

Grand River

http://www.ccge.org/resources/rivers_of_canada/grand_river/default.asp

Ontario's historic heartland

Original First Nation name: Tinctuoa

Current official name: Grand River

Source: South-central Ontario, below Georgian Bay

Mouth: Lake Erie

Direction of flow: south

Length : 290 kilometres

Main Characteristic: history of harmonious human occupation.



The Grand River winds through the historic heartland of Ontario. There are moments of great drama when it squeezes through deep gorges and drops across steep rock faces. But, most of the time, its pace is calm and its surface flatter than the fields of the prosperous farms that flank it.

The pastoral beauty and cultural richness of its watershed echo in the lyrical names of the river's main tributaries: the Nith, the Conestogo, the Speed and the Eramosa Rivers. It is the river that inspired Native poet Pauline Johnson to write, *The Song My Paddle Sings*.

The Grand flows due south 290 kilometres from just below Georgian Bay and then jogs eastward to its end in Lake Erie. Eventually, the waters of the Grand and its tributaries tumble over Niagara Falls on their long journey down the Great Lakes-St. Lawrence River system to the Atlantic

Ocean.

The Grand River and its lush watershed have served the needs of humans for thousands of years. Archeologists have unearthed evidence that the banks of the Grand were cultivated 1,500 years ago. Before that, according to long-buried evidence, human habitation closely followed the last retreat of the glaciers, 10,000 years ago.

In 1784, the entire Grand Valley was given to Iroquois Natives who had sided with the British in the American War of Independence. The Iroquois Loyalists subsequently sold most of the land to immigrant settlers from the United States, England, Scotland, and Ireland. The Six Nations Reserve south of Brantford is all that remains of the Native land agreement.

The new immigrants brought agriculture and industry to the valley. The Grand has survived the age of steam and smoke to become a clean, healthy recreational treasure for the millions of people who live within a few hours drive of it.

All along the Grand, there are relics of old stone mills built to grind the grain of pioneer settlers. They stand like sentries guarding memories of an age when the recipe for rural prosperity was good soil, hard toil, and water power to mill flour, saw wood, and weave cloth.

The coal-fueled steam age was glorious, but brief, in the green valley of the Grand. Abandoned railway lines hang over the river on bridges of stone and steel. These magnificent structures once trembled under the weight of trains powered by smoke-snorting locomotives whose screaming steam whistles and clanging brass bells warned daredevil youngsters that train bridges were not safe platforms from which to dive or to dangle worms.

Today, those bridges still serve the Grand. But now hikers cross them in safety, while in the shade of their limestone piers, fly fishers cast their feathered hooks over the rising snouts of grazing trout.

Some riverside scenes have not changed much since pioneer times. Neat farms owned by Mennonites carpet the middle reaches of the valley. Some of these long-ago immigrants from Pennsylvania and Germany move about in plain, always black, automobiles. But many Mennonites still ride to church and town in simple, hand-made buggies drawn by horses that know their way along back roads, left unpaved to cushion the animals' hooves and legs.

The lower reaches of the Grand River Valley became home to Loyalists of British descent. Their influence is very visible today in the well-ordered cities of Cambridge, Paris and Brantford.

Few other regions have matched the Grand River valley's remarkable ability to preserve its historical heritage while maintaining its position at the forefront of economic and social change.

Not far from the most conservative Old Order Mennonite farmers, who plow their fields with teams of heavy workhorses, the University of Waterloo educates some of the world's most talented computer software developers. Ambitious graduates who are attached to the quality of life in the region have created a local software industry that sells its products around the globe.

The Grand was officially designated a Canadian Heritage River in 1994. Unlike most other Canadian Heritage Rivers, the Grand was not honoured for its beauty and integrity as a natural wilderness. Instead, the Grand was designated because of its harmony with human settlement around it.

Grand River - Bloom Town

http://www.ccge.org/resources/rivers_of_canada/grand_river/bloom_town.asp

The flowering of an old-style Ontario Town

Brantford likes to boast that it has the "best blooming streets" in Canada.

One reason for the profusion of flowered gardens is the mild climate. Brantford is tucked between the Great Lakes which act like a huge, automatic climate control. In summer, the Great Lakes absorb heat keeping the air temperature cool. In winter, they give the heat back by warming frigid air blowing in from the north and west.

Brantford has grown up gracefully from beginning as a mill town serving surrounding farms. Its shaded streets of well-maintained red-brick homes make Brantford a cultural anchor in a sea of economic and social change.

Another of its proud claims is the conception of the telephone in 1874 by a resident teacher of the deaf, Alexander Graham Bell. While Bell actually made and first tried his device while living in the United States, Brantford boasts that he developed the idea at the Bell family homestead, the city's best-known tourist attraction.

Rapid economic growth and immigration have changed the physical appearance and cultural definition of southern Ontario. Brantford, while prospering from that development and enrichment, is unique in retaining the visual character of old Ontario, neat, sure of itself, and in no great hurry to change. Brantford's Loyalist roots are still firmly in place.

Grand River - The Grand's Canyon

http://www.ccge.org/resources/rivers_of_canada/grand_river/grands_canyon.asp

Tourism powers an old mill town

Elora, a well-preserved village of stone houses, sits at the head of the Elora Gorge, an unusual limestone canyon with caves, rapids, and waterfalls. On hot summer days, the gorge echoes with the shrieks and laughter of young people shooting rapids in inner tubes and plastic kayaks.

Islet Rock, also known as the Tooth of Time, is a lone island of rocks and trees amidst the falls of Elora. In 1902, a mill owner wanted the rock removed because it was deflecting water against the walls of his mill. Instead, the town reinforced the rock with steel and cement in the hope that it would last forever.

Tourism is now Elora's most important industry. The Elora Mill itself has been converted to a country inn. Many of the town's stone homes and industrial buildings have been transformed into tourist shops and restaurants. Mennonite farmers sell crafts and farm products from tables set up on sidewalks.

Most of Elora's buildings are of stone, built from local quarries adjacent to the Grand River. The quaint charm of the village, coupled with the beauty of the Gorge, make Elora one of the favourite tourist destinations in southern Ontario.

Elora and its gorge are the visual jewels of the Grand River valley.

Grand River - Grinding Along the Grand

http://www.ccge.org/resources/rivers_of_canada/grand_river/grinding_grand.asp

Stone mills lined the riverbanks

Almost every town along the banks of the Grand River has a visible industrial heritage. The communities along the banks of the Grand River and its tributaries grew up around mills powered by the flow of a river or stream. The houses of the mill owners and workers were the first to be built. Soon, whole towns grew up to service the commercial needs of mill, workers, and customers.



Usually, the first mills built were the sawmills.

The vast surrounding forest stands offered a source of lumber with which to transform settlers' log cabins into substantial frame homes, many of which continue to provide shelter and comfort today.



As the timber lands were cleared, mill sites were converted to the grinding of grain grown on the new farmlands. Dickson Flour Mill in Cambridge is one example. Later, as industry developed, many of the better mill sites were exploited for the production of woollen goods. Pattinson Woollen Mills, also in Cambridge, is evidence of this evolution. Some water-powered mills provided mechanical energy for factories. Grand River factories produced everything from safes to furniture.

Finally, hydroelectric plants were constructed to convert water power into energy that could be transported by wire to homes and businesses. One original site, the Elora Mill in Elora, has been fitted with a modern, compact hydroelectric turbine and generator to provide power for the inn that now occupies the old stone mill.

Just south of Paris, on Whiteman's Creek, is App's Mill. Built about 1840, the mill was bought by a family named Apps in 1856. The family ran it for 100 years, grinding grain for local farmers. The original mill was powered by an "undershot" water wheel. The wheel was replaced by turbines in the early 1920s.

The opening of prairie grasslands to grain farms whose crops could be carried to Ontario by the new Canadian Pacific Railway reduced wheat growing in the East. The mill's source of power was hurt by the diversion of water upstream for agriculture. The final blow came in 1954 when a hurricane washed out the riverbank at one end of the mill dam.



In 1970, Apps' Mill was purchased by the Grand River Conservation Authority. The basic structural components are still intact and the miller's house and adjacent piece of land that includes a woodlot, meadow and stream habitats have been preserved and restored. Today, Apps' Mill is still vibrant, with a nature centre that opened in 1981. The sights, sounds and smells of an authentic working mill are still alive in this relic of the Industrial Age in southern Ontario.

Grand River - High-Rise Herons

http://www.ccge.org/resources/rivers_of_canada/grand_river/highrise_herons.asp

Big swamp birds thrive in a wetland haven

Attempts in the 1800s to farm the area around Luther Marsh failed because the land had poor natural drainage. The problem was made worse by the clearing away of trees and natural vegetation which retain much of the runoff from rain and melting snow. Flooding became an annual problem.

Construction of a flood control reservoir in 1954 created what is now one of the most significant inland marshes in southern Ontario. Luther Marsh has since become a valuable staging and breeding area for waterfowl and other species of marsh wildlife.

Two observation towers allow visitors to view the marsh from a distance without disturbing the breeding sites of its wide variety of birds. The best way for naturalists to access the interior of the marsh is quietly - by canoe.

High-rise, artificial, nesting platforms have attracted many herons to the marsh. These long-necked, long-legged wading birds hunt for small fish, insects, amphibians, reptiles, and crustaceans in shallow water.

The egret, merlin, osprey, red-necked grebe, canvas back, lesser scaup, and Wilson's Phalarope are just a few of the 237 species of birds that can be observed in the marsh.

Grand River - Home and Native Land

http://www.ccge.org/resources/rivers_of_canada/grand_river/home_native_land.asp

Homestead of the Six Nations

After it lost the war with its rebellious Thirteen Colonies, Great Britain rewarded the Iroquois First Nations, who had sided with the British, a tract of land about seven kilometres wide on either side of the Grand River.

The Iroquois First Nations, under Chief Thayendenaga (Joseph Brant), had fought alongside the British because they were well aware that the revolutionaries intended to expand into their lands. Britain promised the Iroquois it would recognize their ownership and prevent westward settlement.

Over the years most of the land grant was sold to speculators who resold it to non-Native settlers. All that remains of the original tract of land is about 18,000 hectares downstream of Brantford. The challenge facing the Reserve residents is to survive and thrive on a limited land area. Farming is still important but no new land is being cleared for it.

The Six Nations population now numbers about 10,000 descendants of the members of the old Iroquois Confederacy.

The Cayuga and Mohawk languages are taught in the Reserve's elementary schools. Lacrosse, Canada's official national game, is an Iroquois sport that is popular among young people. Traditional skills of hunting, fishing and living off the land are still being passed from generation to generation.

Six Nations Wildlife Management has assumed a role in caring for the Grand River's more sluggish, lower reaches. Located in the so-called economic Golden Triangle of southern Ontario, the Reserve is vulnerable to toxic pollution from industry in upstream cities such as Kitchener and Waterloo. Agricultural pollutants include cattle feces, urine, fertilizers, and pesticides.

The Six Nations recently signed an agreement with neighbouring municipalities that would notify all of them of any development plans for the lower watershed of the Grand. Any community could then express its concerns and influence the development plans.



Grand River - Old Order

http://www.ccge.org/resources/rivers_of_canada/grand_river/old_order.asp

Mennonites set their own pace of change

Drive along a country road on a summer Sunday near St. Jacob's and you will surely be surprised by scenes that seem to jump out straight from the past.

Young men dressed in identical white shirts, fedoras, trousers, and suspenders spend the afternoon playing baseball outside their Mennonite meeting house. Then, at the approach of milking time, they quit the game and climb into their black, horse-drawn buggies for the ride home.



Surrounded by the rush and urban sprawl of southern Ontario, the Mennonite communities of the Grand River valley have determined their own pace of change. Mennonite commitment to a simple, self-sufficient life dates back to the German Protestant Reformation of the 16th century. They were radicals, then, in their demands that the church give up its worldly wealth and political powers. Today they seem to be extreme conservatives in their attachment to older ways of life.

The first Mennonite settlers in Ontario travelled from Pennsylvania in Conestoga wagons in the 18th century in search of religious liberty and inexpensive land. They were not pioneer settlers in the truest sense because they purchased their land from a speculator who had acquired it from the Six Nations Reserve.

The Mennonite newcomers created autonomous agricultural communities in which they could practise their religion freely. New Mennonite groups joined them from Europe. These were Amish Mennonites who followed a stricter code of behaviour.

There was not a strong emphasis on higher education for young people. Hard work, without the benefit of electricity or modern technology, was the rule. The rules of the community were respected as much as the laws of the country.

The Mennonite community in the late 1800s divided into one group ready to accept a faster pace of change and another conservative collection of "Old Order Mennonites." Horses still cultivate fields of Old Order farms that prosper without electricity or motors. Women still dress in bonnets and long dresses that were in fashion a century ago. But the Old Order represents only about five percent of the total Mennonite population.

The Old Order desire to live apart includes their refusal of government programs such as old age pensions, family allowances, and medical insurance. The rules of their church and Order dictate that the community provide the social services and security for its members - things most Canadians expect of their government.

St. Jacobs is the commercial centre of Mennonite life in the Grand River valley. Located just upstream from the Grand on its tributary, the Conestogo River, St. Jacobs is where Mennonite farmers and businesses trade with each other and with the tourists who crowd its streets on summer days.

Grand River - Old Order

http://www.ccge.org/resources/rivers_of_canada/grand_river/plaster_paris.asp

A town arises from gypsum and cobblest

The picturesque town of Paris got its name, and its early prosperity, from the nearby deposits of a mineral called gypsum. According to the Canadian Gazetteer of 1846, the town was named Paris "because of the large quantities of gypsum, or "Plaster of Paris," found in the immediate neighborhood.

Nowadays, plaster is sandwiched between paper sheets and delivered in flat panels to construction sites. In older times, it was delivered as a powder, mixed with water, and smoothed onto wood or metal supports to make interior walls. "Plaster of Paris" is the term still given to the material is used by sculptors to make molds.

Paris was built in the 1800s in a style of stonework unknown elsewhere in Canada, but common in New York state. The buildings are erected of small cobblestone blocks of grey limestone. The architecture of downtown Paris remains much as it was then.

Levi Boughton was a stone mason who worked on the Erie Canal, and who came north to Canada upon completion of that work. In building many of Paris' more substantial homes and buildings such as churches, he employed a "cobblestone" construction technique that used round, river-washed stones as the exterior layer of the stone buildings. This gave the buildings a distinctive, patterned appearance, and a direct connection to the river. Many of these buildings are now historic landmarks, and are maintained with great pride by Paris residents.

Grand River - Raising Rainbows

http://www.ccge.org/resources/rivers_of_canada/grand_river/raising_rainbows.asp

Rehabilitating a tired, industrial river

Fat, robust, brown trout and rainbow trout are now caught by fly fishers in riffles and pools that once were poisoned with industrial and domestic sewage.

The people who live along rivers pollute them, often with little regard for the river's health. The water quality of the Grand has suffered over the years, and the Grand River Conservation Authority has spent the last decade trying to improve it. One of the main goals is to increase habitat diversity, because any cold water stream that can support a wide diversity of aquatic life is a healthy one. Cold water streams are those with temperature ranges of 18 to 20 degrees Celsius. The survival and health of trout are one of the best indicators of a stream's condition.

There are three consecutive steps in rehabilitating of a stream to make it suitable for trout. The first involves removing accumulated debris, whether natural or human made. Vegetation along the banks may be cut back to let the water flow faster and to encourage root growth which stabilizes the banks. Beaver dams and obsolete man-made dams are removed. Such dams collect silt, increase the water temperature and slow the stream's natural rate of flow.

The second step involves enhancing the stream's natural flow. When the natural channel of the river takes shape after flushing the sediment and exposing gravel beds, the channel can be stabilized by building flow deflectors of rocks, brush, or log cribs to guide and maintain the natural flow. Sometimes cedar "sweepers" are installed along weak parts of the bank. The cedar branches trap waterborne silt, and this starts to rebuild the bank. Grasses and trees are planted along newly re-established banks to stabilize them.

The third and final step involves improving the habitat for trout, which need clear, clean water that is rich in dissolved oxygen. Trout like to shelter under overhanging banks, so artificial overhangs are created where needed. Often rocks are added to the stream so that fish can rest behind them, out of the direct force of the current.

Gravel is added to the stream to provide fish with a place to spawn. Fish build nests for their eggs by swishing their tails over the gravel beds to make small depressions called redds. The eggs are deposited in the redds, fertilized by milt from the male, and then dropped into the gravel where they are protected against predators until they hatch.

Today, brown and rainbow trout can now reproduce naturally in sections of the Grand River and its tributary streams. However, the river has become well known to anglers in Canada and the United States, and is now heavily fished. Most fly fishers are encouraged to release their catches alive, through special angling regulations and education programs.

Trout stocking continues, however, and wild strains are now being introduced to supplement stocked fish.

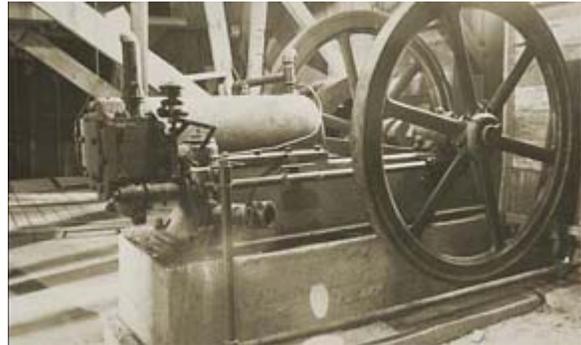
Grand River - Sausages to Software

http://www.ccge.org/resources/rivers_of_canada/grand_river/sausages_software.asp

The Industrial Evolution

The 19th century saw a proliferation of industry along the Grand. The river was ideally suited for factories because of its water power and the industrious tradition of its inhabitants.

As well as being efficient farmers, German-speaking Mennonite settlers took pride in their fine craftsmanship. Among the immigrant Mennonites were expert woodworkers, weavers, wagon makers, tailors, shoemakers, potters, and leather makers. German food culture made Kitchener the best-known source of sausages in Canada.



The tradition of making crafts and developing business provided a base for the twin cities of Kitchener-Waterloo to grow into a solid economic community. Leading industries include meat packing, electronics manufacturing, and, most recently, software development.

The driving force behind the software and computer companies in this area is the University of Waterloo. When business people and educators got together to form the new university in 1950s, they were primarily interested in developing the engineering skills of the local workforce. The educational goals of Waterloo University have continued to be aligned with the needs of business and industry. Today, this means a strong emphasis on computer and software innovation.

Computer Science graduates of the University of Waterloo find challenging, well-paying jobs throughout North America. Many others have chosen to stay close by and start their own computer-related businesses. These businesses, in turn, create more jobs for graduates, and more opportunities for well-trained entrepreneurs.

The newest co-operative project involving the University of Waterloo, the Grand River Foundation, and private enterprise, is the development of software for use by high schools to track their own community histories, significant natural areas, and historical buildings and features.

Grand River - Grand Stand

http://www.ccge.org/resources/rivers_of_canada/grand_river/grand_stand.asp

Survival of a river valley forest

In southern Ontario, the Grand River winds scenically southward past high bluffs and wide floodplains. Between Cambridge and Paris, the Grand River Forest runs along the river valley for 20 kilometres. The topography here was shaped by glaciers that pushed their accumulations of earth and stone into small hills and hollows.

Stands of maple, beech, oak, and hickory flourish on warmer, drier sites. The near-wilderness atmosphere that prevails throughout the Grand River Forest is exceptional in such a rapidly developing urban region.



The Grand River Forest is Carolinian, meaning that the tree species found here are more common in the southern United States, in the "Carolinas," meaning North and South Carolina. In the protected river valley, these trees are at the northern limit of their range. Accompanying trees are many of the plants and animals associated with warmer climates to the south.

Canoeists, kayakers, campers, and cross-country skiers make maximum use of the Grand River forest as a first-rate, year-round recreational environment.