



GRAND Actions

The Grand River watershed newsletter



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Cover photo:

It takes provincial legislation, careful planning by local municipalities and a team of very busy resource planners at the GRCA to ensure that the river through Kitchener-Waterloo remains undeveloped.



Protecting floodplains keeps people and property safe

By Janet Baine
GRCA Communications Specialist

Desks piled high with files, phones that flash red with sometimes anxious callers and a quick turn-around time.

The team of resource planners at the GRCA face these challenges. They have the vitally important and difficult job of implementing legislation that limits development in floodplains and other environmentally sensitive areas. Their work is essential in protecting people and property from flooding at a time when flooding frequently makes national and international news.

In June, Alberta was hit by devastating flooding — the worst in its history — resulting in four deaths, 100,000 displaced people and 32 communities declaring states of emergency. Recovery in Alberta could take a decade and cost billions. The rules of floodplain development will become more stringent in Alberta as a result of this flood.

Closer to home, a torrential downpour in July

in Toronto knocked out power for nearly a third of Toronto residents and shut down key transportation corridors including the Don Valley Parkway which is beside the Don River.

Such flooding shows the importance of the work done by conservation authorities in Ontario to limit development in natural areas.

Severe flooding

In fact, Ontario is a leader in this area. As a result of Ontario legislation in place since 1946, conservation authorities have the responsibility of restricting floodplain development. Flood prevention programs, including this one, prevent loss of life and over \$100 million a year in flood damages in the province. With climate change and more people moving into the Grand River watershed, this program is vitally important.

Resource planners have a tough job — after all, many people want to look out their window and see a river, a pond, a wetland or a natural area. Yet these are places that may flood. In 2006 the



The Grand River
**A Canadian
Heritage River**



Photo by Jean Lefebvre

When there are stormy skies ahead, infrastructure such as dams and dikes protect people and property in older areas from flooding, including Galt, pictured above. These structures are valued at \$1 billion in this watershed and are also costly to maintain. It is far less expensive not to build in floodplains where water collects after a storm.

province significantly increased the regulated areas. Not surprisingly, permit applications at the GRCA have dramatically increased since that time.

Now about one-third of the land in the watershed is regulated by the GRCA. This means if you want to build or make a change on land within these areas, you need to apply for a permit from the GRCA.

Growth adds pressure

With a population of 985,000 and an anticipated increase to 1.5 million by 2051, there is lots of pressure on the land in the Grand River watershed to develop. It is designated as a growth area by the province in Places to Grow.

The GRCA's resource planners are on the front line of protecting people and property from flooding. Handling permit applications is one of their tasks. They also do plan review for Planning Act applications and work closely with municipalities on zoning and development in regulated areas.

“Although conservation authorities and our partners have done a good job at minimizing risk, the reality is that flooding remains to be the leading cause of public emergency in Ontario, costing millions of

dollars per year in damages,” said Kim Gavine, general manager of Conservation Ontario, the organization that represents the Conservation Authorities. Gavine also outlines that climate change impacts are a significant issue as they create more frequent and more serious flood events. Flooding can

no longer be seen as a spring problem—it can happen any time of the year.

Since the Grand River watershed has 11,000 kilometres of waterways, residents have more than their fair share of floodplains, where people, their property and infrastructure can get swamped.

Floodplains are low-lying areas near rivers and streams that flood during the spring or after a big rainfall. Sometimes people don't know that their property is in a floodplain, because the floodplain can extend quite far from a waterway. Historically many rivers and creeks were buried and people don't realize the waterway still flows underground and may flood during a big storm. Development in floodplains will displace water and cause flooding elsewhere.

Regulated areas

To find out if you are living in or buying a house in an area that is regulated by the GRCA, go to the Map Your Property link on www.grandriver.ca/propertymaps. This section of the GRCA's website has 10,000 views a year, making it one of the busier sections of the website. All properties within the regulated areas need a GRCA permit in addition to a permit from the municipality for activities such as building and grading.

Spring and summer are the busiest times of year for the resource planners. When someone wants a permit, they usually want



Despite the best efforts of the GRCA, floods happen. This is Riverside Park in Cambridge this April. If a park is in an area that floods, it is less problematic than if a housing development or seniors centre is there. This is why some types of development are allowed and others are not.

the process to move quickly.

With this in mind, the Ministry of Natural Resources and Conservation Ontario worked together to come up with guidelines for permit decisions. The amount of time it will take to process an application depends on the complexity of the application. A small project, such as a garage, can result in a decision in 30 days, whereas a complicated project, such as a subdivision can result in a decision in 90 days. This is the amount of time required after all the needed information has already been received and also after any notification period. It does not include those applications that receive a refusal hearing or ones that need to be reviewed by GRCA engineers or ecologists, as these will take longer.

“Despite some setbacks, staff managed to hit the guidelines for processing permits 95.2 per cent of the time in the second quarter this year, with 230 permits completed,” says Fred Natolochny, supervisor of resource planning for the north and south. The times are standard for all conservation authorities across the province.

Fees charged for permits depend on the type of project and they help to cover the costs.

Natural floodplains along waterways are important for flood control, because they allow water to spread out over a large area, decreasing the water’s speed and danger. They are also important to ecology, because biodiversity is highest where the land and water meet.

“The best case scenario is not to have any development at all in floodplains, to protect people and property,” said John Brum a resource planner with the GRCA. But some communities, such as Galt and Guelph, are built right on the river and they have a history of flooding. Infrastructure, such as dams and dikes that are valued at hundreds of millions of dollars were constructed to minimize flooding in these areas. This infrastructure also costs millions to monitor, maintain and operate.

Limiting future development is a cost-effective way of minimizing flooding. It has the side benefit of maintaining natural areas, where trees, native plants and animals can thrive. These are key to the health of the watershed and to improving water quality for communities.

How to get a timely planning decision

Sometimes getting a planning permit is like sitting in a traffic jam when you are late and you can’t see what is going on ahead of you.

The goal of GRCA staff is to meet planning needs of residents and property owners with a minimum of delay while at the same time implementing the rules that protect people and property from flooding. Programs to regulate development in floodplains and other sensitive areas have proven effective to prevent or minimize problems related to flooding in Ontario.

Here is a road map for applying for a development permit. A call can be made to planning staff at any step along the way.

Step 1: Map your property

The first step is to find out if any part of your property is within the 33 per cent of the land that is regulated by the GRCA. GIS mapping information is available on the GRCA’s website under the “Map your Property” link. These maps are always being updated. If your map shows that your property is outside of the regulated areas, you don’t need a GRCA permit. But if the project is within the area regulated by the GRCA or if it is on a watercourse, this map is an essential part of your permit application.

Step 2: Seek advice early

Questions often come up when a property owner sees the floodlines on the map of their property. If you have questions as you prepare your form, contact a GRCA resource planner. Each part of the watershed is assigned to a specific staff member. It is best to speak to the corresponding planner or the planning technician who can answer general questions and help with more straight-forward issues. See Contact a Planner on www.grandriver.ca.

Step 3: Complete the form

If your property is within the GRCA regulated area, then you will need to complete the form to apply for a permit. Spring and summer is the busy season for planners, so get your permit in early as it will take time to process. The applications are available to be completed online, with required information outlined in red.

Step 4: Mail the form and cheque

Planning applications need a payment in order to be completed. It may be a few weeks before you hear back from the GRCA. Straightforward permits are issued by staff. In a few cases where there are complications, a permit must go to the GRCA board for approval. The board meets only once a month.

Step 5: Work with planning staff

A GRCA resource planner is assigned to each permit application. This individual will have an understanding of the process and working with them is the best way to get your permit in a timely way. Leaving repeated messages on the phone and dropping by without an appointment may lead to disappointment. If it is a complicated project, hire a professional, just as you might get someone to do your income taxes.

Step 6: Upon approval

When a permit has been approved, there is still paperwork to complete by GRCA staff, so please be patient. The goal of the department is to put the permits in the mail on the Friday after they have been approved.

Eat local and support water quality

By Janet Baine
GRCA Communications Specialist

When you buy local produce, it is win-win all around.

This is a food lover's Shangri-la. Eating local is easy here compared to most other parts of Canada. Farmers' markets, roadside vegetable stands and pick-your-own patches seem to be at every turn along country roads.

Many local farmers have been quietly taking huge strides to improve the environment. Since 1998 they have undertaken over 4,150 projects on their land through the GRCA's Rural Water Quality Program. The GRCA has helped them plan these projects and find funds to make them possible. Last year alone, about 250,000 trees were planted on private land — most on farms — with assistance from the GRCA.

Farmers support the environment

“Many people who live in urban areas aren't aware of the tremendous commitment that local farmers have to the health and sustainability of the local environment. Those of us who work closely with them know, because we see it every day,” says Anne Loeffler, a GRCA conservation specialist.

Nearly a million people live in the Grand River watershed and most of us depend on ground water and the Grand River to meet our daily water needs.

The large urban centres are surrounded by farms and agricultural communities. About 80 per cent of watershed land is rural or agricultural, which means farmers and rural landowners have a huge impact on water quality.

Farmers usually contact the GRCA about an environmental project, and once it is complete, they often undertake a string of projects over many years.

For example, they may start by fencing a waterway, then improve their wells, build manure storage facilities and plant vegetation and trees along the creeks and waterways on their land. Farmers are finding all of this has many benefits that go beyond improving the environment, since it can also improve quality of life in rural areas.

Fritz and Linda Laepple produce certified organic beef and pork, potatoes, vegetables and grains west of Kitchener. They are planning a tree planting project with the GRCA.

“We plant trees for biodiversity,” says Linda. “They attract songbirds and wildlife, they protect our fields from the wind, and they help to make our farm more

TAKING ACTION

4,142 steps to cleaner water

Projects undertaken since 1998	
Agricultural water supply	12
Chemical storage and handling	1
Clean water diversion	251
Dead stock composting	17
Erosion control	103
Fertilizer storage and handling	2
Fuel storage	121
Innovative projects	16
Stream fencing	280
Machinery crossing	7
Manure storage	345
Milkhouse waste	107
Natural area restoration	1
Nutrient management plans	371
Strip Cropping	1
Tree planting	1482
Well plugging	650
Well upgrade	375

sustainable. They are a great lumber resource, too. We recently built a machine shed from lumber harvested from trees on our farm.”

More than \$13 million in grants has gone to farmers and rural landowners to pay 30 to 100 per cent of the cost of their projects, depending on the type of project and location.

This year, close to \$700,000 is available to farmers and rural landowners throughout the Grand River watershed for environmental improvement projects. The landowner contributes the balance in cash, materials or labour. Most of the money for the program comes from local municipalities, but funding is also provided by foundations and other levels of government.

Buying from local farmers like the Laepples supports local environmental improvement. Each landowner who participates in this program receives a Rural Water Quality Program sign, and these are often proudly displayed at the farm gate. A healthy farm environment and sustainable farm practices mean urban centres will not need to spend as much money at water



Photo by Anne Loeffler

Tomato harvest at a farm north of Waterloo.

Seeking heritage river stories

Do you have stories or photos about what living on or near a heritage river means to you?

In 2014 we will celebrate the 20th anniversary of the 1994 Heritage River designation of the Grand, the Speed, the Eramosa, the Conestogo and Nith rivers.



We are looking for stories and photos for Grand Actions or to use in GRCA communications material and we can use your help.

Perhaps you have “Then and Now” photos or memories of how things have changed along these heritage rivers, or a story about how river designation had an impact on you or your community.

If so, please send them to the editor, Janet Baine jbaine@grandriver.ca or call 519-621-2763, ext. 2302.

treatment plants. Local food hasn't lost nutritional value during travel, it's fresh, tasty and an increasing proportion of it is organic. It has a much smaller ecological footprint due to less spent on fossil fuels, transportation, refrigeration or preservation and packaging.

More local individuals, restaurants and organizations are buying and supporting local farmers as the connection between farm, food, community and environment grows. It is common these days to see chefs vying for top title in local food competitions and events based on local food, such as Waterloo region's culinary showcase called Taste local! Taste fresh! Many watershed festivals celebrate local food such as the Elmira Maple Syrup Festival; Wellesley Apple Butter & Cheese Festival and Kitchener-Waterloo Oktoberfest.

Local food organizations such as Bountiful Brant, Foodlink Waterloo Region and Guelph Wellington Local Food provide information and maps on buying local food.

Some grocery stores and institutions such as hospitals and long term care facilities are also increasing their local food offerings.

Helping farmers with drought

By Janet Baine
GRCA Communications Specialist

Farmers who irrigate their crops with water from Whiteman's Creek in Brant County have two things to be grateful for this year — rain and a new pilot project to help them prepare for the next dry spell.

The early results of the pilot program are a surprise.

“Last year was difficult because there wasn't much rain. Some farmers had horrible crops, made no money, went bankrupt or plowed in their fields,” says Hajnal Kovacs, the drought contingency specialist who is working at the GRCA on this pilot project. Whiteman's Creek enters the Grand west of Brantford and it is an area where water levels can become very low early in the summer.

Parts of the watershed, including Whiteman's Creek, were in a Level 2 low water condition for most of the growing season last year, meaning water takers were asked to voluntarily reduce water use by 20 per cent. By the end of the summer, the entire watershed was in Level 2.

In contrast this year has seen lots of rain and yields are up. A Level 1 condition was issued for Whiteman's in late August, well into the growing season.

A bean farmer who draws water from

Whiteman's Creek, for instance, had a yield of 160 bushels per acre last year and 300 this year — nearly double the yield.

“This is good, because you can't prepare for a fire during a fire. It is better for farmers to prepare for drought when they are not experiencing one,” Kovacs says.

Surprising result

Before the pilot project, some people thought irrigators may be watering too often, but Kovacs has found that is not the case. She visits three farms daily and despite all the rain we have had, she has found all three farmers were not watering soon enough.

She uses new technology to monitor the crops in the fields. The technology includes a \$1,200 probe that measures and averages the soil moisture eight inches below the surface. Probes that can do this can cost as little as \$10, but farmers don't trust the inexpensive ones enough to base crucial decisions on their data, Kovacs says.

She also has equipment to measure evapotranspiration or ET, which is the combination of evaporation from the soil and transpiration from plants. It is equivalent to the sweat that a plant gives off. This lost moisture is equivalent to the water a plant needs to replenish and stay healthy.



Drought contingency specialist Hajnal Kovacs monitors soil moisture in a tomato field.

The crops she is monitoring are tomatoes, peppers, potatoes, ginseng and tobacco. The vegetables end up on the shelves of the major supermarkets while some potatoes are sold to a potato chip producer.

Farmers tend to wait before watering because their irrigation equipment uses diesel fuel which is expensive, so it costs money each time they irrigate.

While Kovacs is monitoring three farms, she is also in touch with all 19 farmers who hold 31 permits to take water directly from Whiteman's Creek. All these people were invited to a twilight tour at a demonstration site at the end of August to learn more about the pilot project and the findings.

Kovacs is also working with them to find alternative water sources, so they don't need to take their water from the creek. One farm has an old irrigation pond that hasn't been used since the 1950s, and she is investigating what upgrades would be needed to put it back into use.

The Ministry of Agriculture has lots of useful information about irrigating, but Kovacs says this is found online and some farmers often don't use the information because they don't use computers.

This project is called the Water Resource Adaptation and Management Initiative (WRAMI) and some of the findings will be helpful across the Grand River watershed and in other areas of the province. Often irrigators only hear from the GRCA during a drought when they are told to cut down on their water use, so it is really helpful to have this program which provides on going communication and a link between the GRCA and the farmers.

Kovacs recently graduated from the University of Guelph with a Masters in Environmental Studies and a focus on plant health.

She will be working on this program until January, when her findings will help determine the next steps in helping farmers cope with drought.

The partners in this project are Brant County Federation of Agriculture, the GRCA, the Ministry of Agriculture and Food, the Ministry of Natural Resources, the Ministry of the Environment and Farm and Food Care Ontario.

You can follow Kovacs on Twitter @Plan4Droughts or reach her by calling 519-621-2763, ext. 2324.



A sandhill crane is set free at Luther Marsh

A rehabilitated sandhill crane found a new life at Monticello Wetland in Luther Marsh. The injured crane had been captured and taken to the Toronto Wildlife Centre in June. The staff kept it there until its injured leg had healed.

Dave Lamble, the bird bander at Luther Marsh, checked its leg, banded it and then watched it walk away. After years of banding, this is the first sandhill crane he has banded.

"This was a new species for me. The bird did not fly but rather walked away from us, exploring Monticello -- looked like she was enjoying herself and felt at home," he said.

The Toronto Wildlife Centre is a leader in wildlife rescue, rehabilitation and education. A fox cured of mange was also released in Guelph in September.

FOUNDATION

Borealis lights up the night

Delicious food and beer provided the perfect reason for supporters of the Grand River Conservation Foundation to gather at three local restaurants.

The Neighbourhood Group, parent company of Borealis Grille in Guelph and Kitchener, and the Woolwich Arrow Pub in Guelph, hosted sold out crowds at the annual River Restoration Fundraising Dinner on July 8th.

More than 100 guests enjoyed a feast of

locally-inspired dishes paired with a selection of beers from Creemore Springs Brewery. The event, now in its third successful year, has raised more than \$15,000 to support local tree planting, environmental restoration and education initiatives.

Bob Desautels, President of The Neighbourhood Group, and newly appointed GRCF board member, always looks forward to this event as a means to give back to the river he loves so much.

"We rely on the clean water it provides.

The health of our rivers is vitally important in sustaining our local communities," he says. For more information and pictures visit www.borealisgrille.ca.

Memorial to George Stormont

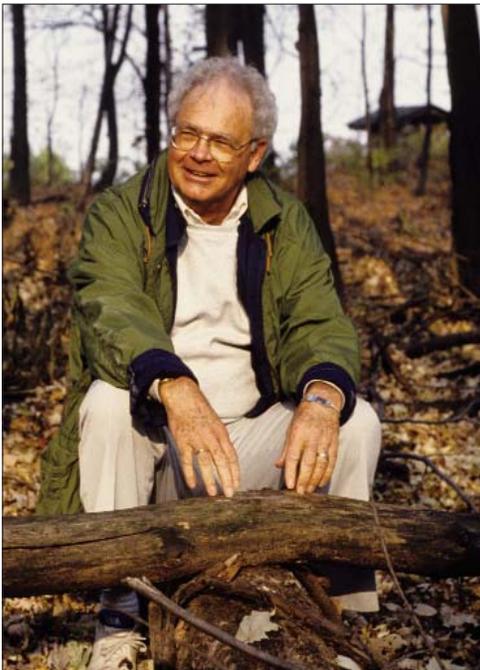
Donors have contributed to a memorial bench to be placed at Laurel Creek Nature Centre in memory of George Stormont, the former director of community relations at the GRCA who passed away April 14, 2013.

His 22 year career at the GRCA began in 1969 and he was a key player in developing the GRCA's outdoor education programs that included building the nature centre facilities.

Stormont was instrumental in the early successes of the Grand River Conservation Foundation (GRCF) which has raised millions of dollars in support of outdoor education, conservation projects and land acquisition. Stormont continued as a member of the GRCF board for 11 years after his retirement, during the creation of the rail-trails.

His daughter Beth is now the outdoor education manager at Hamilton Conservation Authority.

Additional memorial donations will go to support students attending GRCA nature centre programs.



George Stormont



Photo by Dave Schultz

The new \$1.2 million dam in Elora will allow more water to flow through town and reduce the potential for flooding.

WHAT'S HAPPENING

Water exhibit at Kitchener museum

Water is the subject of an exhibit at THEMUSEUM in Kitchener that the GRCA and the GRCF are both sponsoring Sept. 20 to Jan. 5.

Called *Surface Tension | The Future of Water*, the exhibit brings together work by artists, designers, engineers and scientists to explore the future of water. The 35 installations play on water's physical properties and its role in politics and economics. It explores ways that water is harnessed, cleaned and distributed.

The exhibit originated in Dublin Ireland and has been presented in New York City. It is on the fourth level of The Museum and is suitable for adults and children. Dave Schultz of the GRCA will make a presentation as part of the Water Dialogues on Sunday, Oct. 27.

"This will be a fun and enlightening exhibition especially as this is the United Nations International Year of Water Cooperation" said David Marskell, CEO of THEMUSEUM. "Along with the important questions the exhibition brings to light, it will be incredibly fascinating to explore the creations that have been made with conservation of energy and water in mind."

The Museum is open Wednesday to Sunday during the day and also Wednesday evening.

Work underway on Drimmie Dam in Elora

The long-awaited reconstruction of Drimmie Dam in Elora is underway.

The work in the river should be completed by January, while final site cleanup will be finished in the spring.

Drimmie Dam was built in the 19th century to provide power to a nearby mill and there is still a small hydro plant associated with the Elora Mill. The dam and the pond it creates are part of the allure of Elora and have been featured in numerous photos and paintings, including on the cover of the July/August issue of the inflight magazine for American Airlines.

The dam has been owned by the GRCA since 1984. In recent years, chunks of concrete have fallen off during high flows. The dam also constricts flows of the Grand River through Elora.

The new dam will allow more water to flow through the town and reduce the potential for flooding during periods of high flow.

Demolition of the old dam and construction of the new one will have minimal impact on the commercial area along Mill Street.

The \$1.2 million cost of the project is being split three ways: The GRCA is paying about \$400,000, the Township of Centre Wellington is paying \$200,000 and the Ontario Ministry of Natural Resources is paying about \$600,000 through its Water and Erosion Control Infrastructure Program.



Hillside Festival not over the hill at 30

Musicians and audiences love Hillside Festival, which is not over the hill even though it celebrated its 30th anniversary this year.

This event takes place at the end of July at Guelph Lake Conservation Area. It is an excellent example of a partnership that has become a happy long-lasting marriage.

The GRCA gave Hillside a Grand River Watershed Award for many environmental initiatives in 2005, but festival organizers have increased the pace of their environmental initiatives since then.

Teams of volunteers reduce the

environmental footprint by paying close attention to reducing waste, ensuring it is sorted. Reusable dishes and cutlery are washed by volunteers who enjoy music as they wash by the main stage. Refillable containers for drinks and water have been sold for years — this year everyone was toting stainless steel beer mugs for the first time. There is a solar-powered stage and a permanent stage that was funded through Hillside. The green roof on the stage was looking mighty fine this year as a result of all the rain.

In the transportation department, parking fees are used to pay for a free bus service from downtown Guelph. Cyclists can access the island easily and leave their bikes in a lock-up that is monitored by volunteers.

There are even organized group rides to and from the festival. Volunteers also plant trees.

The new superintendent Brad Dixon is impressed by the festival and the use of the facilities on offer at Guelph Lake.

About Grand Actions:

This newsletter is produced bi-monthly 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

How to not get lost in the woods

Saturday, Oct. 12, 10 a.m. to 11:30 a.m., Laurel Creek Conservation Area, Waterloo. Learn how to use a GPS to find secret clues around the conservation area., then solve the puzzle to win a small prize. GPS units will be available for loan with a valid photo ID. Children 16 years or younger must be accompanied by an adult. Meet at the Critter shelter.

Halloween treasure hunt

Saturday, Oct. 26, 2 p.m. to 4 p.m. Laurel Creek Conservation Area. Use GPS units to hunt for Mr. Potato Head parts. Stick your hands in goey or scary containers to find his eyes, ears, arms, nose and feet. Bring back a complete Mr. Potato Head to earn A treat. Those 16 years old or younger must be accompanied by an adult. Call the Nature Centre at 519-885-1368 to reserve space.

Halloween fun for the family

Sunday, October 27, 10 a.m. to 3 p.m. Shade's Mills Conservation Area, Cambridge
Wander the trails in the Enchanted Forest, use a GPS unit to put Mr. or Ms. Potato Head together again, decorate mini-pumpkins, make a bat kite and more fun activities for the family. Children 16 years or younger must be accompanied by an adult.

The great Shade's Mills bird count

Saturday, Nov. 16, 1 p.m., Shade's Mills Conservation Area, Cambridge. Learn about the birds that don't fly south but stay and the basics of bird-feeding. Who knows, you might get that chickadee feeling. Children 16 years or younger must be accompanied by an adult.