mussel attracts fish close enough to her for the juvenile mussels to attach to the fish. Some mussels produce small packets filled with glochidia that look like tasty insects. Others produce flaps that look like minnows or display lures that wave in the current behind them like fish bait. Regardless of how the fish is tricked, when it attempts to eat the bait, the packets break releasing the glochidia.

Mussel teeth aren't for chewing

They have two types of teeth — lateral teeth and pseudocardinal teeth (pseudo means false), which keep the two shells together. When the teeth align, they lock together like a puzzle piece and prevent the two shells from slipping. Biologists use presence and size of teeth to help identify the mussel species.

Shells used in button factories

In the late 1800s and early 1900s, freshwater mussels were harvested from the rivers with pitchforks and shipped by train to button factories. In the 1940s, the button industry started using plastic instead of freshwater mussel shells to make buttons.

Zebra mussels

This invasive species from Europe was first identified in Ontario waters in the late 1980s, and there are pockets of zebra mussels in our watershed. They don't need a host fish to reproduce and can quickly out compete native mussels for food and oxygen. Report a sighting to the Invasive Species Awareness program online at www.invadingspecies.com.

How to be a mussel scientist

There are many mysteries about freshwater mussels yet to be learned. Scientists are striving to increase our knowledge of the distribution, biology and behavior of local mussel species. This helps us to find strategies to conserve and recover them.

To learn more or report a sighting, try using the Clam Counter App developed by the Toronto Zoo and Fisheries and Oceans Canada.

WATERSHED AWARDS

GRCA award Nature Guelph

Nature lovers of all ages gather to learn about flora and fauna in all their miraculous forms thanks to Nature Guelph, an organization that received a 2017 Watershed Award from the GRCA.

Nature Guelph started back in 1966. Membership is now closing in on 200, the highest it has ever been. The club offers many programs that appeal to a wide variety of interests related to nature. The name officially changed in 2013, when it was renamed from the Guelph Field Naturalists.

"Nature Guelph has done fantastic work over the years and I'm happy to be part of it," said the new president, Brett Forsyth, a nature photographer who moved to Guelph from the west coast three years ago.

At monthly meetings, the auditorium at the University of Guelph Arboretum fills with people when experts lined up by Nature Guelph talk about topics such as bats, fossils and climate change. These meetings, like other events, are open to everyone in Guelph, not just club members.

Regular outings, both local and further afield, are also offered. Nature Guelph assists with the Christmas Bird Count, Feeder Watch and other citizen science initiatives, such as plant and wildlife inventories. There is also a wildflower group.

Working together with the Guelph Lake Nature Centre, it operates programs for younger people, including Young Naturalist

that live inside a two-part shell, and there are more than 20 species of mussels in the Grand River watershed.

Natural water filters

Mussels are natural water filters. They take in up to 40 litres of water each day, filtering it through their gills as they feed. They eat the algae and bacteria, and also filter sediment from the water.

20 mussel species in our watershed

Their names are as intriguing as their biology: flutedshell, elktoe, fatmucket, creeper and giant floater, to name a few. They can live for decades in a single spot on the bed of the river, which makes them extremely sensitive to pollution and habitat changes as they can't move easily or quickly.

10 mussels are species at risk

The main stem of the Grand River and the southern Grand are hot spots for at-risk mussel species, but tributaries such as Mackenzie Creek and the Conestogo River are also home to endangered and threatened mussels, such as rainbow and wavy-rayed lampmussel.



Photo Courtesy William Warwick

Boys "clamming" for mussels on the southern Grand River.



Photo by Brett Forsyth

For more than 50 years Nature Guelph has been offering many programs to share their interest in nature and protect and enhance natural areas.

(six- to 10-year-olds) and Naturalist-in-Training (11- to 16-year-olds). These programs take place on Saturdays and include a camping trip each May.

Volunteers from the organization also provide a program geared to families who may not have spent a lot of time in nature.

Called Nature in the City, this program takes place at the Guelph Public Library and outdoor locations. It has been gaining in popularity every year.

“The more of the Guelph community we can get into understanding and protection nature, the better,” Brett explained.

The club has also raised funds for the University of Guelph Arboretum to install bird-friendly window treatments.

Over the years, Nature Guelph has built relationships with many community organizations. It also comments on developments in Guelph that may impact nature and has assisted with the City of Guelph’s natural heritage strategy.

“We’re going through an internal process to clarify the vision for the club over the next 50 years to engage the public in nature through education and protection. Now it’s mostly through education,” Brett said. “I’d love to see the club getting into engaging more youth.”

They already have more university students joining and could also work more closely with high school students, he said.

Visit Nature Guelph online at www.natureguelph.ca.

This newsletter is produced several times a year by the Grand River Conservation Authority.

More information:

Current and back issues as well as complete subscription information is available online at www.grandriver.ca/GrandActions.

Submission deadlines:

The 15th of February, April, June, August, October and December. Submissions may be edited for length or style. Photos and event information is also welcome. We do our best to publish items, but we are not able to guarantee publication.

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THE GRAND CALENDAR

Friday night movies under the stars at Shade’s Mills until Aug. 31

Family movies take place each Friday night at Shade’s Mills Park in Cambridge, weather permitting. Check the online calendar for details.

Pinehurst Discovery Day Sept. 9

The annual Discovery Day is a free open house event. There will be many activities so everyone can get up close and personal with critters, learn to fish, bring home some nature crafts and more. Adventurous visitors won’t want to miss the scavenger hunt, free canoe rentals, visiting a fire truck and police cruiser, and the chance to catch a fish. Park admission and events are free. Volunteer helpers are also needed for this event.

Wild Wednesdays and Wild Wee Ones start in September at Shade’s Mills Park

Both these programs start in September at

Shade’s Mills Park. See pages 5 and 6 for more information. Sign up online at www.grandriver.eventbrite.ca.

Youth Outdoors Day Sept. 15

Register now for a fun-filled day of outdoor activities at Luther Marsh Wildlife Management Area in Grand Valley. This annual event is free to youth nine to 15, but registration is limited, so sign up in advance. Details and registration available at www.youthoutdoorsday.com.

Run for the Toad Sept. 29

This includes 12.5-km, 25-km, 50-km runs and a children’s run, as well as exhibits and family activities. Park admission is free for spectators. For more information and registration visit www.runforthetoad.com.

For a full list of GRCA events and any updates, check or subscribe online at www.grandriver.ca/events. You can search events by location and by the type of event.