GRAND ACTIONS

THE GRAND STRATEGY NEWSLETTER

VOLUME 5, NUMBER 4 - APRIL 2000

Grand River Conservation Authority

The Grand: A Canadian Heritage River

INSIDE

Cover photo

This flyfisher is enjoying a great river experience in the heart of downtown Cambridge.

WETTING YOUR BOOTS IN THE GRAND

by Warren Yerex, Grand River Conservation Authority

Can you picture limestone rock ledges above a thin ribbon of swirling, boulder-strewn water, and see the large, dark shadows of smallmouth bass hovering in and around the river structure? Can you hear the gulls cry, and feel the swell of water under your boat while your drag screams as a channel cat takes off with your bait? Can you smell and hear the traffic and the boom boxes as you lazily drift in your canoe past high walls and tall buildings, and watch the surface erupt with baitfish being chased by a spiny predator?

These experiences took place on the same day in the same river, the Grand River, even though they were 100 river miles apart. And that's the secret of the Grand River…its diversity; diversity of fish, diversity of habitats and diversity of fishing experiences.

The Grand and its major tributaries, the Eramosa, Speed, Conestogo, and the Nith, contribute to a network of waterways that spread more than 11,000 kilometres across this watershed; a watershed that is larger than the land mass of Prince Edward Island! The Grand River watershed is also home to more than 700,000 people, many of whom are beginning to appreciate the jewel in their backyards; the river that supports the amazing quality of life that we have come to expect in this area.

So put on your boots and step into the river. Pick up some rocks, poke around the aquatic plants and kick some gravel…take a look at what the river is made of. Notice the fallen timber, the tree leaves from last year covered in caddis larvae, the panic of the crayfish as its lair is discovered, the flash of tiny fish scattering for cover.

Look upstream and think of what influences the river you are standing in…the bridges, the inflowing water from the tributary around the bend, the water pouring in from last night's thunderstorm, the sediment from upstream fields that were plowed last fall, the effect of the extreme heat from the drought that won't go away, and the ice that gouges out the stream

• *See page 2*

WETTING

from page one

bottom and leaves its scars on floodplain willows and cottonwoods.

Ask yourself where the water comes from when you turn on the tap to brush your teeth. In the Grand watershed, the answer is that it frequently comes from the river! The entire water supply for the City of Brantford comes from this wonderful resource. We are lucky to have a management system of reservoirs and innovative people and technologies that allows us to be productive and economically competitive with cities located on large bodies of water like Lake Ontario. Lake-dependent cities can be prone to international influences and whims, while in the Grand River watershed we have a certain control of our own destiny, to live within the needs and bounds of our communities.

And we are blessed because of the geology left for us thousands of years ago by the last glaciers. From Dundalk to the village of Belwood and west from Arthur to Milverton, the mixture of clay and till soils do not hold water well. Without wetlands, this large area of the watershed has very little chance to retain water that could contribute to flows in the river in midsummer.

From Erin in the east to Burford in the southwest, the glaciers left an outwash of sands and gravel, very porous materials that allow rain and snowmelt to penetrate and permeate into the critical groundwater aquifer below the land surface.

Think of the streams that contribute to the Grand. A trout angler will know them – Blue Springs Creek, the upper Eramosa River, Hanlon Creek, Mill Creek, Cedar Creek, Mud Creek, Whitemans Creek, D'Aubigney Creek, to name a few. These streams are primarily cold. They receive groundwater inputs up through the gravel bottom. They do not flood in extreme peaks, having more of a gentle rise and decline as the flows are dampened by adjacent wetlands and a permeable soil base that act like a sponge and slowly releases water throughout the year.

From the Cockshutt Bridge in Brantford all the way down to Lake Erie, the Grand meanders through an old lakebed made up of 'Haldimand' clay, a huge area of lake sediments from the former glacial Lake Warren. Again, water runs off this soil almost as fast as it hits the ground. The lower river looks murky and turbid here. But the river isn't necessarily 'dirty'. It's tainted with particles of clay and algae that are suspended in the water column. It also is influenced significantly by the seiche from Lake Erie that swells water levels from Port Maitland to the Dunnville Dam if the right wind is blowing.

And what does this have to do with fishing? It has everything to do with it. Geology and climate determine which fish species can tolerate and thrive in those environments. Just as important an influence is the human use of the land that the 11,000 km of tributaries flow through.

Amazingly, there are 83 species of fish found in the Grand River watershed, representing 62% of all fish species found in Canada. These include six species that are considered 'vulnerable, threatened, or endangered" in Canada. Species like the Sand Darter, Redside Dace, and Black Redhorse sucker are not only uncommon but most fishermen would find them impossible to identify and inconsequential in size. Nevertheless the habitat supporting these unique species continues to be provided in certain sections of the river and its tributaries. This is a testament to good quality water and habitat conditions.

An angler is never too young to hope to catch the really big one.

Even non-anglers know that trout are a very sensitive species. In the water world, they can be considered the 'canary in the coal mine'. Citizens in Fergus and Elora can stroll beside the river and watch brown trout rising to a mayfly hatch. Those same residents recognize that those fish in essence are an expression of the habitat, water quality, and supporting ecosystem of the river. Those people have the security of knowing that the water in their community is clean enough to support the finned 'canary'.

Put your boots on and explore the river. You're in for an eye-opening experience. Don't just go to the popular spots. Visit places like Hawkesville, Canning, Waldemar and Middleport, Everton and York. Walk the river trails in Brantford or Cambridge or canoe between Caledonia and Cayuga.

Try hooking a mooneye on a little white fly, or stalking a carp in the shallows. Cast to the surface smash of a smallmouth bass. Find the places in the lower river where you never know what species you'll catch on the next cast. It may be a walleye, a pike, a channel cat, or even a steelhead. Lift your head up and look around at the river and the floodplain with its majestic trees. It's easy to forget you're within two hours of 6 million people.

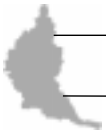
Watch a mink or weasel sneaking through tree roots and underbank, sniffing the wind for some familiar scent. If you're lucky an otter may surprise you as it floats past, enjoying the river as much as you are. Hear the wild turkey gobble in the wooded

valley, or be startled as an osprey plunges into the pool behind to grasp a fish.

Watch in amazement at the "witching hour" as the river comes alive as the day disappears into night. Although it sounds like someone is throwing rocks at you, you know better as you cast your line with a hope and a prayer. Those are fish rising, not rocks! Big fish. But suddenly you realize that your frantic casting isn't productive. There are too many flies on the water and too many fish to cast to. You stand in awe at the spectacle and eventually slip out of the water and simply enjoy the dance of the mayfly and the smile of the trout.

Anglers can find lots of quality tackle shops, websites, books, and the Outdoor Channel that will tell you how, where and when to fish. To enjoy it, you've got to put your boots on and experience it. Feel the water moving past your feet. Think of the river's long journey. Learn to read the water. Listen to what it says. Treat the river and its inhabitants with respect and they will provide you with a lifetime of memories. And just think, we have all of this in our own backyard!

Warren Yerex is the GRCA Supervisor, Aquatic Resources, and was a key player in developing the Grand River Fisheries Management Plan. Fishing is his favourite outdoor pastime.



MILESTONES

Milestones are progress or products of *The Grand Strategy* Joint Work Plan.

A New Partner Agreement

The GRCA and the University of Guelph signed an agreement on March 24, 2000, that will strengthen joint teaching, research and outreach between the two organizations.

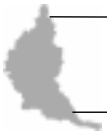
The University of Guelph was founded in 1964, with the amalgamation of three colleges, including the Ontario Agricultural College (1872). Johnston Hall (above) is one of the many attractive building on the 412 hectare campus.

Through this agreement, the University of Guelph has formally become a partner in *The Grand Strategy.*

The agreement will result in additional applied research and education opportunities for students in programs such as environmental sciences, geography, history, landscape architecture, rural planning and development, biological and land resource sciences and engineering.

With better knowledge and improved information tools and technologies for predicting and monitoring the impacts of land use change and population growth on the resources of the watershed, students have an opportunity to influence current and future watershed planning and management and to get involved in new collaborative environmental projects.

The GRCA and other partners in *The Grand Strategy* look forward to continuing to work closely with faculty and students of the University of Guelph to find effective solutions to pressing watershed issues like improving water quality and securing sustainable sources of water supply.



WHAT'S HAPPENING?

Water Vulnerability in Ontario

On March 23, 2000, over 60 water managers and scientists met at the GRCA Administrative Centre to discuss climate change and the impacts it might have on the quantity and quality of Ontario's water resources. The workshop was supported by Government of Canada's Climate Change Action Fund and hosted by the Soil and Water Conservation Society (Ontario Chapter) in cooperation with Global Change Strategies International, Inc. and Meteorological Service of Canada, Environment Canada.

In recent years, a growing number of scientists believe that climate change is occurring as a result of human activity. Temperatures appear to be increasing as concentrations of released gases, particularly CO_2 are

• *See page 4*

VULNERABILITY

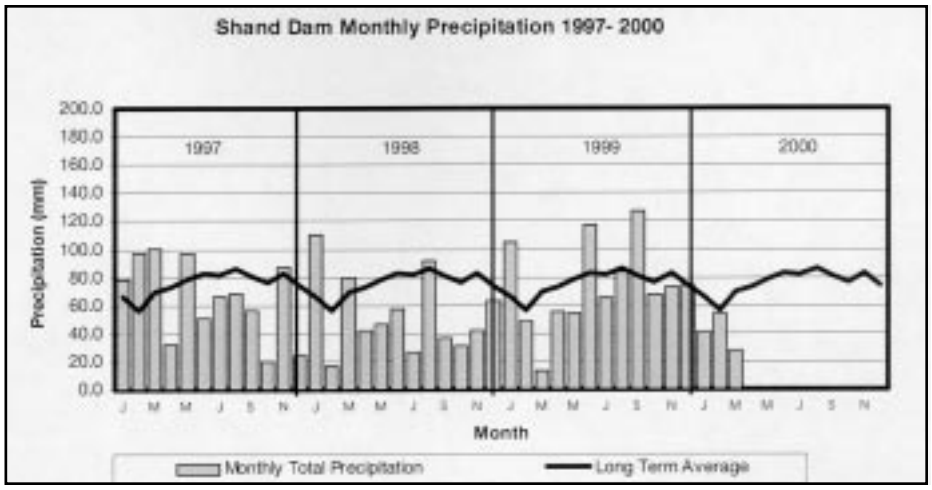
from page three

increasing in the atmosphere.

How might these changes impact Ontario's water resources? It is predicted that temperature will increase. This will trigger a number of other climate changes such as generally more precipitation, and more intense local rainstorms, with a longer period between rainfall events. At the same time evaporation will increase. Increases in drought and flooding are expected. There will be less water to recharge aquifers resulting in lower base flows in watercourses. Shallow aquifers will be most vulnerable. Lake levels will drop.

The impacts of increased variability in rainfall and temperatures will lead to greater uncertainty in managing our water resources. Water quality issues will become more prevalent as fields and riverbanks become more vulnerable to erosion, water temperatures increase and the capacity of streams to assimilate pollutants decreases. These changes have implications for allocating water, treating waste water, managing floods and drought and associated capital infrastructure, hydro-generation, irrigation, outdoor recreation, fisheries, and public health and safety. There will be growing challenges around water management as competing interests vie for water. There will be a need to find mechanisms for allocating water, monitoring use and mediating conflicts. The issue of water transfers and diversions from areas of abundant supply will become more pronounced.

Participants were asked to consider how we might adapt to the impacts of climate change in order to secure water quality and supply in the future? Five groups discussed adaptation opportunities around public policy, programs, planning and pricing; community economic development; agriculture; fisheries and aquatic sciences; and, public health and safety.



The graph above shows the past three year's monthly rain and snowfall measurements at the Shand Dam compared to the long term average.

A wealth of ideas were identified and summarized at the end of the day. It was suggested that there are many proactive actions that can be taken now to adapt to the anticipated impacts of climate change. Some of these ideas include:

- Changing the standards for floodplain management given increasing flood risks
- Preparing a water budget for watersheds to identify the connections between surface and groundwater and areas of vulnerability to water taking and to determine sustainable limits for water extraction
- Introducing water reuse and efficiency policies and encouraging new technologies which reduce water consumption
- Introducing water conservation programs
- Redefining water quality standards
- Encouraging best management practices in rural areas to reduce sources of pollution and to re-vegetate riparian corridors
- Protecting existing wetlands and creating new wetlands to retain and filter water
- Encouraging community-based environmental stewardship
- Decreasing subsidies to industries that promote increases in water use
- Developing areas of excellence – programs and projects that illustrate sustainable use of water

Although there is much uncertainty surrounding the nature and extent of climate change, we must be prepared to adapt to changes that appear to be inevitable. Ignoring the signs will be like burying our heads in the sand. There is an urgent need for scientists and water managers to exchange information and to develop adaptation strategies now. This is particularly true for the whole of the Grand River watershed where we currently depend almost solely on surface and groundwater for our water supply and on surface water for our wastewater discharge.

This workshop was the second of a series of workshops which are held across Canada to bring scientists and water managers together to explore the challenges and opportunities of coping with climate change. The results of these discussions will be published in a report later this year.

For more information, contact John Parish, President, Soil and Water Conservation Society, Ontario Chapter, at (905) 877-9531. Email: jparish@aztec-net.com

86% Said Yes to Forest Plan

Respondents to the questionnaire *A Watershed Forest Plan for the Grand River* overwhelmingly viewed the creation of such a plan as valuable. Of 2,700 questionnaires, over 17% were returned. This very high response rate indicates strong interest in the watershed forest. Eighty-six percent wanted to see a plan created. One in five respondents volunteered to help create the plan and an equal number were interested in implementation.

The questionnaire was distributed to First Nations, municipalities, farmers, landowners, loggers, naturalists, recreational groups, stewardship councils and others. This diverse group agreed on the importance of soil protection, water benefits, forest health, wildlife habitat, and air benefits. The top five things they would like to see addressed are as follows:

- restoration plantings,
- forest wildlife,
- farm forestry,
- timber management, and
- development and forests.

It is clear that many people have a very strong connection with the trees and forests in this watershed. As community representatives begin to create the plan for these trees and forests, even more interested folks will come forward. The future looks bright for the watershed community with this dedicated group looking out for the forest's best interest.

GRCA Parks Opening

The GRCA parks will be opening for visitors at noon on Friday, April 28, 2000. Get a jump start on summer fun at one of these attractive Conservation Areas. For more information on locations and facilities, call (519) 621-2761, or check the GRCA website at www.grandriver.on.ca

Farmers Use Less Pesticides

by Hugh Martin, OMAFRA, Guelph

Ontario's farmers are using fewer pesticides than they did 15 years ago. Surveys are conducted every 5 years in Ontario, and the 1998 survey shows we used 41% less pesticide in 1998 than in 1983. This accomplishment has happened for a number of reasons.

Many of the newer pesticides are used at much lower rates due to new chemistry advancements. These newer products are also safer for the operator and the environment than some of the older pesticides they replace. Many of these new pesticides are more environmentally friendly, even where use rates have not declined.

Many farmers now use integrated pest management that allows them to use pesticides in relation to the known biological cycle of pests and according to weather observations.

The above article is part of a regular press release from the Ontario Ministry of Agriculture, Food and Rural Affairs.

NOW AVAILABLE

Water Ecology Website

A new website will help you identify some of the small creatures found in Grand River watershed streams. The site was created by Dr. Jane Rutherford of Wilfrid Laurier University, Waterloo to help stream ecology students with identifications of Grand River invertebrates. You can view the site at http://www.wlu.ca/~wwwbiol/bio305/Database/FieldGuide.htm

Puslinch Profiles

A new publication, *Puslinch Profiles 1850-2000*, is now available. This social commentary on the changes in Puslinch Township is published by the Puslinch Historical Society to celebrate the 150th anniversary of the Township. Assistance was provided by the Township of Puslinch, the Province of Ontario and the Government of Canada.

The publication is available at the Puslinch Municipal Office and Puslinch Library. Copies may be obtained for $10 plus $3 mailing costs from the Puslinch Historical Society, c/o Township of Puslinch, R. R. 3, Guelph, ON N1H 6H9. Please make cheques payable to the Puslinch Historical Society.

Natural Areas as Neighbours

An attractive new publication from Halton's Ecological and Environmental Advisory Committee will help homeowners living adjacent to environmentally sensitive areas. The *Natural Areas as Neighbours* brochure provides landowners with practical suggestions for good land stewardship. For a copy of the brochure, contact Kathy Kielt (519) 853-0501, ext. 7200. Email: kieltk@region.halton.on.ca

Grand River Forest ANSI Report

The Ministry of Natural Resources has completed a comprehensive report that covers the Grand River Forest and Spottiswood Lakes Areas of Natural and Scientific Interest (ANSI) in the Cambridge district.

In 1985, these sites were identified as one of 36 unprotected Carolinian Canada sites. An inventory was started in 1998. In 1999 the report was updated, and all mapping was digitally converted. This report and its 1:15,000 fold-out maps formally confirm modifications to the original ANSI boundaries.

Copies of this report may be obtained from the Guelph District office, 1 Stone Road West, Guelph, at a cost of $30 plus shipping and handling. For more information call (519) 826-4925.

LOOK WHO'S TAKING ACTION

Sunoco Hosts Earth Day in Kitchener

Sunoco, now in its sixth year of partnership in the Canadian Natural Highway program, has joined Earth Day Canada and Ontario Conservation Authorities, to promote biodiversity and the planting of native species. Thousands of community volunteers will help plant approximately eight thousand native trees in London, Kitchener, Hamilton, Barrie and Windsor in April 2000.

Since its launch in 1993, the Canadian Natural Highway program has helped plant over 4 million native trees and shrubs, and countless wildflowers, in dozens of Canadian communities, including several southern Ontario sites. For more information, please visit www.earthday.ca

On April 29th hundreds of volunteers will gather at Southwest Optimist Park Kitchener (corner of Homer Watson Blvd and Pioneer Drive) to plant trees and enjoy a fun-filled day of family activities. This event is organized by the GRCA, in partnership with Earth Day Canada, the City of Kitchener, Southwest Optimist Club, and sponsored by Sunoco Inc. and the Suncor Energy Foundation.

The day starts at 10 am., with a welcoming ceremony at 11.30 a. m. Activities run until 1 p.m., and will include tree planting, music, face painting, nature crafts, a Giant Caterpillar Crawl, and bird, bat and butterfly box display. Admission is free, courtesy of Sunoco Inc. Refreshments and a BBQ will be available for purchase as a fundraiser for the Southwest Optimist Club. For more information contact Jennifer Hawkins at (519) 621-2763 ext. 268.

The annual Children's Groundwater Festival at Doon Heritage Crossroads, Kitchener, gives children a chance to enjoy water activities while learning about the larger picture of water supply and conservation.

Children's Groundwater Festival

The Waterloo-Wellington Children's Groundwater Festival is a hands-on event held annually at Doon Heritage Crossroads in Kitchener. It is one of five festivals sponsored by the Ontario Children's Water Institute. Over the past four years, over 19,000 children have attended the festival to learn about water quality and quantity.

The five day festival runs from May 29 to June 2. More than 4,000 students from grades three to six will splash their was to a better understanding of the importance of water in their lives. They will learn about the water cycle, conserving water and protecting our water resources.

The implementation of the festival is coordinated by a volunteer committee of staff from the Region of Waterloo, City of Guelph and private industry. The GRCA joined the committee in 1999 and will supply a weather display and staff and contribute $500 funding.

For more information about the Ontario Children's Groundwater Institute see the website at www.kidsforwater.org.

Ontario Genealogical Society (Brant County)

If your family history is linked with Brant County or nearby areas of the Grand River watershed, you may discover some information and contacts from the Brant County Branch of the Ontario Genealogical Society. This volunteer society serves as a gateway to the past and its mission is to preserve, protect and publish genealogical information and assist fellow researchers. Since 1981, the 300 members have hosted workshops on understanding and preserving records and researching special family histories. Other activities include transcriptions of Brantford and Paris cemeteries and publishing an index to a Brant County history. A Family Research Library is available at 34 Market St. Brantford, four days a week (phone (519) 753-4140).
Future activities include transcriptions of other cemeteries, hosting more family history workshops and maintaining a Society website.
For more information about the Brant County Branch, contact Donna Kemp at (519) 753-8581.

Sunfish Lake Association

Sunfish Lake is a small, 25 hectare lake in northern Wilmot Township, and is the source of Laurel Creek. It is one of a few meromictic lakes in Ontario, that is, its deep bottom waters (21 metres or 70 feet) are totally devoid of oxygen. The surface and bottom layers do not mix, and the lake is vulnerable to environmental damage. Since 1969, the thirty members of the Sunfish Lake Association, from six to ninety-three years of age, have been committed to preserving the lake, and have opened their hearts and their wallets to achieve this goal. This group of residents jointly purchased about 20 hectares (50 acres) of woodland around the lake to act as a natural buffer zone. Restrictions on lake use include no motorized boats, no fertilizer or pesticide use, and regular septic tank inspections.

Association members, have carried out purple loosestrife control in cooperation with the GRCA, which entailed hand pulling of plants and raising $2,000 for purchase of beetles for biological control. Ongoing water quality measurements and activities are also conducted by the association.

For more information, contact Kevin Thomason at (519) 888-0519 or email kthomason@quarry.com

Grand River Bass Derby

Bass fishers of all ages can participate in a yearly event hosted in July by the Optimist Club of Stanley Park, Kitchener. The event is organized to increase awareness of local fishing opportunities and to raise money towards the creation of a new river habitat park by the City of Kitchener *(see Grand Actions, February 2000)*. The only fish that may be entered in the competition are smallmouth bass over 30 cm (12 inches) in length. All fish are released and returned to the Grand River after the derby is finished. Twenty to thirty volunteers work hard each year to prepare for the event, with the help of many local business supporters.

Bass Derby dates and registration details will be published in local newspapers nearer to the event.

DID YOU KNOW?

- In 1990, over 6.5 million people fished in Canada, of which adults represented close to five million individuals. Of this total, just over 876,000 were anglers visiting this country.
- Mayflies are a favourite trout food. Their Latin order name is Ephemoptera, meaning “short-lived”. Adults seldom live more than a day or two and do not feed.
- The GRCA Fishing Line, at (519) 621-2761, provides current Grand River fishing information.
- The GRCA has been carrying out stream restoration with the Ontario Ministry of Natural Resources and many watershed interest groups and landowners since the early 1980s.
- Rainbow trout were introduced into Ontario, from the Pacific coast, about 1904 by the provincial government, although there may have been private transfers as early as 1883.
- Rainbow trout are now found in the Nith River as far upstream as New Hamburg.
- Fishermen often call any big rainbow trout a steelhead.
- Marshes along the lower Grand River near Dunnville are vital feeding and nursery areas for many species of fish.

Students from the Guelph Collegiate and Vocational Institute show the finer points of tree planting. The tree is protected from animals, and mulched to preserve moisture.

THE GRAND STRATEGY CALENDAR

Dedication of the Waterloo Park History Walk, Thursday, April 20th, 2000, 12 p.m. to 1 p.m. at the Waterloo Park Clock Tower (Erb & Caroline Street). For more information contact the Parks Services, (519) 886-2310.

Earth Day Tree Planting, Saturday, April 29, 2000, Kitchener, at Southwest Optimist Park, Homer Watson Blvd. and Pioneer Drive. For details see page 6.

Woolwich Clean Waterways Spring Planting Event, **Saturday, April 29th, 2000,** 9 a.m. to 12 p.m., at Canagagigue Creek, Elmira, Ontario. For more information, contact Peggy Bednarek at 745-1760.

It's for the Birds, Spring Lecture, May 3, at 7.30 p.m., at Joseph Schneider House, Kitchener. Bird identification slide presentation by GRCA Interpreter, Dan Schneider. For information or to register call (519)742-7752.

Launch of the Wellington Dufferin County Trail Guide, May 13, 2000, at 10 a.m., at the Wellington County Museum (between Elora and Fergus). For information call (519) 821-2370, ext. 264.

Fourth International Conference on the Science and Management of Protected Areas, May 14 to 19, 2000, (Sampa IV) at the University of Waterloo. Topics include regional planning approaches to parks and protected areas. For information contact Stephen Lauer, (519) 622-4035 or email sampaa@prioritygrow.on.ca

Riparian Zone Workshop – Using Buffers To Improve Ontario Waterways. May 17, 2000, 9am to 4 p.m., at the Canada Centre for Inland Waters in Burlington. Speakers from across Canada and the United States. Cost $50 includes lunch and proceedings. Contact Jennifer Hawkins, GRCA for details and registration 519 621-2761, ext. 268.

The Fourth Annual "Canoe the River of Hope", Saturday, May 27, 2000. Enjoy a Grand River canoe outing from Kitchener to Blair while also helping the Cancer Society. For information on pledges and registration contact your nearest Cancer Society branch. Cambridge 623-7144, Guelph-Wellington 824-4261, Kitchener-Waterloo 886-8888. Refreshments and a barbecue lunch are provided. Transportation back to the put-in is provided by Canoeing the Grand. A special canoe rental rate of $22 for participants is available from Canoeing the Grand at (519) 896-0290.

Ensuring the Future of Heritage Elms, June 2, 2000, 8:00 a.m. to 4:00 p.m. - a meeting organized by the Ontario Shade Tree Council and hosted by The Arboretum, University of Guelph. Information available at (416) 631-8111, or fax (416) 631-7584

Caring for Our Land: Stewardship and Conservation in Canada, June 3 to 6, 2000, a National Millennium Conference at the University of Guelph. Contact Peter Mitchell, (519) 824-4120, or email claws@uoguelph.ca

River Rendevous 2000, June 23 to 25, at Bingeman Park, Kitchener. A celebration of rivers sponsored by Ontario Streams. For details call Ryan Plummer at (519) 824-4120 or see the website www.riverrendevous.com

New Newsletter Schedule

The Grand Actions newsletter publication schedule for 2000 will be May/June, July/August, September/October, and November/December. The newsletter is usually mailed out the second week in the publication month.

Submissions for the Calendar must be made well ahead of your event to ensure coverage. Notices of events for the May/June issues should reach us by April 15. For the July/August issue, notification should be given by June 15. Please include a contact number and/or email address for the event.

ABOUT THIS NEWSLETTER

This newsletter is produced as a communications tool by the Grand River Conservation Authority on behalf of the partners in *The Grand Strategy.*

This newsletter can be seen (without photographs) on the Internet at www.grandriver.on.ca/gractndx.html

For information on *The Grand Strategy*
Contact Barbara Veale, GRCA,
400 Clyde Road, Box 729, Cambridge ON N1R 5W6.
Phone: (519) 621-2761.
Fax: (519) 621-4844
Email: bveale@grandriver.on.ca
Website: http://www.grandriver.on.ca

For newsletter submissions
Contact the Editor, Liz Leedham, c/o Barbara Veale at the above address. Newsletter submissions must be made by the 15th of the month prior to publication, and may be subject to editorial change. Tax deductible donations and sponsorships toward the cost of producing this newsletter are always welcome. Please contact Barbara Veale at (519) 621-2761, ext. 274 for more information.

Publications Mail
Agreement #1448471