The Grand River

A Canadian Heritage River



Canadian Heritage Rivers System Ten Year Monitoring Report

2004-2014



Prepared for the Canadian Heritage Rivers Board

by Grand River Conservation Authority

Cambridge, Ontario

July 2014

Grand River Conservation Authority 400 Clyde Road Cambridge, Ontario N1R 5W6 Telephone (519)621-2761 Fax (519)621-4844 Website www.grandriver.ca

© Grand River Conservation Authority

ISBN#



Photo Credit: Anne Corkett Front Cover Photo Credit: John Byrne



Canadian Heritage Rivers System Ten Year Monitoring Report 2004-2014 July 2014

Prepared for the Canadian Heritage Rivers Board by Grand River Conservation Authority with financial assistance from Parks Canada.

Written by Melissa Larion, Grand River Conservation Authority with assistance from the Heritage Working Group and GRCA staff. Jenny Fay, Ontario Ministry of Natural Resources and Andrea McNeil, Parks Canada also provided valuable guidance in the development of this report.



Canadian Heritage Rivers System



Le Réseau des rivières du patrimoine canadien

Table of Contents

Executive Summary	2
Introduction	4
Our Watershed	4
The Grand 20 th Anniversary	4
Heritage River Surveys	5
Grand River Water Management Plan Update	5
Methodology	6
Chronology of Events since Designation	6
Natural Heritage in the Grand River Watershed	20
Natural Heritage Values since Designation	21
Cultural Heritage in the Grand River Watershed	31
Cultural Heritage Survey Results	
Cultural Heritage Values since Designation	33
Recreation in the Grand River Watershed	38
GRCA Parks	
GRCA Parks and Activities	
Recreation Survey Results	39
Recreation Values since Designation	40
Integrity Guidelines since Designation	47
Management Plan Recommendations and Current Status	
Management Plan Actions	51
Summary of Benefits Since Designation	54
CHRS Commemorative Plaque Inventory	55
Conclusions	56
Recommendations – Moving Forward	57
References	58
Appendix 1 – Heritage River Banner Stand Design	60
Appendix 2 – Canadian Heritage River Plaques	61

Executive Summary

The Grand River is located in Southern Ontario and contains a rich diversity of heritage resources. The river along with its major tributaries – the Nith, Conestogo, Speed and Eramosa Rivers, was designated a Canadian Heritage River in 1994 by the Canadian Heritage Rivers System (CHRS) Board. The designation was based on the river's outstanding human heritage and recreational values of national significance. The Management Plan submitted as part of the designation submission was produced by the Grand River Conservation Authority (GRCA) and was entitled *The Grand Strategy* (Grand River Conservation Authority, 1994).

In order to maintain the Canadian Heritage River status, a Ten-Year Monitoring Report must be completed every decade following the designation. In 2004, GRCA coordinated a summative report submission to the CHRS Board entitled *A Decade in the Canadian Rivers System: A Review of the Grand Strategy 1994-2004* (Grand River Conservation Authority, 2004). The report outlined improvements, losses and changes to human heritage and recreational values over the Grand River's first 10 years in the Canadian Heritage Rivers System.

Twenty years have now passed since the designation and using the CHRS guidelines, this report provides a chronology of noteworthy events pertaining to the Grand's Canadian Heritage River status since 2004. It summarizes significant activities, research and studies along with changes and threats to the cultural and recreational heritage values for which the river was nominated. The report also provides an update on status of the recommendations outlined in the previous Ten-Year Monitoring Report. Although the Grand River was not designated based on its natural heritage values, this report does include a description of these values similar to what has been provided for the cultural and recreational heritage values.

New threats and changes to the cultural and recreational nomination values have been documented in this report. However, many improvements have been made and continue to be made in support of the maintenance of heritage values of the Grand River and its major tributaries. GRCA along with its partners in heritage conservation and recreation have maintained their roles in promoting the river as a Canadian Heritage River. Continued coordination of and participation in activities, events, research and studies that help to raise awareness and a better understanding of the cultural, recreational and natural heritage values of the river will assist in their long-term protection.





Photo Credit: Virginia MacDonald

Introduction

Our Watershed

The Grand River watershed is located in southwestern Ontario and drains an area of approximately 6800 square kilometres from its headwaters in Dundalk to Lake Erie at Port Maitland. Its major tributaries include the Conestogo, Nith, Speed and Eramosa Rivers as well as Whitemans and Fairchild Creeks. The Grand River is a managed system with seven dams and reservoirs operated by the GRCA. The Shand, Luther, Conestogo and Guelph dams operate as a system to provide flow augmentation and flood control for the main Grand River.

There are 39 upper, lower and single tier municipalities located wholly or partially within the watershed as well as two First Nations reserves. The watershed is one of the richest agricultural regions in Canada. In fact, around 70 % of the land is actively farmed. Forests and wetlands provide unique and extensive habitat for diverse populations of flora and fauna, some of which are only found in Southern Ontario. Forests and wetlands together cover about 20% of the total watershed area.

The large urban areas are concentrated in the central part of the watershed and represent about 7% of the total area. Significant population growth is expected to occur in the watershed over the next 25 years. As a result of strengthened provincial growth policies, much of this growth will occur in the urban cores of the cities of Kitchener, Waterloo, Cambridge, Guelph and Brantford (Grand River Conservation Authority, 2014).

The Grand River and its tributaries supply countless recreational activities to watershed residents and visitors alike. Recreational fishing is perhaps one of the most popular activities in addition to paddling, hiking, biking, hunting, bird watching and photography. Guided and self-guided tours of the river by boat or land are available at many locations along the river's reach. River access points and trails are plentiful and easily accessible to anyone looking to discover what the river has to offer.

Human heritage appreciation is also prevalent as the watershed is home to extensive well-preserved historic sites and features. Many events and festivals are held annually to celebrate the river and its rich cultural history. Museums are scattered throughout the watershed and provide educational opportunities for people of all ages. Self-guided walking tours allow people the chance to merge recreation and cultural heritage appreciation into one activity.

The Grand 20th Anniversary

This year marks the Grand's 20th Anniversary as a Canadian Heritage River. In 1987, the Grand River Conservation Authority initiated the process of having the Grand River and its major tributaries declared a Canadian Heritage River. In 1994, the River was designated based on its outstanding river-related cultural and recreational values. A Ten Year Monitoring Report was completed in 2004 and was entitled A Decade in the Canadian Heritage Rivers System (Grand River Conservation Authority, 2004). The report detailed the improvements to human heritage and recreational values over the first ten years of the River's designation. It also built upon *The Grand Strategy* (Grand River Conservation Authority, 1994), the management plan that was tabled with the Canadian Heritage Rivers Boards as a requirement for designation.

This Monitoring Report documents the changes to cultural and recreational heritage values over the last ten years. It is important to note also that in keeping with the Canadian Heritage Rivers System Principles, Procedures and Operational Guidelines (2014) this is the first time that natural heritage values are being discussed related to the Grand River's designation. Despite not being designated based on its natural heritage features, the river and its watershed contain an abundance of aquatic and terrestrial ecosystems that support a variety of flora and fauna of national significance.

Heritage River Surveys

In 2012 and 2014, GRCA conducted surveys to obtain information for the Monitoring Report. The survey request included the following information:

This monitoring report will note changes, additions and losses to the human heritage and recreation features and values which support the designation since the last monitoring report was submitted in 2004. A listing and description of the human heritage features and values that are currently part of the Heritage River Inventory. Information about the status of heritage, recreation and associated tourism values, associated management issues and successes, and future directions is being gathered. Surveys have been developed for: 1) human heritage, 2) river-related recreation and watershed trails, and 3) cultural and recreation tourism. Individuals and groups who have an interest in and specific knowledge about these topics are encouraged to share their insights and knowledge by completing one or more of the surveys.

Feedback was obtained from a variety of sources such as municipalities, municipal heritage and recreation committees, provincial ministries, recreation outfitters, and the public.

Grand River Water Management Plan Update

In 2009, GRCA along with their partnering watershed municipalities, provincial governments, federal departments and First Nations began a collaborative process to update the Grand River Water Management Plan (GRWMP). The first water management plan was developed in the 1930's to address water quality and flooding issues facing many watershed communities. Updates were made in 1954, 1971 and 1982. The 1982 Grand River Basin Water Management Study detailed recommendations and a plan to address water quality, water supply and flooding issues. The GRWMP Update builds upon the foundation of these previous plans.

The updated GRWMP which is now in its final draft form speaks to the main issues that the Grand River is currently facing. Its goals are to ensure sustainable water supplies, improve water quality to increase river health, lessen the river's impact on Lake Erie, decrease flood damage potential and increase the watershed's resiliency to deal with climate change. The Plan aims to address the management of surface and ground water resources in the watershed to the year of 2031. The plan is voluntary and, therefore, relies upon shared cooperation and responsibility.

As part of the update, the GRWMP team included broad water objectives some of which directly pertain to the recreational, cultural and tourism uses of the Grand River and its designation as a Canadian Heritage River. The objectives were developed in consultation with the Heritage Working Group (HWG). The HWG was formed through *The Grand Strategy* in 1995 to help increase community involvement and commitment to the celebration and management of human heritage resources in the Grand River watershed. The objectives related to the designation include:

- The rivers are an amenity in the communities through which they pass;
- The rivers are aesthetically pleasing to support recreational, cultural, and destination tourism and;
- River flow is sufficient to reasonably support paddling where river flow is regulated.

The report includes a list of water quality indicators and targets for secondary contact recreation (i.e. kayaking and fishing) and a range of flows required to support recreational paddling. These indicators will be helpful in the monitoring of the recommended recreational, cultural and tourism objectives noted above. The report also draws a connection between the natural heritage elements of the river and cultural heritage (Grand River Conservation Authority, 2014). It notes the following:

"Aquatic and riparian systems, wetlands and associated Lake Erie near shore have cultural importance:

- as a community amenity and focal point,
- for cultural heritage, and
- traditional and spiritual values" (Grand River Conservation Authority, 2014, p. 27).

The attention paid to the recreational, cultural and tourism uses in the watershed through the GRWMP supports the Canadian Heritage River designation. The broad water objectives, water quality indicators and targets combined will act as a mechanism for monitoring how these nomination values may be impacted in the future. This will assist in future reporting through the CHRS annual and decadal monitoring reports.

Methodology

The Canadian Heritage Rivers System Principles, Procedures and Operational Guidelines (2014) were used to guide the formulation of this report. The following information sources were consulted:

- CHRS Annual Monitoring Reports
- Grand Actions Registry
- Grand Actions newsletter and other GRCA publications, reports and website pages
- The Grand Strategy (Grand River Conservation Authority, 1994) and the subsequent 10 Year Monitoring Report entitled A Decade in the Canadian Heritage Rivers System: A Review of The Grand Strategy 1992-2004 (Grand River Conservation Authority, 2004)
- GRCA staff and the Heritage Working Group
- Heritage River Recreation and Human Heritage Surveys (2012 -2014)

Chronology of Events since Designation

Year	Significant Events, Actions, Research or Studies since 2004
2004	 GRCA released A Watershed Forest Plan for the Grand River. Created with input from partner agencies, organizations and the general public, the plan established targets for sustainable forest management and identified candidate actions to guide decisions about forest activities and projects. The plan includes a section which draws a link between forest health with recreation and tourism. GRCA released the first Watershed Report in September. The report provided an overview of the condition of water and land resources along the Grand River and its tributaries and was widely distributed through local newspapers.
	• GRCA released a report entitled Grand Old Bridges: The Grand River Watershed Bridge Inventory (Seedhouse & Robinson, 2004). The report identified and ranked the significance of 98 bridges spanning the watershed's five heritage rivers.
	The fourth Grand River Watershed Water Forum was held at GRCA's head office. Attendees were asked to address the question "Whose water is it, anyway?"
	 GRCA staff presented their report entitled A Decade in the Canadian Heritage Rivers System: A Review of The Grand Strategy 1994-2004 at the Canadian River Heritage Conference and in Bath, Maine to a group of stakeholders interested in developing a heritage corridor along the Kennebec River.
	• The Annual Heritage Day Workshop was held in Paris with a theme of "Grand Legacies: Boom, Bust and Beyond". Attendees celebrated the 10th Anniversary of the Canadian Heritage River designation and explored the Grand River's industrial past.
	• The 10th Anniversary of the Canadian Heritage River designation was celebrated through other events such as the Heritage River Clean-Up Day, 4th Canadian Heritage Rivers Conference, Rivers of the Grand and River: Grand! art shows.

Year	Significant Events, Actions, Research or Studies since 2004
	 The 2003 Grand Actions Registry was published in 2004 and contained 317 entries representing thousands of activities undertaken to improve the Grand River watershed, increase heritage appreciation and support the designation of the Grand River as a Canadian Heritage River.
	 Three new heritage river plaques were erected to commemorate the heritage river statuses of the Nith, Conestogo and Eramosa Rivers.
	 The Ancient Mariners Canoe Club canoed 237 kilometres from Grand Valley to Port Maitland in one day displaying Canadian Heritage River flags.
	Clean-up of the Welland Canal – Lock 27 continued in Port Maitland.
	 The deck on the David Street Bridge in Elora was replaced on the original 1867 stone pier and the New Hamburg (Hartman) Truss Bridge underwent rehabilitation.
	• The Beatty Dam in Fergus was removed after the dam failed and public safety became a concern.
	The Coach House at Ruthven Park National Historic Site was restored.
	 The Riverside Silk Mills in Cambridge were renovated for re-use by the University of Waterloo's School of Architecture.
	 Work was initiated or completed at access points for canoeists and anglers along the Grand River at Bean Park in Paris and at Cockshutt Bridge in Brantford.
	 Trails along the river were built or repaired in Brantford, Kitchener-Waterloo and the Township of Woolwich.
	 A new trails guide called Grand River Country Trails 2 (Jacob, 2004) was published by Katherine Jacob which features 40 trails in the watershed.
	 The Grand River Tailwater Fisheries Management Plan (Ontario Ministry of Natural Resources, 2004) was completed which guided activities to protect and enhance the world-class brown trout fishery found in the tailwater of the Shand Dam near Fergus. The Plan includes details on the habitat, fish community, water quality, harvest, access and regulations for the area.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events and stewardship activities.
2005	 The GRCA signed Memoranda of Understanding with Wilfrid Laurier University and Conestoga College, joining the University of Guelph and the University of Waterloo. Through these memoranda, the post-secondary institutions agreed to formally participate as partners in The Grand Strategy.
	 The 2005 Watershed Report was released by GRCA in September at the fifth annual Grand River Watershed Water Forum. The report provided an overview of the condition of water and land resources along the Grand River and its tributaries.
	 The GRCA Board approved its Human Heritage Policy document which provides guidance to GRCA in fulfilling its role as custodian of the Heritage River designation and making decisions about human heritage features/values associated with GRCA-owned properties.
	• The 8th annual Heritage Day Workshop and Celebration in Elora was held on Heritage Day and featured the theme of "Bridging Time". It highlighted heritage bridges of the Grand, artifacts of natural history, limestone construction and adaptive re-use of buildings in Fergus and Elora.

Year	Significant Events, Actions, Research or Studies since 2004
	A number of improvements to heritage features were undertaken including the continued clean- up of the Welland Canal – Lock 27 in Port Maitland, restoration in Ruthven National Historic Site in Cayuga and a local citizens group actively pursued means to restore and manage the Caledonia Old Mill.
	• A celebration was held in October to commemorate the restoration of the Freeport Bridge in Kitchener with a heritage plaque as part of the Region of Waterloo's Heritage Bridge Recognition Program.
	Built in 1888, the Victoria Street Bridge in Elora was removed due to severe deterioration.
	Work continued on developing and maintaining trails in the watershed. The Riverside Walking Trail, Drayton's first trail, opened in July. The trail includes a pedestrian bridge over Boyne Creek that replaces a bridge removed when the railway abandoned the line.
	• Local public health units with participation from the GRCA, municipalities and trails groups held a Trails Workshop in October called "Vital Connections for Healthy Communities". It focused on identifying critical links in the trails network in the Waterloo-Wellington-Dufferin area.
	 Work continued on several access points for canoeists and anglers along the Grand River between Paris and Brantford as part of the Exceptional Waters Program. This Program's goal is to manage this particular stretch of the river as a community resource that provides outstanding outdoor experiences while promoting environmental sustainability and health. A second public access to the river was also added to Mill Race Park in Cambridge.
	• Four small dams were removed at Taquanyah (Cayuga), Chilligo (Cambridge), Beatty (Fergus) and Columbia Lake (Waterloo).
	Built in 1930, the King Street Mill Race Bridge was replaced in 2005.
	 A program to measure forest health as part of the national Ecological Monitoring and Assessment Network began.
	A three-year study of the southern Grand and its relationship to Lake Erie was completed.
	• There were many tree plantings by community groups such as the 10,000 Trees Project in Waterloo and the County of Wellington Green Legacy Project. In addition, approximately 2,000 trees were planted at Laurel Creek Nature Centre arboretum in Waterloo.
	Several well attended environmental events were held including Sunoco Earth Day, Waterloo Wellington Children's Groundwater Festival and the Brantford-Brant Children's Water Festival.
	• Peter Etril Snyder released a book entitled Painting the Grand River Valley (Snyder, 2005) featuring a series of paintings of scenes along the length of the Grand River, created over a forty-year span.
	GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events and stewardship activities.
	 The 2004 Grand Actions Registry was published and contained 325 entries representing thousands of activities. The Registry tracks actions undertaken to improve the Grand River watershed, increase heritage appreciation, and support the designation of the Grand River as a Canadian Heritage River.

Year	Significant Events, Actions, Research or Studies since 2004
	The sixth annual Grand River Watershed Water Forum was held in September which focused on innovative technologies and tools to ensure healthy river and groundwater systems.
	• The Canadian Fly Fishing Championships were held in the Grand River Watershed in June. The event was hosted by Friends of the Grand River and Fly Fishing Canada. The goals of the event were to help raise awareness and money for conservation efforts and to help select team members to represent Canada at international fly-fishing events in the future.
	 A number of outdoor events were held including the Youth Outdoors Day at Luther Marsh Wildlife Management Area, Sunoco Earth Day in Waterloo, Guelph's Second Annual Earth Day Celebration and Fourth Annual Silver Creek Clean-up.
	• Staff from two local Brantford pharmaceutical companies, ACIC and Apotex Pharmachem, celebrated Earth Day by planting more than 300 native trees and shrubs along a stretch of creek behind ACIC's office building on Sinclair Boulevard.
	 A three-year program to conserve and enhance wetlands in the Middle and Upper Grand was launched by Ducks Unlimited. The Headwaters Healthy Wetlands Project provided funding for demonstration projects that protect, restore or enhance wetlands and wetland habitat.
2006	• The 9th annual Heritage Day Workshop and Celebration was held in February at the renovated School of Architecture in the historic Riverside Silk Mills on the banks of the Grand River. The theme for the day was "Heritage: The Competitive Edge" which focused on how heritage can strengthen local economy and sense of place.
	• The Heritage Working Group held a workshop on cultural mapping in November.
	 Built in 1913, Schuett Bridge over Cox Creek in the Township of Woolwich was replaced in 2006.
	 Katherine Jacob released a new book called Footsteps Along the Grand (Jacob, 2006) which explores the natural and cultural diversity of the Grand River.
	 A conference for women to explore traditional Iroquoian methods of healing and wellness was held on the grounds of Chiefswood in Six Nations of the Grand River.
	 The Old Mills, Museums and Historic Sites Inventory was completed by Grand River Country and Warren Stauch which lists the history of 40 mills within the watershed.
	 Brant County Council approved rehabilitation work of the Brant Bowstring Bridge, Brant County's only concrete bowstring bridge.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events and stewardship activities.
2007	• The 10th annual Heritage Workshop Day and Celebration was held in February in Waterloo and the theme was "Explore Your Waterloo: Yesterday, Today and Beyond". The day was focused on exploring the City's rich evolution from primarily industry-based to innovative and technologically advanced.
	 Built in 1912, Denstedt Bridge over Moorefield Creek in the Township of Mapleton was replaced.
	 Built in 1933, Gerrie Road Bridge (Piercy's Bridge) over Irvine Creek in the Township of Centre Wellington was replaced.
<u> </u>	

Year	Significant Events, Actions, Research or Studies since 2004
	 In the Town of Grand Valley, Black Bridge over the Grand River was replaced. The bridge was built in 1931.
	 In the Township of Amaranth, Wilson Drain Bridge, circa 1926 north of Highway 109 and Amaranth Structure No.18, circa 1916 over Willow Brook were both replaced.
	 In the Township of Melancthon, Riverview Bridge South over the Grand River was replaced. The original date of construction is unknown.
	• The GRCA received funding from the Ministry of Northern Development and Mines to conduct a three-year study of the ancient bedrock valley which runs from Lake Ontario toward Lake Huron, underneath the central Grand River watershed. The goal of the study was to ascertain the dimensions of the valley and its composition as it could be a significant source of groundwater.
	 Eramosa Anecdotes (Quaile, 2007) by Deborah Quaile was published in March. The book includes stories of original pioneers in the area.
	 Paddling the Grand River (Grand River Conservation Authority, 2007), a collaboration between GRCA and Canadian publisher, James Lorimer and Co. was released. The book includes information to assist paddlers enjoy the river and plan trips.
	 Many environmental events and celebrations were held including the Sunoco Earth Day Celebration in Waterloo, Take a Kid Fishing Day in Fergus, Grand River Fishing and Hunting Expo in Paris, Belwood Lions Pike Derby in Fergus, Speed River Clean Up in Guelph and the Family Water Festival in Kitchener.
	• The 7th Annual Grand River Watershed Water Forum was held in Cambridge in September.
	 Some cultural events included At Husking Time Women's Conference in Ohsweken in September and the first History on the Grand Local History Symposium in Cambridge in October.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events and stewardship activities.
	• The Heritage Working Group oversaw the initiation of an update to the Grand River Heritage River Inventory. The Inventory provides a description of many of the human heritage features and values that support the heritage river designation. A human heritage map layer was created and added to the GRCA's internet-based mapping tool. The inventory can be used by municipalities, developers, consultants, agencies and the public when heritage features are being contemplated for replacement, demolition, or modification. This helps to ensure that the significance of the feature to the Canadian Heritage River designation is acknowledged and appropriately considered.
2008	• The 11th annual Heritage Day Workshop and Celebration was held in February in Six Nation of the Grand River. The theme was "Restoring Grand Heritage: A Six Nations Perspective" and the day focused on the life of E. Pauline Johnson and the role of the arts in promoting understanding of Six Nations culture and heritage.
	• Blandford-Blenheim Bridge #21 over the Nith River was built in 1920 and replaced in 2008.
	 Built in 1912, East Garafraxa Bridge 9 over the Grand River in the Township of East Garafraxa was replaced.

Year	Significant Events, Actions, Research or Studies since 2004
	 In the Township of Amaranth, Amaranth Structure No.9, built in 1935 over Willow Brook was replaced.
	 A pedestrian and cycling bridge over Highway 401 connecting Cambridge and Kitchener opened in October. The bridge is an important community link connecting the Trans Canada Trail in Kitchener and Cambridge. The bridge's appearance is reminiscent of the Conestoga wagon.
	• The "Creating Healthy Communities: From Design to Practice" workshop was held in the fall in Fergus. Led by municipal public health bodies with participation from the GRCA, municipalities and trails groups, the focus of this event was to identify opportunities for healthy living and trail development in the Waterloo-Wellington-Dufferin area.
	 The Grand River Fisheries Management Plan Implementation Committee was honoured with one of Canada's Recreational Fishing Awards. This award recognizes the outstanding efforts of individuals and groups working to ensure that Canada's recreational fishery remains healthy and abundant.
	 The annual Grand River Water Forum was held in September. The theme of the forum was Reflecting Change ~ Mirrored in the Water.
	 Several environmental events served to raise the profile of the need to conserve and protect the watershed's natural resources including Sunoco Earth Day in Guelph, Waterloo Wellington Children's Water Festival and the Brantford-Brant Children's Water Festival.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events, and stewardship activities.
	• The 12th annual Heritage Day Workshop and Celebration was held in February in Wilmot. The theme for the day was "Rural Routes, Rural Roots: A Heritage View of the Countryside" and focused on the history and heritage of Waterloo Region's rural townships.
2009	 The Grand River Heritage River Inventory was formally launched in a presentation by GRCA staff at the Heritage Day Workshop. Another presentation was made at the Canadian River Heritage Conference in June in Ottawa.
	Bridge "MB003" over the Mallett River in the Township of Mapleton was replaced. Its original date of construction is unknown.
	 Approval was granted to demolish the nine-span, bowstring Caledonia Bridge in Caledonia. The bridge was built in 1927. Demolition is planned to start in 2015 and designs are underway for the bridge replacement.
	Built in 1925, Rea Bridge over Irvine Creek in the Township of Centre Wellington was replaced.
	• A collaborative update to the Grand River Basin Water Management Plan by municipalities, First Nations, the GRCA, provincial ministries and federal departments began. The integrated water management plan aims to: ensure sustainable water supplies for communities, economies and ecosystems; improve water quality to increase river health and reduce the river's impact on Lake Erie; reduce flood damage potential and increase resiliency to deal with climate change.
	 The Grand River Fisheries Management Plan Implementation Committee (GRFMPIC) confirmed their commitment to go back to the public every 5 years to consult and review the progress of the implementation of the Plan. Open Houses were held in Elora, Cambridge, Brantford, Dunnville and at Six Nations of the Grand River. Presentations were made about the Plan, current water quality conditions, reservoir operations and ecological flows. Plan project

Year	Significant Events, Actions, Research or Studies since 2004
	updates for each local area of interest were also provided.
	• The Grand WatersGrand Fish Symposium was held in Brantford and included many of the topics that were discussed during the Grand River Fisheries Management Plan 5 year review open houses. The speakers discussed various programs and projects throughout the watershed. A silent auction raised about \$4,000 which was directed to the Grand River Conservation Foundation to be used by the committee to implement projects that improve water quality and fisheries resources of the watershed.
	• The GRCA marked its 75th anniversary year with a public open house at its head office in October. Visitors were able to learn about the activities and programs of the GRCA as well as several community organizations that partner with the GRCA.
	The annual Grand River Water Forum was held.
	 A number of festivals and events were held including events such as the Dunnville Mudcat Festival, Fergus Scottish Festival and Highland Games, Springtime in Paris Festival, Grand River Champion of Champions Powwow in Six Nations of the Grand River and the Grand River Bass Derby in Kitchener.
	GRCA continued to install memorial benches along the Rail Trails and upgrades were made to Murray Lookout near Paris along the Cambridge to Paris Rail Trail.
	Doors Open events were held throughout various municipalities in the watershed.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events, and stewardship activities.
2010	• The 13th annual Heritage Day Workshop and Celebration was held in Cambridge in February with a theme of "Beyond 20/20 Vision: A New Lens for Arts, Culture and Heritage". It explored the interconnections among arts, culture and heritage and the importance of these to the health, prosperity and economic well-being of communities. The 16th Anniversary of the Canadian Heritage River designation was also celebrated.
	• The Ministry of Culture continued to work with the Heritage Resources Centre at the University of Waterloo and the GRCA to update and expand the inventory and assessment of bridges in the Grand River watershed. This work provided valuable information for updating the Heritage River Inventory.
	• The GRCA invested \$855,000 to stabilize the Harris Woolen Mill ruins at Rockwood Conservation Area. The limestone mill was constructed in 1884 to replace an earlier mill that was burned.
	 A block of 41 pre-confederation buildings along Colborne Street in downtown Brantford was demolished.
	• An archaeological dig uncovered a First Nations village along Strasburg Creek in Kitchener's Huron Natural Area when the City began planning for a trail extension. About ten longhouses and other artifacts were found dating as far back as 9,000 years. The site is registered under the Ontario Heritage Act and also protected with a city by-law.
	Built in the 1920's and 1930's, Wilsons Bridge over the Grand River in the Township of Centre Wellington was replaced.
	The town of Dunnville celebrated its 150th Anniversary with a Heritage Fair, parade and other community activities including a special fireworks display at the Dunnville Mudcat Festival.

Year	Significant Events, Actions, Research or Studies since 2004
	• The annual Grand River Water Forum was held in September which focused on what needs to be done to ensure a healthy and resilient watershed into the future.
	 Several annual environmental events occurred including Sunoco Earth Day in Guelph, Waterloo Wellington Children's Water Festival and the Brantford-Brant Children's Water Festival.
	 The GRCA released an updated version of its popular Fishing Ontario's Grand River Country (May, 2010) book containing detailed information on fishing in all parts of the Grand River and its major tributaries.
	 A 48-hectare parcel of land next to Luther Marsh Wildlife Management Area was purchased by the GRCA at the end of 2010. Luther Marsh is one of the most significant wetland areas in southwestern Ontario and is the largest publicly owned natural area in the Grand River watershed.
	 A new Waterfront Master Plan for the City of Brantford was completed in 2010. The plan provides a vision and guiding principles for the future of the city's river waterfront. In 2011, the Waterfront Master Plan won an Award of Excellence from the Canadian Society of Landscape Architects.
	 A new Heritage Master Plan for the City of Cambridge was completed in 2010. The plan won the 2010 Heritage Planning Award from the Canadian Association of Professional Heritage Consultants.
	• The Grand River Fisheries Management Plan Implementation Committee (GRFMPIC) held Aquatic Renewal Workshops supported by Trout Unlimited Canada and local Stewardship Councils aimed at educating the public about stream restoration processes. They Committee also supported the decommissioning of the Ignatius Dam on Marden Creek (a coldwater system supporting brook trout), eliminating the last barrier to fish passage in the creek. The group undertook a review of the original 42 "best bets" projects which were actions with a high likelihood of successfully sustaining and/or enhancing the Grand River fishery and aquatic ecosystem.
	 A group of poets went on a reading tour by canoe down the Grand River. The event was called the Fish Quill Poetry Boat and traveled the areas between West Montrose's Kissing Bridge and Bridgeport.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events, and stewardship activities.
	• The 14th annual Heritage Day Workshop and Celebration was held in Breslau in February with the theme of "Culturally Created Communities: Rooted and Growing". It highlighted the history and heritage of the rural townships of Wilmot, Wellesley and Woolwich.
2011	 In 2010-11, the GRCA worked with municipal water managers on an Optimization Pilot Project to improve operations and maintenance at 30 wastewater treatment plants throughout the watershed.
	• A new brochure entitled "Trails Take Flight" (Grand River Country Tourism Alliance, 2010) won a national award. The brochure was a marketing initiative to promote the Grand River trails and bird viewing opportunities. Twenty trails in communities across the watershed were selected for their exceptional bird habitats, and marketed to the public in a unique brochure and interactive website - http://www.grandrivercountry.com/trails/ .

Year	Significant Events, Actions, Research or Studies since 2004
	• The GRCA completed an Environmental Study Report on the rehabilitation of the Drimmie Dam as part of an environmental assessment of the deteriorating dam on the Grand River in downtown Elora. The final preferred alternative was replacement of the dam.
	• Environmental assessments for the replacement of three heritage bridges in Centre Wellington were initiated in 2010-11.
	• The Region of Waterloo undertook the construction of a new museum at Doon Heritage Village in Kitchener. The construction also included an addition to the Waterloo Regional Curatorial Centre.
	 Chiefswood National Historic Site in Six Nations of the Grand River suffered extensive damage due to a burst water pipe. A new historical plaque was erected by the National Sites and Monuments Board of Canada in September. It is one of the first trilingual markers in the new 'side-by-side' text style and the Mohawk text appears first.
	Built in 1935, Middlebrook Bridge over Carroll Creek in the Township of Centre Wellington was demolished.
	• Subsequent to an application for gravel extraction near the West Montrose Covered Bridge being submitted to the Ontario Ministry of Natural Resources, a by-law adopting an official plan amendment (OPA No. 18) was passed by the Township of Woolwich Council in December. It established the West Montrose Cultural Heritage Landscape.
	 The update of the Grand River Water Management Plan continued. Partners in the Update submitted a successful research proposal to the Canadian Water Network for advancing aquatic cumulative effects assessment in the Grand River watershed and developing an integrated approach to river monitoring.
	 Agreements between the GRCA and Wilfrid Laurier University, the University of Guelph and Conestoga College were signed in October 2010. The agreement with the University of Waterloo was signed in 2009. The agreements promote research and education aimed at improving watershed health, resilience and sustainability, increasing heritage awareness and conservation, improving human and environmental relationships within the watershed and assisting the GRCA in planning, implementing, monitoring and evaluating resources management.
	• The 11th Annual Water Forum was held in September. The theme was "A Sustainable Watershed: Can We Get There From Here?" and it focused on what sustainability means and how it can be approached.
	• The Day of a Thousand Canoes event was initiated by Haldimand County. Participants were encouraged to canoe, kayak, row or even hike along the Grand River shoreline. The day served to promote the river's natural beauty, tourism and conservation.
	• In 2011, Doors Open events supported by the Ontario Heritage Trust and showcasing local heritage sites were hosted by several communities within the watershed including Waterloo Region, County of Oxford, City of Hamilton, City of Guelph, Township of Centre Wellington, Haldimand County, County of Brant, City of Brantford and Six Nations of the Grand River.
	 Several annual cultural festival were held including: Kitchener-Waterloo Oktoberfest, Elmira Maple Syrup Festival, Mill Race Festival of Traditional Music, Wellesley Apple Butter and Cheese Festival, Dunnville Mudcat Festival, Fergus Scottish Festival and Highland Games, Grand River Champion of Champions Powwow, Christkindl Market, Quilt and Fibre Art Festival Waterloo Region and Beyond and Springtime in Paris.

Year	Significant Events, Actions, Research or Studies since 2004
	 The Southern Ontario Water Consortium was established. A collaborative association of eight universities in co-operation with partners from municipal and not-for-profit entities and private- sector organizations, the initiative aimed to foster collaboration and promote the integration of research and demonstration areas based on a "living lab" within the context of the Grand River watershed.
	 The annual Grand Actions Registry of Accomplishments and Commitments contained 264 entries representing thousands of activities that were undertaken by community groups, museums, educational institutions, municipalities, federal and provincial agencies, GRCA, businesses and others during 2010 to improve the health and heritage of the Grand River watershed.
	 The Fish Quill Poetry Boat organized a second tour in August, paddling from the Township of Centre Wellington (Elora) to the Six Nations of the Grand River Territory.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events, and stewardship activities.
	 The 15th Annual Heritage Day Workshop and Celebration was held in St. George in February. The theme was "Crossroads of Conflict, Pathways to Peace: Divided Loyalties". The event was part of a series of bicentennial commemorations for the War of 1812 in Ontario. Participants learned about the War and how it influenced and was influenced by the people and places in the watershed.
	 Middleport Road Bridge, circa 1930 over Big Creek in Brant County was demolished. Reaker Bridge over Big Creek, circa 1920 was also demolished.
	 Story's Bridge over the Speed River in the Township of Puslinch was built in 1908 and demolished in 2012.
2012	 Atkinson Bridge over Irvine Creek in the Township of Centre Wellington was demolished in 2011 and replaced in 2012. The bridge was built in 1929.
	 The City of Cambridge replaced and widened boardwalks and a pedestrian bridge along the Mill Run Trail. Interpretative signs describing the history, vegetation, birds and mammal in the area were strategically placed along 200 metres of newly constructed boardwalk in Riverside Park, Cambridge.
	 The tourism consortium Grand River Country developed a trip planning companion App featuring the best attractions, dining, accommodation, festivals and recreation found in the watershed.
	 GRCA sponsored a photo contest where contestants were encouraged to submit images capturing the beauty of the Grand River watershed or the activities of family and friends enjoying the parks, rivers or trails. The winning photos were posted on the GRCA website.
	• Telling the River Story interpretive signs were erected in 2011-2012. Twelve sets of two signs each were placed in information kiosks in strategic locations throughout the watershed. These signs focus on various aspects of the river including the tailwater fishery, dam management, the value of natural areas and recreational opportunities.
	 Environmental assessments for the replacement of eight heritage bridges within the watershed were either completed or initiated in 2011-2012. The Region of Waterloo completed studies for the rehabilitation of the Huron Road Bridge in Kitchener. An environmental assessment was initiated for the rehabilitation or replacement of the historic Black Bridge Road Bridge in

Year	Significant Events, Actions, Research or Studies since 2004
	Cambridge.
	 The update of the Grand River Water Management Plan continued in consultation with numerous stakeholders.
	 An Assessment of Aquatic Habitat in the Southern Grand River, Ontario: Water Quality, Lower Trophic Levels, and Fish Communities (MacDougall & Ryan, 2012) was published by the Ministry of Natural Resources. GRCA was a partner on this project which included a detailed assessment of the river downstream of Brantford which would help to plan for future rehabilitation and monitoring.
	The Day of a Thousand Canoes event repeated in June 2012.
	Doors Open events were again held throughout the watershed.
	 Multiple cultural festivals were held in 2012 including: Kitchener-Waterloo Oktoberfest, Elmira Maple Syrup Festival, Cambridge Mill Race Festival of Traditional Music, Wellesley Apple Butter and Cheese Festival, Dunnville Mudcat Festival, Fergus Scottish Festival and Highland Games, Cambridge Highland Games, Grand River Champion of Champions Powwow, Christkindl Market, Quilt and Fibre Art Festival – Waterloo Region and Beyond, Springtime in Paris Festival and the Underground Railroad Music Festival.
	The Fish Quill Poetry Boat organized another tour in August, paddling from the Township of Centre Wellington (Elora) to the Six Nations of the Grand River.
	The first Kitchener-Waterloo Canoe Symposium was held in April and is now an annual event that celebrates the canoe and canoeing.
	• The first 2 Rivers Festival in Guelph took place in June to celebrate heritage, nature, recreation, culture and stewardship along the Speed and Eramosa rivers. It included over 30 events such as hikes, paddling, water-related talks, heritage and children's events. There was also a free concert and celebration.
	The 2012 International Plowing Match was held in North Dumfries.
	 The annual Grand Actions Registry of Accomplishments and Commitments was completed in August. It contained 281 entries representing thousands of activities that were undertaken by community groups, museums, educational institutions, municipalities, federal and provincial agencies, GRCA, businesses, and others during 2011 to improve the health and heritage of the Grand River watershed.
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events, and stewardship activities.
	 The 16th annual Heritage Day Workshop and Celebration was held in Dunnville in February and the theme was "Crossroads of Conflict, Pathways to Peace: The Haldimand Experience". It focused on the War of 1812-14 and its connection to the people and places in the Grand River watershed.
2013	 Quiet Nature's Grand Adventure was a spring paddle of the Grand River to raise money and awareness about the Grand River. Money raised went to the Grand River Conservation Foundation to plant trees.
	• The Grand Porch Party was held in Waterloo. The party, now an annual event, is held on Canadian Rivers Day to honour the Grand River. The "Grand" in its name comes from the desire to celebrate the Grand River through community, music and environmentalism. Attendees

Year	Significant Events, Actions, Research or Studies since 2004				
	can walk the streets of Waterloo and enjoy music from the porches of local residents.				
	• The Fish Quill Poetry Boat organized yet another tour in August, paddling from the Township of Centre Wellington (Elora) to the Six Nations of the Grand River Territory.				
	 The Grand Valley Trails Association celebrated their 40th anniversary and also hosted the Hike Ontario Summit in Kitchener. 				
	• All GRCA dams were assessed for public safety and improvements were made.				
	 Funding from Toyota Manufacturing Canada assisted GRCA in caring for trails and natural are owned by GRCA and also plant trees in the watershed. 				
	• The Cambridge-Paris trail was improved and interpretive signs added.				
	 New interpretive signs were placed in locations throughout the watershed to highlight river restoration work. 				
	Drought was a challenge for water management.				
	• Lindsay Benjamin and Dr. Robert Shipley of the Heritage Resources Centre (HRC) presented an updated Heritage Bridge Inventory to the Board of the Grand River Conservation Authority. Arch, Truss & Beam – The Grand River Watershed Heritage Bridge Inventory (Benjamin, 2013) is a publication for decision makers to use when work associated with a bridge in the Grand River watershed is contemplated. A total of 678 bridges were inventoried and 25% of them were found to have heritage value. In addition, 38 bridges that had been demolished were identified as most likely being heritage bridges. A total of 13 bridges formally designated under the Ontario Heritage Act were also identified. These findings will help to monitor the losses/threats to cultural heritage values in the watershed in the long-term.				
	 GRCA's Water Resource Adaptation and Management Initiative (WRAMI) helped irrigators along Whitemans Creek establish drought contingency plans. 				
	 December ice storms caused major damage to trees throughout the watershed. 				
	 The Grand River Fisheries Management Plan turned 15 and was celebrated with a report which documented its progress. 				
	 GRCA's Grand Actions newsletter continued to be a popular publication providing readers with information about the progress of The Grand Strategy, as well as interesting stories about watershed history, celebrations, community events and stewardship activities. 				
	• The 17th annual Heritage Day Workshop and Celebration was held in Six Nations of the Grand River in February. The theme was "Crossroads of Conflict, Path of Peace: Legacy of a Living Culture" which focused on the impact the War of 1812 had on the First Nations.				
	 The GRCA acquired 13 hectares along the Cambridge to Paris Rail-Trail thanks to a donation by the Girl Guides of Canada which owned the property. The property includes an excellent example of a continuous wooded Carolinian valley in the watershed. 				
2014	 GRCA continues to run its photo contest that this year highlights human heritage and recreation aspects of the Heritage River designation. 				
	 GRCA's Grand Actions newsletter has featured a number of heritage related articles outlining how the river came to be a designated a Canadian Heritage River, an explanation of the CHRS and a summary of 17th Annual Heritage Day Workshop. It has also posted heritage related events planned in celebration of the 20th Anniversary of the Grand's heritage designation. 				

Year	Significant Events, Actions, Research or Studies since 2004
	• GRCA published a new Parks Guide (Grand River Conservation Authority, 2014) featuring a section on the Grand's Canadian Heritage River designation with a link to the Canadian Heritage Rivers website also included. The guide is also available online at http://www.grandriver.ca/Parks/YourGuideToGrandRiverParks.pdf .
	 GRCA's Watershed Awards will feature special Heritage Awards in honour of the 20th Anniversary as a Canadian Heritage River.
	 A local history fair was held in the City of Cambridge in May called "Shaping the Legacy of the Grand River" and focused on the 1974 flood.
	 The new Haldimand Children's Water Festival is planned for this October and will teach children about the importance of water conservation, protection, technology and ecology. The Waterloo-Wellington and Brantford/Brant Children's Water Festivals are also continuing this year.
	• The Grand Porch Party was held again this year in June on Canadian Rivers Day in Waterloo.
	• Upcoming events planned include the 2 Rivers Festival in Guelph, Turtle Island Earth Day in Six Nations of the Grand River, tree planting days in Paris, Brantford, Guelph and Waterloo, a Fly Fishing Forum and Kid Fishing Day at Belwood Lake Conservation Area among others.
	• The Homer Watson Art Gallery in Kitchener has planned several events to celebrate the 20th Anniversary of the designation of the Grand River as a Canadian Heritage River including river-related art lessons, camps and an art exhibit. GRCA staff visited the site to discuss changes to the river during Homer Watson's lifetime and challenges ahead in the 21st century.
	 The Grand River Water Management Plan Update is set for completion this year. The draft of the Plan is complete and has been released for endorsement by partners and municipalities with approval expected soon. The final Water Management Plan will be launched in early 2015.
	 Work continues on the Drimmie Dam replacement in Elora. A new dam will allow more water to flow through the town and reduce the potential for flooding during periods of high flow. It replaces a deteriorated dam constructed in the 19th century to provide power to a nearby mill.
	 The replacement of the Cayuga Bridge over the Grand River in Haldimand is ongoing. The original bridge was built in 1924 and is still in place as the replacement bridge is under construction.
	• The GRCA is initiating the rehabilitation of the former Kortright Waterfowl Park on Niska Road in Guelph. The GRCA plans to work with the community to formulate a Master Plan for the property.
	 The invasive Emerald Ash Borer has spread through most of the southern part of the watershed, creating potentially hazardous situations in GRCA parks, trails and other properties. Efforts will go into assessing the potential risks and beginning to remove or treat trees as required.

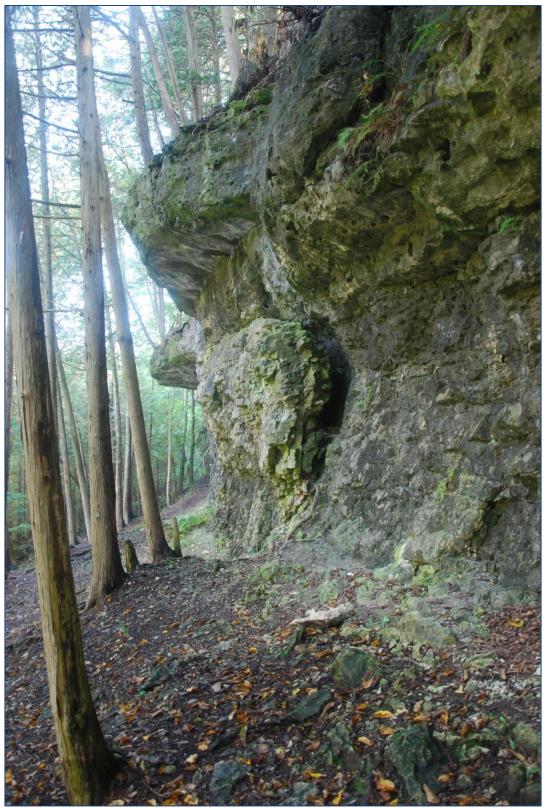


Photo Credit: John Byrne

Natural Heritage in the Grand River Watershed

The Grand River was not designated a Canadian Heritage River based on its natural heritage values. However, in keeping with the Canadian Heritage Rivers System Principles, Procedures and Operational Guidelines (2014) the natural heritage values are being discussed related to the Grand River's designation. Despite not being designated based on its natural heritage features, the river and its watershed contain an abundance of aquatic and terrestrial ecosystems that support a variety of flora and fauna of national significance. The Grand and its tributaries are rich in ecological diversity. The watershed is comprised of a network of warm to cold water tributaries, many of which are associated with wetland complexes and floodplain forests. These tributaries support cold water species that are popular with anglers such as brook trout, brown trout and rainbow trout as well as other species like mottled sculpin. The Grand River system is biologically diverse and provides habitat for some of the rarest fishes in Canada, including Silver Shiner, Redside Dace, Eastern Sand Darter, Greenside Darter, River Redhorse, and Black Redhorse. In addition, 6 mussel species found in in the Grand River are listed as threatened or endangered species in Ontario.

Several natural areas within the watershed are particularly noteworthy because of their large size, ecological diversity and overall significance for biodiversity. Luther Marsh, a provincially significant wetland complex, comprises marsh, swamp, bog and fen communities. The wetland complex is designated a provincially significant Life Science Area of Natural and Scientific Interest (ANSI) and a Nationally Important Bird Area. It is arguably one of the most important inland wetland complexes in southern Ontario. Beverly Swamp is the largest and most pristine lowland swamp remaining in southern Ontario and serves as a headwater for Fairchild, Spencer and Bronte creeks. Grand River Valley Forests and Spottiswood Lakes are relatively undisturbed and form a contiguous complex of forested valley and ridges along the Grand River corridor. The area comprises a high diversity of plant and animal communities, rare species and unusual habitats. The treed areas located on the Six Nations Indian Reserve represent the largest block of Carolinian forest in Canada. A diverse suite of wildlife including many rare species occurs there. The Oriskany Sandstone and Woodlands is a unique upland forest on the only outcrop of Oriskany Sandstone in Canada. The site comprises a high diversity of plant species and communities with prairie affinities.

The Grand's ecosystems and the flora and fauna contained within them offer people of all ages countless opportunities to explore and learn about nature. Natural heritage interpretation and education is common amongst recreation and nature groups and organizations like GRCA. In addition, recreation focused businesses such as outfitters often provide nature education on their tours and through children's camps.



Photo credit: Dan Baskin

Natural Heritage Values since Designation

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1. HYDROLOGY			
1.1 Drainage Basins	The Grand River Basin is nested within and represents 10% of the Lake Erie Basin.	None	None
1.2 Seasonal Variation	Flood flows in the main Grand River are influenced mostly by the Shand and Conestogo dams and to a lesser extent the Guelph Dam. The Nith, Whitemans and Mackenzie Creek flows are not regulated and experience a large range of flows.	None	None
1.3 Water Content	The Grand is a leading source of nutrients to the eastern basin of Lake Eri.e. Water quality issues in the river are influenced by wastewater treatment plant discharges, rural/agricultural non-point sources and urban non-point sources. Phosphorus and nitrate levels in the river, although improved since the 1970s, still remain high (Water Quality Working Group, 2013).	GRCA continuously monitors water quality at 9 locations in the watershed. The information collected helps with day-to-day decisions related to the operation of water control structures and management of the river system. This information is also used to report on current water quality conditions in specific river reaches and to calibrate and verify water quality models used for long range watershed planning.	Changes in funding offered for water quality programs like the Provincial Water Quality Monitoring Program can risk the availability of long-term monitoring data. Eutrophication and resulting algal blooms can threaten aquatic life and recreational pursuits such as boating.
		There is a Provincial Water Quality Monitoring Program which includes 36 sites where water quality is tested eight to 10 times a year (GRCA and Ministry of Environment work together on the program).	
		There have also been a number of Watershed/ Subwatershed Studies (i.e. Blair Bechtel Bauman Creeks Functional Drainage Study, Upper Strasburg Creek Master Drainage Plan Update and Alder Creek Watershed Study) completed over recent years. Water quality is monitored over	

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		time to evaluate the potential impacts of future development and create guidelines to ensure that significant impacts will not occur.	
		GRCA continues to assess water quality in the river and plan for improvements through the implementation of the Grand River Water Management Plan.	
		GRCA's Rural Water Quality Program works with rural and agricultural landowners to reduce concentrations of nutrients in rural runoff through the use of agricultural best management practices.	
1.4 River Size	The Grand River is approximately 290 km long and with its 4 major tributaries, the Nith, Conestogo, Eramosa and Speed it totals 627 km.	None	None
2. PHYSIOGRAP	НҮ		
2.1 Physiographic Regions	Three distinct areas - Dundalk and Stratford Till Plains in the north and west, the Horseshoe Moraines in the central and east parts of the watershed and the Haldimand Clay Plain in the south.	None	None
2.2 Geological Processes	Bedrock formations generally outcrop or subcrop in long parallel bands of varying width, aligned in a north-west to southeast direction. The bedrock subcropping within the watershed consists of Ordovician to Devonian-aged sedimentary rocks, deposited in a marine environment that existed in the area between 345 to 370 million years ago. In total, there are 11 different bedrock formations outcropping or subcropping within the Grand River watershed, all of which	None	None

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	were initially deposited horizontally. Regionally, they now dip approximately 2 degrees to the west as a result of subsequent structural deformation (Lake Erie Source Protection Region Technical Team, 2008).		
2.3 Hydrogeology	Varied hydrologic conditions exist throughout the watershed. The northern portion of the watershed is largely comprised of till plain characterized by high surface runoff and very little ground infiltration. The central portion contains most of the watershed's moraines and sand/gravel deposits left by glaciation. Due of the significant amount of pervious material and the lack of a well-defined drainage network, this area is characterized by extremely high infiltration and relatively low surface runoff. The southern portion of the watershed is dominated by the Haldimand Clay Plain which produces very high surface runoff with little to no infiltration.	None	More intense development, particularly in the central part of the watershed can potentially reduce infiltration rates due to an increase in impervious surfaces. Strengthened Official Plan policies, development of Subwatershed Plans and Sourcewater Protection Plans seek to minimize/mitigate groundwater impacts.
2.4 Topography	Surface elevation in the watershed ranges from 173 metres above sea level at the mouth of the Grand River on Lake Erie, to 535 metres above sea level in the northern headwaters.	None	None
3. RIVER MORP			
3.1 Valley Types	Typical of most river valleys, the Grand River is V-shaped.	None	None
3.2 Channel Types	The river exhibits a dendritic pattern. It is meandering and wide in some areas and straighter with steep slopes in	Historically, watercourses were commonly straightened, hardened or buried in urban areas and straightened, dredged	Many municipalities are looking to restoration projects to naturalize creeks and return them back to their more

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	others. The central part of the river exhibits more meandering than the areas to the south towards its mouth.	or removed in rural areas for farming.	natural state (i.e. Filsinger Park creek restoration in Kitchener). Stewardship programs such as GRCA's Rural Water Quality
			Program offer financial assistance to landowners to restore and protect watercourses through riparian plantings and the establishment of best management practices (BMPs).
3.3 Channel Profile	Confined and unconfined slopes are exhibited on the river and its tributaries. Steep slopes can be seen in areas such as the Elora Gorge and flatter areas towards the mouth of the River. Levees and dams are located along the river at multiple locations.	None	None
3.4 Fluvial Landforms	The river and its tributaries display a variety of fluvial landforms such as waterfalls, gullies, levees, floodplains, pools, riffles, point bars, islands and ox-bow lakes.	None	None
4. BIOTIC ENVII	RONMENTS		
4.1 Aquatic Ecosystems	Cold water tributaries are typically situated within areas underlain by appropriate surficial geology (sand and gravelly substrates) and are fed by large amounts of groundwater. These tributaries support cold water species such as brook trout, brown trout, rainbow trout, and mottled sculpin. Warm water tributaries situated on clayey to silty/clayey till plains and low moraines provide very low baseflows. Flows	The GRCA's Fisheries Management Plan was finalized in 1998. The plan is being realized through the efforts of an Implementation Committee, which is made up of agency and non-agency representatives. Between 2000 and 2005, researchers from the OMNR and the GRCA completed an assessment the fisheries of the Lower Grand through monitoring the Dunnville Fishway. This was achieved through reviewing water quality,	Intensive agriculture, urban development and the introduction of invasive species are all considered threats to aquatic ecosystems. Since 2004, several new aquatic invasive species have been confirmed, including rusty crayfish, round goby and Asian carp. Conservation and restoration projects and programs completed by GRCA, environmental groups and municipalities have provided
	along these reaches can be permanent, intermittent, or ephemeral. Fish communities	assessing wetland health and tracking movements of walleye through the lower reaches of the	education to the public while creating better habitat for aquatic species and improving

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
& Sub-Themes	tend to be dominated by a mix of warm water fish species.	Grand River. Since 2004, at least six dams were decommissioned within the Grand River watershed, thereby improving water quality and fish habitat. In 2008, the OMNR established new walleye limits and seasons in Zone 16 to provide better protection for spawning fish. Over the past several years, volunteers have worked with GRCA to provide spawning bed improvements, monitor and improve fish passage around, the Dunnville Dam and to transfer adult walleye above the dams in Dunnville. These efforts opened up a large amount of quality spawning and rearing habitat for the migratory fish. Other conservation initiatives include the Exceptional Waters Program and the restoration of Rest Acres, D'Aubigny, Marden and Mill Creeks.	water quality. The introduction and/or implementation of stronger provincial and municipal planning policies over the last decade have required a greater examination and understanding of potential aquatic impacts prior to the approval of development applications.
4.2 Terrestrial Ecosystems	The Grand River watershed spans two major ecoregions in Ontario, namely the Great Lake-St. Lawrence Forest Zone in the north and the Carolinian Forest Zone in the south. The Carolinian Forest exhibits unique characteristics not seen in other areas of Canada. It compromises only 1% of the country's total area, but it contains more plant and animal species than any other ecosystem in Canada (Carolinian Canada, 1994). Approximately 19% of the watershed is forested, 10% is covered in wetland, and 0.01% is remnant tallgrass prairie	The GRCA's Watershed Forest Plan was finalized in 2005. Since 2004, a significant amount of work has been completed to inventory, assess and protect natural heritage systems within the Grand River watershed. Natural heritage systems planning initiatives have been undertaken by the Regional Municipality of Halton (2006), City of Guelph (2009), County of Oxford, City of Kitchener and City of Hamilton (2014). The GRCA assisted by providing technical and scientific input to these initiatives. The GRCA completed a Phase 1	Threats to terrestrial ecosystems include climate change, the introduction and spread of invasive species (i.e. Emerald Ash Borer and Common reed [Phragmites australis) and urban sprawl. Habitat loss, fragmentation, and alteration remain a concern within urban and rural areas. Changes in rainfall patterns and/or severe droughts have the potential to negatively affect wetland communities. The introduction and/or implementation of stronger provincial and municipal planning policies over the last

CHRS Natural Framework	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
(2001) Themes	Description	of Studies	140mmation value(s)
& Sub-Themes	habitat.	background characterization of	decade have required a greater
	naonat.	6 sub-watersheds that make up the East Side Lands of Cambridge. This study included a review of evaluated and unevaluated wetlands, woodlands, and species at risk.	examination and understanding of potential impacts to terrestrial systems prior to the approval of development applications.
		In 2005, a Wetland Evaluation Protocol was developed by the GRCA and OMNR to outline priorities for wetland evaluation within the watershed. The GRCA and OMNR continue to map and reconcile wetland boundaries.	
		In 2005, the GRCA's board approved technical guidelines to facilitate the completion of Comprehensive and Scoped Environmental Impact Studies within the watershed.	
		In late 2013 and early 2014, the GRCA, OMNR, Carolinian Canada Coalition and the farming community developed an integrated Conservation Action Plan (CAP) for the lower	
		portion of the watershed. The Grand River CAP methodology	
		was developed by The Nature Conservancy in the U.S. and is expected to be finalized in 2014.	
5. VEGETATION		<u> </u>	
5.1 Significant Plant Communities	Rare cliff, talus, crevice and cave communities are associated with the Eramosa River Valley, which has been designated a provincially significant Life Science Area of Natural and Scientific Interest by the OMNR.	Several properties owned and managed by GRCA have been inventoried within the last 10 years. Biological inventories carried out by GRCA are intended to inform the ongoing management of coniferous plantations.	Modifications to provincial and municipal planning policies and revised GRCA policies are being used to provide guidance on the protection of significant plant communities when dealing with development
	Globally and provincially rare Dry Tallgrass Prairie and Dry Black Oak Tallgrass Savannah communities occur as scattered remnants throughout the County	Additional monitoring has been undertaken to assess the efficacy of forest, wetland and grassland restoration activities. For example, inventory and	applications.

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	of Brant, Township of North Dumfries, the City of Cambridge and Oxford County.	monitoring work has been conducted by GRCA staff to assess the efficacy of prescribed burns on tallgrass prairie habitat at Brant Park and Apps Mill Conservation Areas.	
5.2 Rare Plant Species	At least 64 plant species recorded in the watershed are ranked as provincially rare (S1-S3) by the Natural Heritage Information Centre (NHIC). Of these, 19 species are listed as species at risk (Special Concern, Threatened, or Endangered) in Ontario.	In 2004, the GRCA signed a data sharing agreement with the NHIC. The GRCA also began the process of verifying or identifying new occurrences of rare plants on Conservation Authority lands. A database was developed to document records of rare plants and animals within the watershed and to facilitate data exchanges with the NHIC. Rare species occurrences within the watershed are periodically documented by the GRCA, OMNR and others. Field work conducted during the last 10 years has led to the confirmation or re-confirmation of several rare species, including Black Gum (S3), Broad Beech Fern (Special Concern), Eastern Flowering Dogwood (Endangered), American Ginseng (Endangered), Goldenseal (Threatened) and American Columbo (Endangered). The GRCA hosted a Butternut compensation plan under the auspices of the Endangered Species Act. Two educational posters were developed by the GRCA to help raise public awareness of rare species within the Grand River watershed. In 2012, the GRCA contributed to the development of a national recovery strategy for Virginia	Climate change, invasive or nuisance species (i.e. white tailed deer), illegal collection and other unregulated activities (i.e ATVs) are considered the greatest threats to rare plant species. Species listed as provincially threatened or endangered are legally protected under Ontario's Endangered Species Act. Some municipalities also afford protection to rare plant species through their Official Plan policies.

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		Mallow and is currently collaborating with researchers at Wilfred Laurier University to develop a better understanding of the species' ecology and lifehistory traits.	
		In 2013, a graduate student at Trent University began a study to quantify the genetic diversity and gene flow within Eastern Flowering Dogwood populations. This was to determine environmental conditions that influence susceptibility to the Anthracnose fungus and to identify sources of resistant trees.	
6. FAUNA 6.1 Significant	Thirty nine herpetofauna species	Bird Studies Canada has been	Double-crested Cormorant
Animal Populations	(20 amphibians and 19 reptiles) have been recorded within the watershed. As many as 292 breeding and non-breeding birds have been confirmed and 44 mammals have been documented historically. Bald Eagle breeding has been confirmed at as many as 8 sites between Luther Marsh and Dunnville Marsh. Luther Marsh remains one of the most significant sites for wildlife. Species known to breed at Luther Marsh include Bald Eagle, Osprey, Least Bittern, Black Tern, Virginia Rail, Black-crowned Nightheron and Great Blue Heron. Significant numbers of waterfowl (i.e. Mallard, Wood Duck, Blue- and Green-winged	monitoring Bald Eagles in the Grand River since 1994. The OMNR, GRCA and a team of dedicated volunteers have been monitoring Bald Eagles during the winter period since 2000. Osprey, Great Blue Heron, waterfowl and passerine birds are banded annually at Luther Marsh by David Lamble, a volunteer. Since 2004, the GRCA has monitored bird and herpetofauna populations at Luther and Dunnville Marsh using standardized field protocols developed by Bird Studies Canada and Canadian Wildlife Service. Canadian Wildlife Service, in cooperation with the GRCA, has monitored habitat use by Great	has been identified as a potential threat to a significant breeding colony of Great Blue Herons at Luther Marsh. The installation of wind turbines may be a threat to birds and bats. Further study is needed. An increasing number of adult and immature Bald Eagles take advantage of the open water conditions during the winter and reside within the middle portions of the Grand River corridor. They can easily be seen by hikers and other users of the river trails.
	Teal, American Widgeon, and Gadwall) occupy the marsh areas during the spring and fall migration. Many waterfowl and colonial waterbirds, including	monitored habitat use by Great Egret at Luther Marsh since 2008.	

CHRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Elements Description	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	Great Blue Heron, Black-crowned Night-heron and Green Heron breed at Luther. As many as 400 Great Egret have been known to occupy fall roost at Luther Marsh. River Otter, a species once thought to be extirpated in southern Ontario was recently rediscovered at Luther Marsh and near the confluence of the Grand River and Speed Rivers in Cambridge.		
6.2 Rare Animal Species	At least 54 animal species recorded in the watershed are ranked as provincially rare (S1-S3) by the NHIC including 33 breeding birds, 4 amphibians, 11 reptiles and 6 mammals. Of these, 41 species are listed by the OMNR as species at risk (Special Concern, Threatened, or Endangered) in Ontario. Twelve invertebrates are ranked as provincially rare and Monarch is listed as a species of special concern provincially and federally. Ten species within the Grand River and its tribuaties are currently listed as species at risk by the OMNR.	Since 2004, the GRCA has monitored bird and herpetofauna species at Luther and Dunnville Marsh using standardized field protocols developed by Bird Studies Canada and Canadian Wildlife Service. Field work has confirmed the presence of rare species, including Least Bittern, Black Tern, Snapping Turtle, Blanding's Turtle, Butler's Gartersnake, Eastern Ribbonsnake and Jefferson Salamander on GRCA lands. Since 2004, the GRCA has worked collaboratively with academic, governmental and non-governmental researchers to develop a better understanding of the population biology, genetics and overall status of rare species including Jefferson Salamander, Butler's Gartersnake, Queensnake, Blanding's Turtle, Bobolink and Bald Eagle.	New roads and increased vehicular traffic are a known a threat to amphibians and reptiles. Rare reptiles are also susceptible to illegal collection for the pet trade. Poor water quality within the lower Grand River and physical barriers (i.e. dams) are considered limiting factors for rare fishes and molluscs.



Photo Credit: Jeffrey Mililken

Cultural Heritage in the Grand River Watershed

The Grand has a rich and diverse cultural history. More than 10,000 years ago Native cultures made the watershed their home. Paleo-Indian hunted mastodon and bison 7000 - 11,000 years ago and by 900 C.E., the Woodlands People were farming foods like corn, beans and squash. The last three centuries brought an influx of settlers who sought out much-needed agricultural land. After the American Revolution, the Six Nations people from New York State received a land grant along the Grand River as a token for their loyalty to the Crown. The Scottish settled in the northern region and the Irish in North Wellington and Dufferin Counties. Mennonites established their communities in the Waterloo region.

Over time, industry developed and urban centres grew. The River became an important source of transportation, power and water. Levees, locks and mills were created to manage and utilize the river's offerings of water. Today, glimpses of the past can be seen in the many 19th century mills, foundries, factories, homes and monuments that remain along the River. Adaptive re-use of old buildings has been undertaken in many municipalities such as Cambridge and Elora. Thirty-five sites including flour mills, textile mills, foundries and distilleries have special heritage designation. Stories of technological innovations that occurred over time are captured in places like Alexander Graham Bell's homestead in Brantford and the Seagram Distillery in Waterloo.

Cultural events such as the 2 Rivers Festival and Doors Open events that celebrate the River and its historical and present day connection to the people and places of the watershed are held throughout the year across the watershed. Some of these events have been ongoing for years, while others are brand new. These events offer watershed residents and visitors a diverse array of ways to learn, explore and share knowledge about the River's dynamic cultural history.

Cultural Heritage Survey Results

The survey results pertaining to cultural heritage revealed that the majority of respondents were not aware of any changes that have occurred to human heritage values since 2004. The changes that were noted dealt mainly with bridge repairs or replacements, the establishment of Cultural Heritage Landscapes and Cultural Heritage Districts, adaptive re-use of historic buildings and trails and access points. Most felt that the changes that have been made were an improvement. However, a smaller number of people felt certain changes were undesirable such as development near the river affecting viewsheds and historic bridge removals.

The majority were aware of significant successes related to the conservation, celebration and/or promotion of human heritage values achieved in their community since 2004. Some of these activities included river festivals, tree planting programs/projects, adaptive re-use of historic buildings, new historical research and reports, the establishment of Cultural Heritage Landscapes and Cultural Heritage Districts, river trail improvements and garbage cleanups along the River. At the same time, most respondents felt that additional management and/promotional activities are needed to conserve and interpret human heritage values which support the heritage river designation. Some of the issues that they felt needed to be addressed included adaptive re-use of buildings within the floodplain, limiting new development that threatens viewsheds of the river, increased public outreach and awareness, more public access to the river with trails/promenades and boating access points. To address these issues, they suggested a variety of management actions that could be implemented such as stronger and more human heritage focused planning policies and by-laws, an enhanced commitment to heritage preservation as well as more signage and promotion of human heritage values.

Most respondents were aware of books, art exhibitions, poetry, awards and festivals completed or started since 2004 that promote the Grand's heritage. Examples included Doors Open events, the 2 Rivers Festival in Guelph, photography and poetry books and research based literature on cultural heritage.



Photo Credit: Cathy Baker



Photo Credit: Eustacio Dionisio

Cultural Heritage Values since Designation

CHRS Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1. RESOURCE HARV	ESTING		
1.1 Fishing	The river was used for historic Aboriginal, domestic and commercial fishing and processing. The river continues to be a major fisheries attraction.	None	Invasive Species such as Round Gobie or Asian Carp
1.2 Shoreline Resource Harvesting	Trapping of fur-bearing animals, collection of aquatic plants, hunting of birds and land animals, mines and quarries in river valleys.	None	None
1.3 Extraction of Water	There are 4 surface water intakes for drinking water (Region of Waterloo, City of Guelph, City of Brantford and Six Nations). The river also provides private supply for agriculture and industry.	GRCA has conducted reviews of Aggregate Resources Act applications and developed a paper entitled "Cumulative Effects Assessment (Water Quality and Quantity) Best Practices Paper for Below-Water Sand and Gravel Extraction Operations in Priority Subwatersheds in the Grand River Watershed (Grand River Conservation Authority, 2010) which details technical considerations for assessing cumulative effects of below-water aggregate operations. It includes general roles and responsibilities which have been accepted by the OMNR, Ministry of the Environment and the Ontario Stone, Sand and Gravel Association.	New aggregate resource extraction applications continue to be received by the province within the watershed. Careful review and assessment by the OMNR, municipalities. GRCA and other agencies will be required to ensure protection of cultural heritage values as well as recreational and natural heritage values. GRCA continues to assess the effectiveness of the cumulative effects assessment paper and will work with its partners to improve the review process of below-water aggregate applications in priority watershed areas.
2. WATER TRANSPOR	<u> </u> T		
2.1 Commercial Transportation	The river is mainly used for pleasure craft today, but historically was used for prehistoric trade and to move commercial freight.	None	None
2.2 Transportation Services	In that past, the river contained fur trade posts,	None	None

CHRS Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	navigational improvements (i.e. Grand River Navigational Co.), shipyards and facilities for loading/provisioning passengers.		
2.3 Exploration & Surveying	The river was used for French and British exploration, migration and settlement and surveying expeditions (i.e. Augustus Jones).	None	None
3. RIPARIAN SETTLEN			
3.1 Siting of Dwellings	Shoreline seasonal dwellings (i.e. Paleo-Indian sites in the southern watershed), riverside homesteads and farms (i.e. Doon Heritage Crossroads), permanent riverside dwellings (i.e. Tisdale House), dispersed dwellings in settlement patterns (i.e. Hiram "King" Capron).	None	Provincial policy and GRCA's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation – Ontario Regulation 150/06 assist GRCA and partnering municipalities to determine the feasibility of locating new dwellings along the river. In most cases, new development is limited due to floodplain constraints.
3.2 River-based Communities	Permanent shoreline Aboriginal communities (i.e. Middleport Site National Historic Site) and river industry-based communities (i.e. the Goldie Family and the Village of Greenfield).	There has been an increase in adaptive re-use of buildings in river-based communities still in existence (i.e. downtown Galt, Cambridge).	There is an increased awareness of the roll that the river played in the establishment of communities and an interest in preserving and adapting the buildings for re-use.
3.3 River-influenced Transportation	Ferries and fords (i.e. Six Nation of the Grand River Ferry Crossing), road bridges (i.e. West Montrose Covered Bridge), rail bridges (i.e. CPR Speed River Bridge)	None	None
4. CULTURE & RECRE		7 2010 1 71 2	
4.1 Spiritual Associations	Sacred or spiritual sites, ritual or ceremonial structures and sites (Detweiler's	In 2010, the City of Kitchener uncovered a significant archeological find providing evidence of First Nations in	Outdoor areas including those along the rivers are becoming more popular for spiritual activities such as

CHRS Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	Meetinghouse, aboriginal burial places - many of which are found throughout the watershed), European burial places (i.e. John Galt Memorial).	the Huron Natural Area. Some of the artifacts were dated as far back as 9,000 years ago. Historical interpretive signage now notes the findings. A Memorial Stone was dedicated in 2008 at the Riser-Reschly plot (Amish Cemetery).	yoga and meditation. Aboriginal engagement with issues such as archaeology has become quite extensive over the last decade.
4.2 Cultural Expression	Riverside museums, art galleries, arts and culture groups, commemorative structures (i.e. Bell Homestead National Historic Site, Glenhurst Art Gallery, Bell Memorial). Culturally associated sites (i.e. Castle Kilbride National Historic Site). River-based cultural landscapes (i.e. Luther Country, Conestogo Country) and architectural responses to river locations (i.e. Rockwood Academy, Smith House).	In 2010, a group of poets called the Fish Quill Poetry Boat organized a canoeing poetry tour and paddled down the Grand River. They hosted poetry readings and musical performances at different locations along the way. This event was so successful that subsequent events were held in 2011, 2012 and 2013.	None
4.3 Early Recreation	Recreational boating, angling, land-based touring, organized river recreation facilities/clubs.	There has been an increase in recreational boating opportunities in the watershed with new adventure-based tourism.	A greater number of people are able to access the river through boat rentals and guided river excursions/adventures.
5. JURISDICTIONAL U 5.1 Conflict & Military	Aboriginal internecine	The annual Heritage Day	None
Associations	conflict, aboriginal- European conflict, European internecine conflict (i.e. Port Maitland), military expeditions (i.e. Elora Drill Shed/The Armory).	Workshop and Celebrations from 2012 to 2014 focused on the War of 1812-1814. The events provided attendees with an opportunity to learn more about the War and how it affected the people and places within the Grand River watershed.	Tione
5.2 Boundaries	International borders, interprovincial and inter-	None	None

CHRS Cultural Framework (2000)	Cultural Heritage Value(s)	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	territorial boundaries, land use/cultural boundaries, transboundary rivers.		
5.3 Environmental Regulation	Flood control, water management, aquatic ecosystem management and regulation of river access have been issues historically. The Conservation Authorities Act was passed in 1946 by the Ontario government in response to severe flooding and erosion problems in the province. In 1948, the Grand River Conservation Authority was formed to deal with the issues noted above. Today, GRCA regulates activities within its watershed under the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation - Ontario Regulation 150/06.	Flooding in the river was a serious issue in earlier days. Regulation of hazard lands within the watershed has enabled the GRCA to reduce the risks to property, life and the environment by directing development to lands outside of these hazards. Conservation Authorities also participate in a wide variety of other activities such as tree planting, environmental education and enforcement which all play a role in reducing flood risks. Through the Municipal Class Environmental Assessment process, proponents are required to meet provincial policies and regulation including the Ontario Heritage Act.	Since the Grand's designation, the GRCA has had additional regulatory responsibilities delegated to it from the province. There have also been strengthened policies at the provincial level for environmental management and heritage protection (i.e. Provincial Policy Statement 2005 and 2014 and Ontario Heritage Act 2005). The Municipal Engineers Association recently developed a screening checklist for the Environmental Assessment process to assist proponents in determining whether a bridge structure that is 40 years of age or older has cultural heritage value. In 2011, the Standards and Guidelines for Consultant Archaeologists were introduced by the Ministry of Tourism, Culture and Sport. The standards and guidelines detail the necessary process and reporting requirements when conducting archaeological field work.

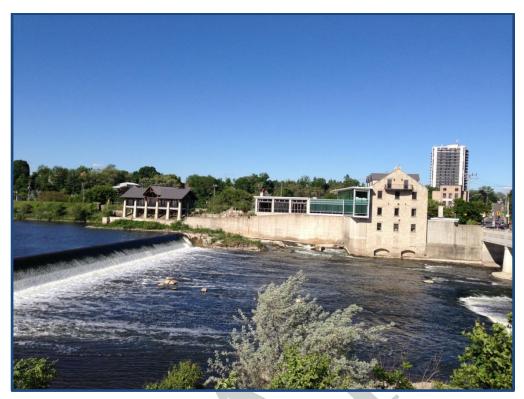


Photo credit: Andrew Herreman



Photo credit: Andrew Herreman

Recreation in the Grand River Watershed

River-based recreation in the Grand River watershed remains very popular. Hiking, camping, biking, fishing, boating, canoeing, kayaking, tubing and bird watching are but a small fraction of the many outdoor and river-related activities to choose from. For the hikers, the Grand Valley Trail runs 275 kilometres from north of Fergus and Elora to Rock Point Provincial Park on Lake Erie. In fact, the watershed possesses the greatest concentration of passive single and shared-use recreational trails in the province. Campers can choose from more than 2,700 campsites in GRCAs Conservation Areas or privately owned parks. Perhaps one of the most popular activities is recreational fishing. The Grand River and its major tributaries are considered a world class recreational fishery with over 92 species of fish found in the watershed. Actually, the Grand River contains more than 50% of all the fish species found in Canada. The Upper Grand River below the Shand Dam supports a world renowned brown trout fishery. Angling opportunities for rainbow trout, smallmouth bass, walleye, pike, mooneye and channel catfish also exist in the middle and lower sections of the Grand River (Grand River Conservation Authority, 2010).

GRCA Parks

GRCA manages 12 Conservation Areas along with other land holdings, many of which contain trails and/or river access points available for public use. GRCA's parks offer a variety of recreational activities in a range of different settings that provide opportunities for calm and solitude (i.e. Luther Marsh Wildlife Management Area) and more intense or high energy activities such as tubing (i.e. Elora Gorge Conservation Area) and hunting (i.e. Conestogo Lake Conservation Area). Most of the Conservation Areas are located on the Grand and its tributaries. Since 2004, GRCA has completed Business Plans for all of its parks. In addition, a number of Master Plans have been completed. For example, the Master Plans for Laurel Creek Conservation Area and Luther Marsh Wildlife Management Area were completed in 2004 and 2010 respectively. The Master Plan for Guelph Lake Conservation Area is in progress and will be completed this year.

GRCA Parks and Activities

Park Name	Recreational Activities
Shade's Mills	Canoeing, Fishing, Hiking, Cycling, Swimming,
The park is located on a reservoir on a reach of Mill	Picnicking, Cross-country skiing, Snowshoeing, Ice
Creek, which is a tributary of the Grand River.	fishing
	Camping, Canoeing/Kayaking, Hiking, Fishing,
Rockwood	Cycling
The park contains a reach of the Eramosa River.	Swimming, Picnicking, Natural Features (glacial bluffs,
	potholes and network of caves)
Luther Marsh	Canoeing, Boating, Fishing, Hiking, Cycling,
The Management Area encompasses a large reservoir	Picnicking
located at the headwaters of the Grand River watershed.	Hunting, Birding/wildlife
Laurel Creek	Camping, Canoeing, Windsurfing/sailing, Fishing
The park contains a reach of Laurel Creek, a tributary	Hiking, Cycling, Swimming, Picnicking,
of the Grand River and its reservoir.	Birding/wildlife
of the Grand River and its reservoir.	Cross-country skiing
Pinehurst Lake	Camping, Canoeing, Fishing, Hiking
The park possesses a nine-hectare kettle lake with a	Cycling, Swimming, Picnicking
sandy beach.	Birding, Cross-country skiing, Snowshoeing
Guelph Lake	Camping, Canoeing, Boating, Windsurfing/sailing
The park contains a reservoir connected to the Speed	Fishing, Hiking, Cycling, Swimming, Picnicking
River.	1 isining, 11iking, Cycling, 5 willinning, 1 icilicking
Elora Quarry	
The day-use park possesses a 0.8 hectare former	Swimming, Picnicking, Hiking
limestone quarry encircled by sheer cliffs.	

Park Name	Recreational Activities
Elora Gorge	Camping, Canoeing, Fishing, Hiking
The Grand River flows through the park.	Cycling, Picnicking, Tubing, Splash pad
	Camping, Canoeing, Boating, Windsurfing/sailing
Conestogo Lake	Fishing, Hiking, Cycling, Swimming, Picnicking
The park contains a reservoir of the Conestogo River.	Visitor services (interpretive and family fun programs),
	Hunting, Snowmobiling
	Camping, Canoeing, Boating
Byng Island	Windsurfing/sailing, Fishing, Hiking, Cycling,
The park is located on the lower reach of the Grand	Swimming
River close to the confluence to Lake Erie.	Picnicking, Visitor services (family fun programs),
	Birding/wildlife
Brant Park	Camping, Canoeing, Fishing, Hiking
The park is located on the Grand River.	Cycling, Swimming, Picnicking, Visitor Services
The park is located on the Grand River.	(family fun programs)
	Canoeing, Boating, Windsurfing/sailing, Fishing,
Belwood Lake	Hiking, Cycling, Swimming, Picnicking, Hunting, Ice-
Belwood Lake sits upon a reservoir of the Grand River.	fishing, Cross-country skiing (ungroomed trails),
	Snowshoeing, Snowmobiling

Recreation Survey Results

The majority of survey respondents agreed that the Canadian Heritage River designation of the Grand, Speed, Eramosa, Nith and Conestogo Rivers has increased awareness and use of the river system and adjacent lands for recreation. They felt that the designation has heightened awareness of the river among local residents and has become an attraction for visitors. Most respondents stated that they use the Grand or adjacent river trails frequently for recreational activities such as walking or hiking, cycling, birding, picnicking, fishing and also for paddling, boating and swimming access. A large majority of the respondents felt that river-related recreation experiences, heritage features and attractions are important in attracting visitors to the area.

A strong majority of respondents noted an increase in river-related recreational use or trail activities since the designation. Since 2004, changes that they observed in the variety and quality of river recreational amenities included improved trails and river access points, low water levels, litter and debris along trails and river access points and a lack of sufficient parking at river access points. They felt that action was needed to deal with low water levels. In addition, they felt that parking should be increased and more trails should be established along with more signage. Improvements could also be made in linking existing trails, producing more trail guides/maps, dealing with invasive species invasions as well as greater private landowner cooperation for expanding trails and allowing the public to access more of the river. These responses indicate that as demand for river-related recreation increases, so too does the need for proper management of the resource. The risks of potential conflict between various user groups and the overall community may also increase.



Photo credit: Christopher Wilkonson

Recreation Values since Designation

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1. WATER SPOR			
1.1 River Touring			
1.1.1 River Access Points for River Touring	The Grand has over 30 organized paddling access points in the river system.	None	None
1.1.2 Portages	The river has marked dam portages.	None	There has been some opposition to portage points in the County of Brant. There are ongoing discussions to balance community concerns with the demand for access to the river.
1.1.3 Paddling, Kayaking, Rowing and Rafting	Paddling, rowing and rafting occur on many stretches of the Grand and its tributaries. Whitewater kayaking occurs in the spring in the Elora	Environment Canada is currently sponsoring surveys that will collect information on recreational activities in the Grand River including fishing,	None More paddling opportunities and events are now available to the public. The Canadian Heritage River designation

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	Gorge. Stand up paddleboarding is also starting to become popular.	boating and swimming. The work is being completed under Environment Canada's Great Lakes Nutrient Initiative, which aims to improve the health of Lake Erie. The survey results will be used to help estimate the types, levels and distribution of the activities and their economic value. The results will be shared with the GRCA and will be of value in river management activities and future Canadian Heritage River reporting. The surveys can be completed on GRCA's website - http://www.grandriver.ca/Newsro om/News.cfm?id=783. Paddling clubs offer courses and events (i.e. National Canoe Day, Day of 1000 canoes) and have experienced a general increase in membership over the last decade. There are now several outfitter and rental businesses that run day trips/rent boats (i.e. Grand Experiences in Paris and the Boathouse in Guelph).	has attracted locals and visitors to the area.
1.1.4 Motorized Pleasure Boating	Motorized boating occurs on some of the reservoirs and in the lower part of the river.	None	None
1.1.5 Sail Boating	Sailing takes place on the major reservoirs (i.e. Belwood Lake Conservation Area) and in the lower Grand.	None	None
1.1.6 Tour Boats	Private day boat excursions occur below Brantford (i.e. Grand River Dinner Cruises).	None	None
1.2 Water Contact/C			
1.2.1. Swimming	In designated beaches at GRCA parks.	See description of Environment Canada's recreation surveys in 1.1.3.	None

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
1.2.2 Water Skiing	In reservoirs and lower Grand.	None	None
1.2.3 River Tubing	Tubing is popular at the Elora Gorge.	GRCA provides equipment rentals for tubing in the Elora Gorge during the summer season.	None
2. ANGLING and I	HUNTING		
2.1 Angling			
2.1.1. Access Points for Angling	There are many organized access points for anglers, particularly for fly fishing in the Fergus/Elora area.	None	There is a demonstrated need for increased parking at access points for fishing/boating in some areas of the watershed (i.e. Penman's dam in Paris).
2.1.2 Fish Passageways	Fish ladders are incorporated into some of the dams. Byng Island Conservation Area is home to one of the country's biggest fish ladders, which allows lake fish to migrate past the Dunnville Dam to prime spawning and nursery habitats in the river.	None	None
2.1.3 Fly Fishing	Several key stretches are well-known for fly fishing (brown trout).	None	None
2.1.4 Ice Fishing	GRCA parks offer ice fishing on reservoirs once ice has formed and is safe (i.e. Shades Mill Conservation Area).	None	Warmer temperatures over recent winters have sometimes limited opportunities for ice fishing.
2.1.4 Other recreational fishing	We have several stretches of the river system that are fished for warm and cold water species. The river is renowned for its brown trout, trophy bass and pike fishing. Fishing is done on the shore, by wading and also in boats (i.e. canoes, drift boats).	See description of Environment Canada's recreation surveys in 1.1.3. In 2010, GRCA released a fishing guide entitled Fishing Ontario's Grand River Country (May, 2010). The Grand River Fisheries Management Plan Implementation Committee (GRFMPIC) received a Recreational Fisheries Award in 2009 from the Minister of	GRCA survey respondents have noticed a general increase in fishing activity over the last ten years. Non-profit groups have worked on a variety of projects to support the fishery (i.e. K-W Cambridge Bassmasters signage and fish habitat projects).

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		Fisheries and Oceans.	
		The award recognizes individuals and organizations for their contribution to the conservation, restoration and enhancement of Canada's recreational fisheries and their habitat.	
		The GRFMPIC continues to implement the Grand River Fisheries Management Plan by holding educational, workshops, conducting research and managing projects that sustain or enhance the fisheries of the river.	
		The OMNR and Friends of the Grand continue to stock the river with brown trout.	
2.2 Hunting			
2.2.1 Hunting Areas	The GRCA permits hunting in 3 of its Conservation Areas (Belwood Lake, Conestogo Lake and Luther Marsh Wildlife Management Area) and 19 smaller properties that it manages. Hunting is also done on private lands along the river.	None	None
2.2.2 Controlled Hunts	GRCA and the OMNR support controlled hunts in various locations at specific times of the year.	None	None
3. WATER-ASSOC 3.1 Trails and Corrid	CIATED ACTIVITIES		
3.1.1 Trailheads/Access Points	We now have a network of trails with access points throughout the watershed.	None	None
3.1.2 Multi- Purpose Trailways	New multi-purpose river trails are being developed throughout the watershed and linked together (this was part of the vision for the Grand that was included in	Non-profit groups like canoe/hiking clubs provide clean up days on trails (i.e. Ancient Mariners Club, 2011). Hiking along trails have become so popular that there has been a	GRCA survey respondents have noticed a general increase in the use of trails for hiking and walking.

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
	our management plan). Many people use the river trails for walking, hiking, running, birding/wildlife viewing cycling and photography.	need for increased parking at trailheads.	
3.1.3 Hiking Pathways (single- use)	The Grand Valley Trail is a hiking trail that mostly follows the Grand River.	Some hiking clubs develop and maintain hiking trails (i.e. Guelph Hiking Trail Club).	None
3.1.4 Cycling Routes	Several cycling routes along the river have been developed.	None	None
3.2 Active Parks			
3.2.1 Overnight Camping Areas	There are several private and public parks on the banks of the river which offer camping.	None	None
3.2.2 Day Use/Picnic Areas	There are many private and public parks on the banks of the river where people can picnic.	None	None
4. WINTER ACTIV	VITIES		
4.1 Snowmobiling/ Dog Sledding	Belwood Lake Conservation Area offers snowmobiling opportunities.	None	None
4.2 Cross-country Skiing	Trails along the river can be used for cross-country skiing. Some GRCA parks offer groomed trails (i.e. Laurel Creek Conservation Area).	None	None
4.3 Skating	No	None	None
5. NATURE/ SCEN	NIC APPRECIATION		
5.1 Nature Apprecia			
5.1.1 Outdoor Education Centres	Outdoor education opportunities for all ages exist through a number of outdoor centres owned and operated by the GRCA, school boards and others (i.e. Rare Charitable Research Reserve).	GRCA is currently fundraising for a new Nature Centre at Guelph Lake Conservation Area. The Centre will sit near the Guelph Lake reservoir and dam and close to a variety of terrestrial and aquatic habitats which will provide many opportunities for	None

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
		outdoor learning.	
5.1.2 Wildlife Management Areas	Specific wildlife management areas provide opportunities for nature viewing and appreciation such as Luther Marsh and Dunnville Marsh.	None	None
5.1.3 Organized Hikes	The Grand Valley Trails Association and other groups offer hikes to the public to increase nature awareness and appreciation.	None	None
5.2 Scenic Vistas			
5.2.1 River Lookouts	We have several organized/constructed lookouts for people to enjoy scenic views of the river (i.e. Murray Lookout on the Cambridge to Paris Rail Trail).	None	None
5.2.2 Scenic River Views	Other scenic vistas have been identified in various planning documents and official plans which should be recognized.	None	Some GRCA survey respondents have noted the need for more scenic river vistas and better maintenance of those which currently exist.
5.2.3 Scenic River Drives	The Grand River Scenic Parkway was developed after the designation of the Grand and helps promote awareness of the Heritage River designation.	None	None
	TAGE APPRECIATION		
6.1 Events and Festi 6.1.1 Cultural Festivals	There are many cultural festivals held throughout the watershed such as Oktoberfest in Kitchener-Waterloo, Applefest in St. George, Maple Syrup Festivals in Elmira and Perth and the Cobblestone Festival in Paris.	None	None
6.1.2 River	There are a number of river	None	None

Recreational Capability Themes and Sub-themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value(s)
Festivals and Celebrations	celebration events such as the 2 Rivers Festival in Guelph, Dunnville Mudcat Festival and Riverfest Elora.		
6.1.3 Recreational Events	Many recreational events are offered annually such as the Grand River Bass Derby in the Region of Waterloo and Day of 1000 Canoes in Haldimand County.	None	None
6.2 Cultural Tours	,		
6.2.1 Guided Walking Tours	Historical societies (i.e. Heritage Cambridge) offer walking tours during the summer months.	None	None
6.2.2 Self-Guided Tours	Several municipalities offer self-guided walking tours to promote heritage appreciation.	None	None



Photo Credit: Dave Schultz

Integrity Guidelines since Designation

CHRS Principles, Procedures and Operational Guidelines (2000)	Integrity Value(s)	Changes or Threats to Integrity Value(s) since Nomination		
1. NATURAL INTEGRITY GUIDELINES				
1.1 The nominated area is of sufficient size and contains all or most of the key interrelated and interdependent elements to demonstrate the key aspects of the natural processes, features, or other phenomena which give the river its outstanding natural value.	The river was not designated based on its natural heritage values. The Grand is about 290 km in length and with its 4 major tributaries - the Nith, Conestogo, Eramosa and Speed Rivers it totals 627 km. A network of aquatic and terrestrial ecosystems, some of which are unique (i.e. Carolinian Zone) support many diverse populations of flora and fauna. The large size of the watershed also affords a wide variation in geologic representations.	Not applicable as the river was not designated on its natural heritage values.		
1.2 The nominated area contains those ecosystem components required for the continuity of the species, features or objects to be protected.	The river was not designated based on natural heritage values. The river provides the required water quantity and quality needed to support its features and species.	Not applicable as the river was not designated on its natural heritage values.		
1.3 There are no human-made impoundments within the nominated area.	The river was not designated based on natural heritage values. The Grand River contains a variety of impoundments. There are 34 water control structures operated by the GRCA throughout the watershed. These range from simple overflow weirs to large multi-purpose dams and reservoirs. There are also approximately 103 private and municipally-owned dams in the watershed.	Not applicable as the river was not designated on its natural heritage values. GRCA continues to maintain, repair and in some cases, replace their dams as needed.		
1.4 All key elements and ecosystem components are unaffected by impoundments located outside the nominated area.	See above. The river was not designated based on natural heritage values.	See above.		

CHRS Principles, Procedures and Operational Guidelines (2000)	Integrity Value(s)	Changes or Threats to Integrity Value(s) since Nomination
1.5 Natural values for which the river is nominated have not been created by impoundments.	See above. The river was not designated based on natural heritage values.	See above.
1.6 The water of the nominated area of the river is uncontaminated to the extent that its natural aquatic ecosystem is intact.	The river was not designated based on natural heritage values. Although nutrient levels can be high, the river is still able to provide habitat to aquatic flora and fauna including a variety of species at risk.	Not applicable as the river was not designated on its natural heritage values.
1.7 The natural aesthetic value of the river is not compromised by human developments.	The river was not designated based on natural heritage values. New development is mostly limited to areas outside of the floodplain and river valleys due to environmental regulation and municipal official plan policies. However, some development does occur within the valley.	Not applicable as the river was not designated on its natural heritage values. In some areas, development (i.e. residential) within the valley does hinder the potential for natural heritage viewscapes. However, there are stretches of the river that are more natural. The Grand River Forest runs along the river from Cambridge to Paris in an almost unbroken 20-kilometre strip. It includes extensive uplands and swamp forest, bogs in kettle depressions, fens, remnants of prairie and oak savannah. Many Carolinian species flourish there.
2. CULTURAL INTEGRITY VALU	ES	
2.1 The nominated area is of sufficient size and contains all or most of the key interrelated and interdependent elements to demonstrate the key aspects of the features, activities or other phenomena which give the river its outstanding cultural value.	The watershed is of sufficient size that it possesses a deep and varied history that is seen today in the form of historic sites and monuments, heritage buildings and bridges. History is captured in museums and seen through remnant artifacts that still exist along the river's winding expanse.	Some cultural features have been lost (i.e. bridges), but many have also been rehabilitated, attempting to balance cultural values and public safety. Adaptive re-use of historic buildings is also becoming increasingly popular.
2.2 The visual appearance of the nominated area of river enables uninterrupted appreciation of at least one of the periods of the river's historical importance.	A number of municipalities have introduced Cultural Heritage Landscapes into their planning documents (i.e. Township of Woolwich – 2012, Township of North Dumfries – in progress, City of Cambridge – to begin after 2015). Heritage	The establishment of Cultural Heritage Landscapes and Heritage Conservation Districts help to protect the cultural history of areas located along the river (i.e. West Montrose, Township of Woolwich, Brooklyn and College Hill, City of Guelph – in progress) from development and

CHRS Principles, Procedures and Operational Guidelines (2000)	Integrity Value(s)	Changes or Threats to Integrity Value(s) since Nomination
	Conservation Districts have also been established /considered (i.e. Waterloo and Guelph).	change that is not compatible with the maintenance of cultural heritage values. Uninterrupted areas of historical importance are better protected and also promoted.
		Many municipalities are emphasizing their community's connection to the river through trails and restoration projects as well as adaptive re-use of old mills and historic buildings located along the river (i.e. old Galt Post Office in Cambridge, Guelph Museum in Guelph, Wellesley Mill in Wellesley). Pastoral vistas are common along the
2.2 571 1 2.5	N . 1 11 G G . 12	river.
2.3 The key artifacts and sites comprising the cultural values for which the river is nominated are unimpaired by impoundments and human land uses.	Not applicable. See Section 1.3 above. Some municipalities such as Brantford and the Region of Waterloo have existing Archaeological Master Plans. Most Official Plans contain heritage policies as directed by the Provincial Policy Statement and the Planning Act.	None See Section 1.3 above.
2.4 The water quality of the nominated area does not detract from the visual character or the cultural experience provided by its cultural values.	In some locations nutrient levels can lead to excessive algae growth in the river which can be seen from the riverbanks or bridges.	The Grand River Water Management Plan will look to find ways to reduce the volume of nutrients in the river including an understanding of the proportion coming from point sources vs. non-point sources. Sewage treatment plant upgrades are
		currently being conducted in several municipalities (i.e. Region of Waterloo).
		Many municipalities are paying more attention to reducing the risks associated with urban runoff using more stringent stormwater management guidelines, policies and monitoring (i.e. City of Kitchener).

CHRS Principles, Procedures and Operational Guidelines (2000)	Integrity Value(s)	Changes or Threats to Integrity Value(s) since Nomination
3. RECREATIONAL INTEGRITY V 3.1 The river possesses water of a quality suitable for contact recreational activities, including those recreational opportunities for which it is nominated.	Water quality in the river is such that recreational uses such as canoeing, kayaking and fishing remain popular.	As noted above, the Grand River Water Management Plan Update provides a list of water quality indicators and targets for secondary contact recreation (i.e. kayaking and fishing).
3.2 The river's visual appearance is capable of providing river travelers with a continuous natural experience, or a combined natural and cultural experience, without significant interruption by modern human intrusions.	The river traverses a variety of viewscapes from agricultural to forested rural areas and built up urban areas.	None.
3.3 The river is capable of supporting recreational uses without significant loss or impact on its natural, cultural or aesthetic values.	The river supports a wide array of recreational uses such as fishing, boating and hiking without negatively impacting its ecosystems (i.e. fish populations), cultural or aesthetic value.	None.

Management Plan Recommendations and Current Status

The Grand Strategy for Managing the Grand River as a Canadian Heritage River Central Goals:

To strengthen, through shared responsibility, the knowledge, stewardship and enjoyment of heritage and recreational resources of the Grand River watershed.

To improve the well-being of all life in the Grand River watershed.

Management Plan Actions

Management Plan Recommendation (Primary Actions, Revised in GRCA's 10 Year Monitoring Report, 1994)	Degree of Achievement (initiated, on- going, addressed, partial, complete)	Actions/Notes
Develop community-based watershed- wide strategies for shared research, planning, decision-making, implementation and monitoring of important human heritage and	Ongoing	GRCA and its partners have conducted and participated in many recreational and human heritage initiatives since 2004 (i.e. the Canadian Heritage River Survey and Heritage Bridge Inventory).
recreational values associated with the Heritage River designation. Explore innovative and effective techniques for		GRCA's nature centres and interpretive programs offer opportunities for outdoor recreation and natural heritage appreciation.
public involvement (including youth and seniors).		In 2014, GRCA is offering a photo contest to the public that will showcase the heritage values of the river.
		The Grand River Water Management Plan Update aims to address existing and emerging issues in the watershed. It has been a collaborative effort developed by a comprehensive group of agencies and organizations responsible for water issues in the watershed. <i>The Grand Strategy</i> , developed as part of the Canadian Heritage River designation process, provides input into the Water Management Plan.
Encourage, recognize and support private and public stewardship in conserving and interpreting the watershed's natural and human heritage.	Ongoing	GRCA's Rural Water Quality Program encourages and supports rural landowners in implementing best management practices on their land.
Raise awareness about and celebration of the designation of the Grand River as a Canadian Heritage River through existing and new community events.	Ongoing	GRCA's Watershed Awards will feature heritage awards in 2014 in honour of the River's 20th Anniversary of its heritage designation. The designation has also been promoted through the Heritage Day Workshop and Celebrations, Grand

Management Plan Recommendation (Primary Actions, Revised in	Degree of Achievement (initiated, on-	Actions/Notes
GRCA's 10 Year Monitoring Report, 1994)	going, addressed, partial, complete)	
210 poz (, 255 1)	purcus, compress,	Actions newsletter, GRCA's website, books, and brochures published by GRCA, partner municipalities and others.
Examine and evaluate the effectiveness of existing heritage and recreational resource management arrangements. Document success and failure, share findings and identify best management practices.	Ongoing	Evaluations and monitoring through initiatives such as the Heritage Bridge Inventory, Heritage River Survey and Grand River Water Management Plan Update have documented and will continue to assess success and failures of the river's heritage values.
Encourage the incorporation and integration of strong heritage policies and appropriate recreation and tourism development policies in pertinent policy and planning documents.	Ongoing	GRCA staff continues to participate/comment on Official Plan reviews and heritage related projects (i.e. Cultural Heritage Landscape Studies and associated zoning applications).
Encourage research which can clearly demonstrate the economic and social benefits of our natural and human heritage resources.	Ongoing	GRCA has Memorandums of Understanding with post-secondary schools within the watershed to share and promote research.
Encourage municipalities to develop special policies/plans to guide riverfront development. These policies and plans should be designed to resolve conflicting resource issues, to maintain/improve the quality of the experience and to provide for infrastructure to accommodate increasing interest.	Ongoing	GRCA staff continues to participate/comment on Official Plan reviews, heritage related projects (i.e. Cultural Heritage Landscape Studies) and river-related master plans (i.e. City of Brantford's Waterfront Master Plan). Staff also review development applications such as Site Plans and issue permits for riverfront developments (i.e. Galt Special Policy Area projects such as the Waterscape Condominium development and the Cambridge Mill renovations) through Ontario Regulation 150/06.
Continue efforts to improve water quality and address new and emerging water quality issues.	Ongoing	GRCA's Rural Water Quality Program provides financial assistance to qualified landowners looking to implement best management practices that improve water quality.
		GRCA staff participates in and comment on municipal wastewater master planning exercises and associated Environmental Assessments (i.e. upgrades to sewage treatment plants).
		In 2010 and 2011, GRCA and its partners conducted the Grand River Watershed-Wide Wastewater Optimization Pilot Project. Staff worked with municipal water managers to: identify the administrative, operational and maintenance factors that limit performance of a wastewater treatment facility and systematically address those limiting factors. The aim was for the plants to produce higher

Management Plan Recommendation (Primary Actions, Revised in GRCA's 10 Year Monitoring Report, 1994)	Degree of Achievement (initiated, on- going, addressed, partial, complete)	Actions/Notes
		quality effluent with the added benefits of reducing operating costs and improving regulatory compliance. A number of municipalities are making efforts to improve water quality through the development of more stringent stormwater management guidelines, water quality and flow monitoring (i.e. City of Kitchener) and through the implementation of facility upgrades.
Emphasize the designation of the Grand River as a Canadian Heritage River in funding submissions to governments, foundations and organizations and in newspapers, magazines and research publications, wherever possible.	Ongoing	GRCA continues to celebrate and advertise the river's designation through Grand Actions newsletter, Heritage Day Workshop and Celebrations, corporate letterhead logo and in applications for funding to outside sources.
Develop a code of ethics for recreational use in the Grand River watershed.	Ongoing	GRCA staff has researched the use of code of ethics by various recreation associations in North America and will determine the feasibility of developing one for use in the future within Grand River watershed.
Implement the Grand River Fisheries Management Plan (GRFMP).	Ongoing	2013 was the 15th anniversary of the GRFMP. Projects and activities in support of the implementation of the plan are ongoing.
Explore the opportunity for promoting the Grand River as a "water trail".	Ongoing	The Grand River's riverside trails and paddling opportunities are regularly promoted by GRCA, municipalities and recreation and tourism organizations.
Celebrate and build on successes	Ongoing	GRCA is celebrating the 20 th anniversary of the river's Canadian Heritage River designation this year with a number of events and publications as outlined above.

Summary of Benefits Since Designation

Type of Benefit	Description
Cultural Benefits	The promotion of the Canadian Heritage River designation by GRCA and other agencies has provided a greater awareness of cultural heritage amongst watershed residents
Recreational Benefits	 The designation has peaked interest in recreational pursuits like paddling. Some paddlers report meeting visitors along the river who were attracted to it due to the designation.
	 There have been more trails and river access points created to accommodate the growing number of recreationists.
	 Increased interest in river-based recreation has led to the establishment of outdoor adventure companies which offer an even wider range of activities for people to explore (i.e. stand up paddleboarding and overnight camping trips) over a wide geographic area within the watershed.
Improved Knowledge	 A greater number of people are using the river to explore and learn about the natural environment and cultural history while gaining health benefits at the same time through paddling, hiking and other physical activities.
Monetary Benefits	 Increased use of the river by locals and visitors attracted to the area because of the designation increase profits for the local economy. For example, businesses such as restaurants, cafes, outfitting companies, convenience stores can all benefit from river-based tourism and recreation.
	 Riverside promenades, parks and commercial venues are popular for recreational uses, but also events like festivals and weddings which stimulate the local economy.
Increased Stewardship	 Trail groups and other recreation-focused organizations have continued to maintain existing trails and advocate for more of them.
	 Many groups organize and participate in trail and river clean up days on a voluntary basis. They also provide interpretive events to educate the public on the natural heritage features and recreational opportunities offered by the river.
Community Engagement and	 The designation and resulting higher profile of the river has led to the authoring of many books and guides about the river, outdoor festivals and other events.
Collaboration	• A number of river management activities have been accomplished including but not limited to the Grand River Fish Management Plan (1998), Grand River Forest Plan (2004) and the Grand River Water Management Plan Update (to be finalized in 2014). All of these have encouraged community participation and multi-agency collaboration.
	 GRCA's website contains a heritage section which includes a description of the Canadian Heritage Rivers System, the designation process, the Canadian Heritage River plaques, the Grand Strategy, among other topics (www.grandriver.ca).
	 The designation and the 20th Anniversary has been widely promoted in GRCA publications like the Grand Actions newsletter and at events like the Heritage Day Workshop and Celebration.
	 The GRCA corporate letterhead in 2014 displays a Canadian Heritage River designation anniversary graphic.
	 GRCA staff designed banners which illustrate heritage aspects of the river along with a brief description of the designation. The banners will move around between GRCA parks and local heritage events where they can be seen by a large number of people. There are also a set of

Type of Benefit	Description
	banners being displayed in GRCA's head office lobby (Appendix 1 – Heritage River Banner Stand Design).
	 The GRCA Photo Contest this year includes three categories: riverscapes, recreation and historic photos. All three categories offer participants a chance to document and celebrate the heritage of the river.
	 GRCA will award special Heritage River Watershed Awards this year in honour of the 20th anniversary of the designation. The awards will be presented to groups, individuals or organizations that have advanced and supported the human heritage and recreational values for which the river was designated.

CHRS Commemorative Plaque Inventory

CHRS Commemorative Plaque Inventory Report		
Name/Job Title of Inspector	Melissa Larion, Policy Planner	
Plaque Title	Grand River	
Location	Cambridge	
GPS Coordinates	80°18'57.5"W 43°21'45.48"N	
Size of Plaque	35.5"x60"	
Languages	English, French and Mohawk	
Date Plaque Installed	1994	
Mount Description	Metal poles	
Description of Location	Mill Race Park, downtown Galt	
Photo Inventory	See Appendix 2	
All photos taken July 8, 2014		
Name/Job Title of Inspector	John Brum, Resource Planner	
Plaque Title	Nith River	
Location	New Hamburg	
GPS Coordinates	80°42'44.70"W 43°22'40.25"N	
Size of Plaque	36"x30"	
Languages	English and French	
Date Plaque Installed	2004	
Mount Description	Metal pole	
Description of Location	Scott Park, New Hamburg	
Photo Inventory	See Appendix 2	
All photos taken June 11, 2014		
Name/Job Title of Inspector	Crystal Allen, Supervisor of Natural Heritage, GRCA	
Plaque Title	Eramosa River	
Location	Eden Mills, Wellington County	
GPS Coordinates	80°9'0.63''W 43°34'14.91"N	
Size of Plaque	36"x24"	
Languages	English and French	
Date Plaque Installed	2004	
Mount Description	Metal pole	
Description of Location	Approximately 18 metres south of the river on the east	
	side of 1 st Line, north of River Glen Path	

CHRS Commemorative Plaque Inventory Report		
Photo Inventory	See Appendix 2	
All photos taken June 5, 2014		
Name/Job Title of Inspector	Nathan Garland, Resource Planner, GRCA	
Plaque Title	Conestogo River	
Location	St. Jacobs, Township of Woolwich	
GPS Coordinates	80°33'12.2"W 43°32'30.5"N	
Size of Plaque	36"x30"	
Languages	English and French	
Date Plaque Installed	2004	
Mount Description	Cement and stone	
Description of Location	South side of Northside Drive approximately 11	
	metres west of King Street North	
Photo Inventory	See Appendix 2	
All photos taken June 9, 2014		
Name/Job Title of Inspector	Jason Wagler, Resource Planner, GRCA	
Plaque Title	Speed River	
Location	Guelph	
GPS Coordinates	80°14'43.72"W 43°32'52.46"N	
Size of Plaque	36"x30"	
Languages	English and French	
Date Plaque Installed	1999	
Mount Description	Stone	
Description of Location	Across from the River Run Centre off Woolwich	
	Street on the south bank of the river	
Photo Inventory	See Appendix 2	
All photos taken June 26, 2014		

Conclusions

The Grand River and its major tributaries continue to meet the guidelines as set out by the CHRS for cultural and recreational values and is worthy of maintaining its designation. In the 20 years since its designation, the River has seen a lot of changes. However, great efforts and accomplishments continue to be made with the help of the many organizations, agencies, groups and individuals that work together to maintain, protect and promote the river's valuable human heritage resources. Although the river was not designated based on its natural heritage values, great strides have been taken over the last 10 years to maintain and protect the rivers vast ecosystems and the flora and fauna that reside within them.

The Canadian Heritage Rivers designation has had a positive effect in promoting the Grand's recreational, cultural and natural heritage opportunities. The Heritage River Survey results suggest that many people are aware of the Canadian Heritage River designation and feel that it has increased the profile of the river and its heritage opportunities – from canoeing and birding to historic walks and nature interpretation. The results also suggest that the designation has even attracted visitors from outside of our watershed, thereby enhancing local tourism and business prospects.

Recommendations - Moving Forward

The Grand River Conservation Authority and its partners will further implement the recommendations outlined in *The Grand Strategy* through public outreach and education as well as research, planning and management of our heritage resources. We will strive to look for new and innovative ways to celebrate the Grand's Canadian Heritage River status and meet the challenges and threats to its heritage values. This year marks a big year for the river and watershed residents as we continue to honour the 20th Anniversary of the designation through a number of celebratory events, activities and publications.

Annual and decadal Monitoring Reports will continue to be submitted to the CHRS as required through the CHRS Principles, Procedures and Operational Guidelines.

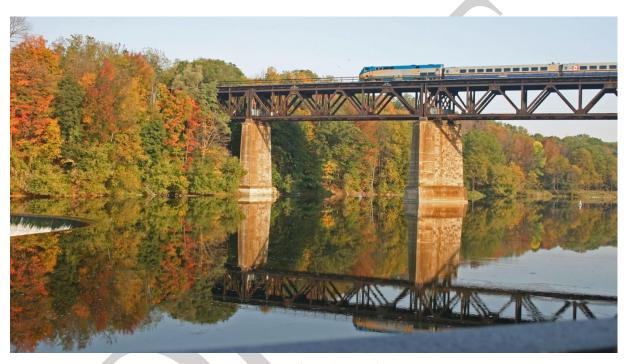


Photo Credit: Brian Davies

References

- Authority, G. R. (Director). (Date Uknown). *One Day in May* [Motion Picture].
- Authority, G. R. (Director). (Date Unknown). *One Day in May* [Motion Picture].
- Barbara J. Veale, Grand River Conservation Authority. (2004). A Decafe in the Canadian Heritage Rivers System: A review of The Grand Strategy 1994-2004. Cambridge, Ontario, Canada: Grand River Conservation Authority.
- Benjamin, L. (2013). Arch Truss and Beam The Grand River Watershed Heritage Bridge Inventory. Waterloo, Ontario: Heritage Resources Centre.
- Carolinian Canada. (1994, June). The Uniqueness of Carolinian Canada. Retrieved April 30, 2014, from Carolinian Canada: https://caroliniancanada.ca/legacy/FactSheets CCUniqueness.htm
- Grand River Conservation Authority. (1994). The Grand Strategy for Managing the Grand River as a Canadian Heritage River. Cambridge, Ontario: Grand River Conservation Authority and Ontario Ministry of Natural Resources.
- Grand River Conservation Authority. (2004). A Decade in the Canadian Heritage Rivers System: A Review of the Grand Strategy 1994-2004. Cambridge, Ontario: Grand River Conservation Authority and Ontario Ministry of Natural Resources.
- Grand River Conservation Authority. (2007). Paddling the Grand River. Lorimer.
- Grand River Conservation Authority. (2010, September). Cumulative Effects Assessment (Water Quality and Quantity) Best Practices Paper for Below-Water Sand and Gravel Extraction Operations in Priority Subwatersheds in the Grand River Watershed. Cambridge, Ontario: Grand River Conservation Authority.
- Grand River Conservation Authority. (2010). Fishing the Grand River brochure. Cambridge, Ontario: Grand River Conservation Authority.
- Grand River Conservation Authority. (2014). Grand River Watershed Water Management Plan Final Draft. Cambridge, Ontario: Grand River Conservation Authority.
- Grand River Conservation Authority. (2014, June). Your Guide to Grand River Parks . Cambridge, Ontario, Canada: Grand River Conservation Authority.
- Grand River Country Tourism Alliance. (2010). Trails Take Flight. Ontario, Canada: Grand River Country Tourism Alliance.
- Jacob, K. (2004). Grand River Country Trails 2. Cambridge, Ontario: Grand River Conservation Authority.
- Jacob, K. (2006). Footsteps Along the Grand. Cambridge, Ontario: Grand River Conservation Authority.
- Lake Erie Source Protection Region Technical Team. (2008). Grand River Watershed Characterization Report- Draft.
- MacDougall, T., & Ryan, P. (2012). An Assessment of Aquatic Habitat in the Southern Grand River, Ontario: Water Quality, Lower Trophic Levels and Fish Communities. Port Dover, Ontario: Lake Erie Management Unit: Provincial Service Division, Fish and Wildlife Branch, Ontario Ministry of Natural Resources.
- May, S. (. (2010). Fishing Ontario's Grand River Country 2nd. ed. Cambridge: James Lorimer and Company Limited.
- Ontario Ministry of Natural Resources. (2004). Grand River Tailwater Fisheries Management Plan. Queen's Printer for Ontario.
- Quaile, D. (2007). Eramosa Anecdotes. Wordbird Press.

Seedhouse, T., & Robinson, S. (2004). *Grand Old Bridges: The Grand River Wastershed Bridge Inventory*. Robinson Heritage Consulting.

Snyder, P. E. (2005). Painting the Grand River Valley.

Water Management Plan Assimilative Capacity Working Group. (2012). Assessment of Future Water Quality Conditions in the Grand and Speed Rivers.



Appendix 1 - Heritage River Banner Stand Design





GRAND'S
GRAND'S
HUMAN HERITAGE

FACULE

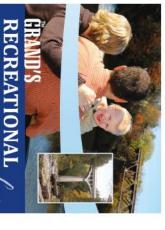
The cultural features, values and landscapes of the Grand River valley tell the story of our past and provide a significant contribution to Canada's history.

www.grandriver.ca

In 1994, the Grand River and its major tributaries, the Nith, Conestogo, Speed and Eramosa rivers, were designated as Canadian Heritage Rivers for their human heritage and recreational values.







Appendix 2 - Canadian Heritage River Plaques

Grand River Plaque



Speed River Plaque







Nith Plaque







Eramosa Plaque

