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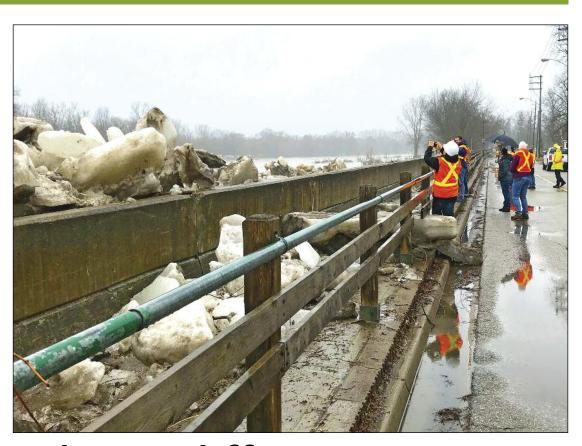
The Grand River in Brantford, Ontario. An ice jam event caused damage and flooding in February 2018.











What a difference a year makes. Or does it?

Looking back to November 2018, this winter was beginning to take on a much different feel than the year before. Relatively warm temperatures and a lack of precipitation stood in stark contrast to the deep freeze that took hold of the Grand River watershed in late 2017. Yet as this winter rolled into January and a few weeks of extremely cold temperatures, waterways throughout the watershed began to take on the same similarly icy look that they had last year. Despite the contrast, the outcomes have been similar over the past two years featuring rapid mid-winter thaws, which resulted in numerous ice jams and localized flooding. In 2017, the cities of Cambridge and Brantford experienced

near-record level ice jams, while 2018 brought similar record-setting ice conditions to West Montrose and another dramatic ice jam release in Cambridge. Prior to 2017, the last time communities like Cambridge and Brantford saw such extreme ice conditions was 1996.

While the Environment Canada outlook for the first three months of this year suggests temperature and precipitation conditions will be near normal in southern Ontario it leaves some asking the question 'what is normal?' given the most recent weather extremes. More importantly, how do you prepare for a normal that features drastic temperature swings and extreme precipitation events?

Grand River Conservation Authority



Flood Forecasting

The Environment Canada weather outlook is just one of the many tools GRCA flood operations staff use to maintain a continual watch over the watershed and the weather systems that may impact it. Understanding where the jet stream is carving its path across North America, how frequently moisture-laden 'Colorado Lows' or 'Alberta Clippers' traverse the province help paint a picture of the potential local impact that these weather systems may have on the watershed.

Beyond using the resources provided by weather forecasting agencies, GRCA staff use snow survey information to better understand how much water will run off the land during a snow melt event. Snow depth is measured in 12 locations throughout the watershed twice a month. Snow surveys show the depth and density of the snow on the ground as well as how frozen the ground is in those key areas. From this information, GRCA staff can determine how much water content is in the snow and how quickly it will run off during a melt event.

River Monitoring Network

Being aware of what might be coming and what could happen is only part of the broader understanding that is required for flood forecasting. Having a real-time understanding of the conditions in the river are critical in preparing for a flood, even when the risk of flooding is low. The GRCA operates automatic water level and flow gauges in important locations on waterways throughout the watershed. In the event of an ice jam, heavy rainfall, or sudden increase in water levels, alarms will trigger and alert GRCA staff, who are on-duty around the clock, that something has changed and should be investigated.

The automatic river gauges only tell part of the story though. If a flood event is anticipated, GRCA flood operations staff will activate the River Watch program. This program uses staff from the GRCA operations division to visually inspect reaches of the river between gauges in the river monitoring network. Having eyes on the ground to report on river conditions is an important component of our flood response process and helps support the decision-

making process during an event.

Flood Storage

The GRCA owns and operates seven multipurpose reservoirs located in the northern and central portions of the watershed. During the dry summer months, these reservoirs are used to augment the flow in the river, supporting an adequate water supply for downstream waste water treatment plants and drinking water facilities. Between late fall and early spring, these reservoirs serve a much different function, providing the maximum available flood storage capacity to help mitigate downstream flooding. In the spring, this storage space is used to handle the spring melt, while the additional capacity in the fall is used to deal with the remnants of tropical storms.

During a flood event, the GRCA reservoirs act as a system to help manage downstream flooding by storing runoff using available capacity and releasing it in a controlled manner, ideally once the flood peak has started moving downstream. This storage and reduction in flows can help reduce the magnitude of flooding in communities downstream of these reservoirs.

The most challenging period for reservoir operations is in late spring and early summer when reservoirs are most full. The GRCA has established daily reservoir target levels – called "rule curves" – to guide reservoir operations. The rule curves provide guidance on balancing the competing objectives of having sufficient water available for flow augmentation while maintaining space available to help manage downstream flooding.

These rule curves are based on decades of data, experience, and computer models.

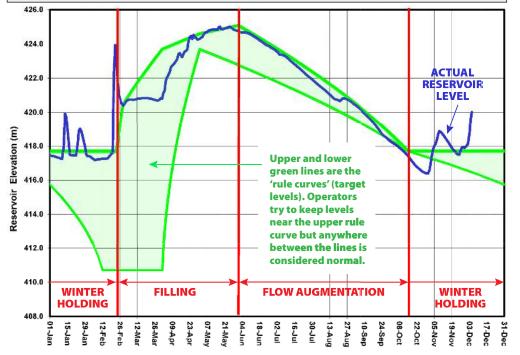
When reservoirs are full in early June, even in a dry year, they would be able to provide enough flow augmentation to meet downstream water supply targets for waste water and drinking water systems through the fall.

Flood Preparedness

While monitoring and mitigation efforts play a role in reducing the impact of flooding in the Grand River watershed, preparedness is

Reservoir Levels - Belwood (2018) - Showing Rule Curves

The GRCA has established daily reservoir target levels – called "rule curves" – to guide reservoir operations. The rule curves provide guidance on balancing the competing objectives of having sufficient water available for flow augmentation while maintaining space available to help manage downstream flooding.





This flow gauge, located at Bridgeport Road in Kitchener, is one of 55 GRCA flow gauges used for flood forecasting and warning.

key for all residents who live within the floodplain. GRCA staff meet annually with watershed flood coordinators and community emergency managers in February to provide an overview of flood emergency communications, discuss response plans, review roles and responsibilities, and provide an outlook for spring weather conditions that might impact the watershed.

Municipal staff and first responders take information learned in this meeting back to their own communities in order to better prepare their own staff and help ensure they are prepared to support the residents within their communities. Residents also play a role in this process, ensuring that they too are aware of the flood risk they face in their own communities and prepare themselves accordingly.

For residents who are unsure of their own risk or what they can be doing to help reduce the impact that flooding may have on their lives and property, it is important to check with your local municipality. The GRCA website www.grandriver.ca is also a great source of information on what you can do before, during and after a flood.

Helen Jowett and Chris White acclaimed to lead GRCA Board for fourth term

At the general membership meeting on January 25, 2019, Helen Jowett was acclaimed to a fourth one-year term as Chair of the Grand River Conservation Authority and Chris White was acclaimed to a fourth one-year term as Vice-Chair by the GRCA Board of Directors.

As per the GRCA by-laws, a member is

eligible to be re-elected to the role of chair or vice-chair for a maximum of five oneyear terms. The 26-member GRCA Board is composed of representatives appointed by the municipalities within the Grand River watershed.

"The role of the Grand River Conservation Authority as a leading watershed

management agency, and the relationships with our partners are critical to the health and vitality of our communities," said Helen Jowett. "I look forward to continuing to work with the board and GRCA staff as we continue with the implementation of our strategic plan."

During the meeting, both the Chair and Vice-Chair expressed appreciation to fellow board members and GRCA staff for their dedication and contributions in the stewardship of the water and natural resources within the Grand River watershed.

"I am grateful for the opportunity to support the board and GRCA staff as we continue to work towards our shared vision of a healthy watershed where we live, work, play and prosper in balance with the natural environment," said Chris White.

Helen Jowett was elected as a Region of Waterloo Councillor for Cambridge in 2014, and was subsequently appointed as a member of the GRCA Board. She holds an MBA and is a Certified Human Resources Professional and Mediator.

Chris White has been a member of the GRCA Board since 2014. He holds a BA in History and Economics, and is a certified ISO 9000 Lead Auditor. He was elected to the Guelph/Eramosa Township Council in 2003, became Mayor in 2006 and served as Warden from 2011-2014.





Helen Jowett (left) was acclaimed to a fourth one-year term as Chair of the Grand River Conservation Authority and Chris White (right) was acclaimed to a fourth one-year term as Vice-Chair by the GRCA Board of Directors.



WHAT'S HAPPENING

Winter in Grand River Parks

It took some time to get here, but winter finally arrived in the Grand River watershed. With the cold temperatures and after a few intense snowfall events, select Grand River Parks were able to open for winter programming. This was welcomed by ski, snowshoe and ice fishing enthusiasts looking to get outdoors.

Pinehurst Lake, Shade's Mills, Laurel Creek, and Belwood Lake conservation areas were able to offer limited winter programs in January, before losing much of the snow and ice cover in early February.

While we may have a few months of winter yet ahead, weather conditions will play an important factor in determining if the conservation areas are able to offer winter programming for the duration of this season.

For current conditions at our conservation areas offering winter programs, please phone the conservation areas directly and listen to the recorded message.

To learn more about the Grand River Parks 2019 winter programs, visit www.grandriver.ca/winterprograms.

Apply now for Community Conservation Grants

Applications are now being accepted for grants for schoolyard and community environmental projects offered by the Grand River Conservation Authority and the Grand River Conservation Foundation.



Eight of our conservation areas offer camping: Conestogo Lake, Elora Gorge, Guelph Lake, Rockwood, Laurel Creek, Pinehurst Lake, Brant and Byng Island. Combined, they have about 2,200 campsites, making Grand River Parks the second largest network of campgrounds in Ontario, after Ontario Parks.

The deadline for applications is February 28, 2019. Grants will be distributed in the spring to schools, and in the fall to community groups.

Community Conservation Grants are available in two categories:

- Community groups can get up to \$1,000 for conservation projects that are tangible and available for use or benefit of the entire community. For example, previous recipients have built a river access point, carried out habitat restoration and planted trees.
- Elementary schools in the Grand River watershed can get up to \$750 to pay for the natural elements (e.g. trees, shrubs, seeds, plants) of a schoolyard naturalization project.

Details and an application form are available on the GRCF website at www.grcf.ca.

Money for the grants comes from two

sources:

- The GRCA's Thiess Riverprize Endowment Fund, which was established with the monetary portion of the GRCA's 2000 Brisbane, Australia award for excellence in watershed management.
- The Foundation's Grand Champions fund, established through private donations to support local environmental work.

Grand River Parks set to take reservations March 1

The 2019 camping season is nearly here and the Grand River Parks camping reservation system will be open for reservations online and over the phone

starting March 1, 2019.

The reservation system at www.grcacamping.ca provides 24-hour online reservation service until mid-October, when the camping season closes. As well, a call centre is available for those who want to reserve a campsite by phone. The call centre, which can be reached toll-free at 1-877-558-GRCA (4722), is open from 9 a.m. to 9 p.m. Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays and Sundays. Campsite bookings can be made for all eight Grand River Parks that offer camping. Longer wait times are anticipated at the call centre when it first opens.

Online booking for Hillside Festival available February 28

Hillside Festival campers will be able to book 'regular' nightly campsites online, starting February 28, 2019 at 9 a.m.

Reservations for these campsites are in high demand and are usually filled quickly.

Full-weekend 'festival' site reservations

will also be available for early booking online, between 11 a.m. and 11:59 p.m. on February 28, 2019.

Any remaining full-weekend 'festival' sites for Hillside can be booked online or by visiting the Guelph Lake gatehouse, starting May 1, 2019.

This early online booking opportunity is for campsites at Guelph Lake Conservation Area for the Hillside Festival that takes place in July. This opportunity was created in response to requests from festival fans who represent the overwhelming majority of customers using the GRCA's campsite reservation system when it first opens.

The GRCA is the second largest campground operator in Ontario offering 2,200 campsites throughout the Grand River watershed. Of the GRCA's 11 conservation areas, eight offer nightly, monthly, and seasonal camping opportunities.

Quick Facts:

• GRCA online camping reservation website: www.grcacamping.ca

- Online hours of operations: 24 hours a day, March 1 through to mid-October (Feb. 28 online bookings for Hillside only)
- Reservation call centre: 1-877-558-4722 (GRCA)
- Reservation call centre hours: Monday to Friday 9 a.m. to 9 p.m., Saturday and Sunday 9 a.m. to 5 p.m.

March Break Adventure Day Camps

There are still spots available for March Break Adventure Day Camps at the following GRCA nature centres: Apps' Mill (Brantford), Laurel Creek (Waterloo) and Shade's Mills (Cambridge). March Break camps at Guelph Lake Nature Centre are full.

Camps run from March 11 to 15 and activities may include snowshoeing, snow sculptures, animal tracking, feeding the chickadees, campfires and more.

Activities are adjusted to the weather, but children go outside daily to explore the fields and forests that surround the nature centres. Campers' days are filled with nature-themed activities, outdoor play and time around a campfire.

The day camps run from 9 a.m. to 4 p.m. Early drop-off and late pick-up options are available free of charge from 8:00 a.m., and up to 5 p.m.

These educational and fun-filled days are designed specifically for kids ages 6 to 11. The Grand River Conservation Authority is a member of the Ontario Camp Association, representing camps parents can trust.

Online registration is fast and easy at http://grandriver.eventbrite.ca. Visit www.grandriver.ca/naturecentres for details, or phone the nature centre to speak to staff.



GRCA Day Camps focus on environmental discovery to connect campers with the outdoors in a fun, yet educational way. The GRCA is an accredited member of the Ontario Camp Association and conforms to their year-round standards.



Restoration work continues on grassland habitat in Brantford



Showing a prescribed burn at Brant Conservation Area in 2015. Another prescribed burn is scheduled to take place on GRCA property along Birkett Lane in Brantford some time between late March and the end of April. The purpose of the ongoing stewardship project on this property is to improve the quality of grassland habitat for Eastern Meadowlark, as well as other songbirds and pollinators that depend on this habitat.

The Grand River Conservation Authority (GRCA), in partnership with the City of Brantford, is focused on helping grassland habitats make a comeback in southern Ontario.

Grassland habitats support a number of grassland-specific bird species including the Eastern Meadowlark— a threatened species that has been recorded in and around the City of Brantford.

As part of the restoration work, a prescribed burn is scheduled to take place on GRCA property along Birkett Lane in Brantford some time between late March and the end of April. The exact date is not known, since the burn must take place when weather conditions allow. There

must be several days of dry weather in advance of the burn, and there must be little to no wind on the burn day.

About 9.5 hectares will be burned. The burn will be conducted by the Prescribed Burn Unit from Lands & Forests Consulting. The company strictly follows the intensive Ontario Ministry of Natural Resources and Forestry guidelines for prescribed burning to ensure safety and effectiveness.

Natural firebreaks will be used to protect adjacent properties and contain the burn within GRCA land.

City of Brantford municipal government, nearby property owners, the fire department and police service will be notified. The fire department will be notified of the exact time of the prescribed burn, when it is known.

Signs will be posted at the site on the day of the burn, and the public is reminded to obey all signage. Fire and smoke may be visible for up to four hours and will be easily seen from the surrounding area.

The goal of the prescribed burn is to reduce native woody plants and non-native grasses, so that the proportion of native grasses will increase. Native species can tolerate fire, so burning the land clears out non-native species. Fire also releases important nutrients into the soil, which promotes growth and increases seed yields of native wildflowers and grasses.

The purpose of the ongoing stewardship project on this property is to improve the quality of grassland habitat on the site for the Eastern Meadowlark, as well as other songbirds and pollinators that depend on this type of habitat.

In addition, as part of GRCA's grassland stewardship of its own land, two other prescribed burns are scheduled to take place between late March and the end of April. Locations for these prescribed burns are Brant Park, and the Morton Property near Pinehurst Lake Conservation Area.

These prescribed burns are being conducted to maintain and improve significant grassland habitat in support of at risk grassland birds. At one time, about 25 per cent of the Grand River watershed was tallgrass prairie. Today, only one per cent remains.

Public Information Session

An information session about the restoration project and the prescribed burn will be held on:

Monday, March 4, 2019 Doug Snooks Eagle Place Community Centre. 333 Erie Ave., Brantford From 7:00 to 8:00 p.m.

GRCA Natural Heritage Specialist Kevin Tupman will talk about the upcoming prescribed burn, as well as provide an overview of the entire restoration project.

For more information on this project or to learn more about grassland stewardship, visit www.grandriver.ca/GrasslandStewardship.

Volunteer Program opportunities

Well before spring awakes, GRCA staff are busy planning for the growing season. Wildflower planting, maintaining woodcock habitat, tree pruning and tending, and the enhancement of the new Guelph Lake Nature Centre learning grounds are among the projects currently being planned.

Each year, these stewardship needs outweigh what staff can accomplish on their own.

Corporate community engagement via team workdays is becoming an increasingly important way of reaching goals for each site, contributing to overall watershed health and connecting volunteers to a cause via hands-on projects. The combined sweat equity and donations from groups like Canon Canada, Stantec, Wells Fargo and RBC in previous years have meant vast improvements for turtle, pollinator and bird habitat, for example.

If your group or team is interested in connecting with us outdoors this spring, please email us at volunteer@grandriver.ca.

This year, we have a particular emphasis on the site of the new Guelph Lake Nature Centre and improving natural areas in the Waterloo Region.

Learn more about volunteering

- For upcoming community events open to the public, please subscribe to the GRCA volunteer webpage at www.grandriver.ca/volunteer and/or our online Events Calendar at www.grandriver.ca/events.
- Visit <u>www.grandriver.ca/volunteer</u> to view our Volunteer Program photo album on Flickr.



RBC staff in the Waterloo area planted a pollinator meadow at Laurel Creek Conservation Area in 2018. Corporate engagement via team workdays is becoming an increasingly important way of reaching goals for each site, contributing to overall watershed health and connecting volunteers to a cause via hands-on projects.



THE GRAND CALENDAR

Toyota Get Outside Winter Walks

Sunday, March 3

Need a dose of Vitamin "N"? Come explore Shade's Mill and Pinehurst Lake conservation areas. Our nature guide will help you look for signs and tracks of animals, sounds of birds and other natural wonders. This is a great chance to get some exercise, enjoy the crisp winter air and discover how to connect with nature. For more information visit www.grandriver.ca/events.

Public Information Session – Birkett Lane Grassland Stewardship Project

Monday, March 4

The Grand River Conservation Authority (GRCA), in partnership with the City of Brantford, is focused on helping grassland habitats make a comeback in southern Ontario. As part of the restoration work, a prescribed burn is scheduled to take place on GRCA property along Birkett Lane in Brantford some time between late March and the end of April. An information session about the restoration project and the prescribed burn will be held on: Monday, March 4, 2019 Doug Snooks Eagle Place Community Centre, 333 Erie Ave, Brantford) From 7:00 to 8:00 p.m.

GRCA Natural Heritage Specialist Kevin Tupman will talk about the upcoming prescribed burn, as well as provide an overview of the entire restoration project.

For more information on this project or to learn more about grassland stewardship, visit www.grandriver.ca/GrasslandStewardship.

March Break Adventure Camps at three nature centres

March 11 to 15

Get the kids outdoors and enjoying winter during their March break. Spots are still available at Apps' Mill, Laurel Creek and Shade's Mills nature centres. Registration is full at the Guelph Lake Nature Centre. Daily outdoor activities allow kids to explore the fields and forests around the nature centres. For details and to register, visit www.grandriver.eventbrite.ca.



Order trees before March 1

Landowners can order trees to be planted on their own properties of 2.5 acres or more (exclusive of buildings) from the GRCA until March 1. Orders must be for 200 seedlings or 20 saplings or more.

For more information or to arrange a visit to your property, check www.grandriver.ca/trees, email trees@grandriver.ca or call 519-621-2761 and ask for a Forestry Specialist.

Note: All GRCA events and updates are posted online and available at www.calendar.grandriver.ca.

About Grand Actions:

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

Submissions:

Submissions may be edited. We do our best to publish items; however, we are not able to guarantee publication.

More information:

Current and back issues as well as subscription information is available online at

www.grandriver.ca/GrandActions.

For more information please contact the GRCA Communications department.

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