



At the entrance to Morton Bay

## Rideau Paddling Guide 4

### Brass Point Bridge to Jones Falls

*(includes Little Cranberry Lake, Whitefish Lake and Morton Bay)*

Rideau Canal National Historic Site & World Heritage Site, Ontario, Canada

by

**Ken W. Watson**

This area bounded by the middle of Cranberry Lake at the south end and Jones Falls lockstation at the north end. It includes Whitefish lake, Little Cranberry Lake, Morton Bay and part of Cranberry Lake. The area provides great day paddling experiences and features narrow sections and winding shorelines and so can be paddled even when the wind is up. The map included in this guide can be enlarged (while viewing the PDF) to any level of detail you desire.

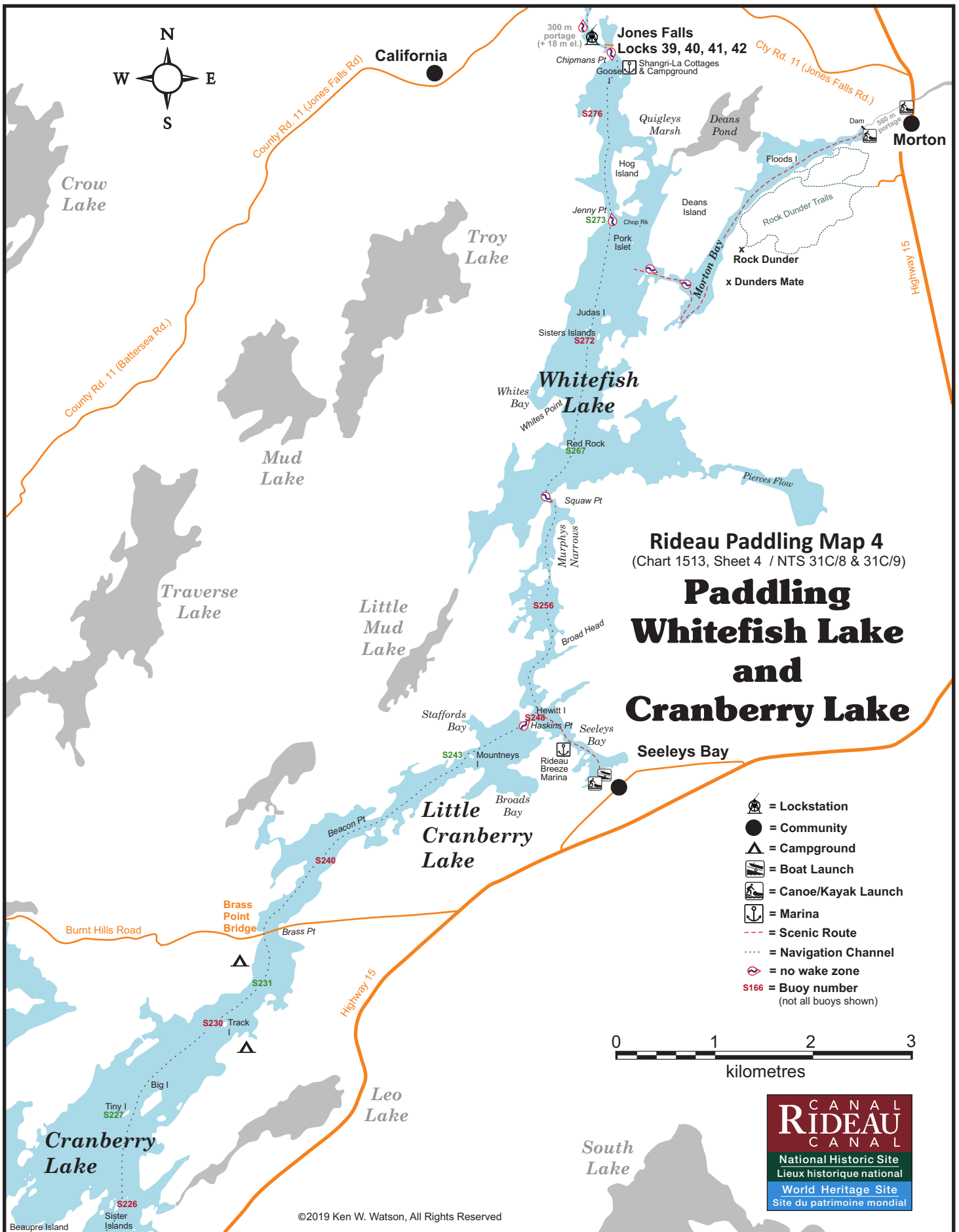


No specific route descriptions have been given for paddling the lakes - you should explore these on your own. The detailed map in this guide will allow for travel planning. However, for those just paddling through the lakes (going lock to lock), a scenic route has been suggested.

### Water Access

**Cranberry Lake:** The easiest point of access is Upper Brewers Lockstation (see Rideau Paddling Guide 3) which has lots of parking and a small gravel ramp.

**Whitefish Lake:** There are two options in Seeley's Bay - one is the Paddling Station in Centennial Park (accessed via Haskins Point Road) which has a paddling dock (44° 28.695'N - 76° 14.290'W). The other is the launch ramp and public docks (44° 28.730'N - 76° 14.210'W). Near Morton there is a public dock and a paddling dock (Parks Canada) with a small parking lot by the dam at the end of Morton Bay (at 44° 32.210'N - 76° 12.250'W, accessed by road from Morton). You can also launch from the Shangri-La Cottages & Campground (at Jones Falls) for a fee. There are also campgrounds on Cranberry Lake that provide access to the water.



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## **Facilities**

**Lodging:** If you're paddling and camping, the lockstations are a good choice for camp spots (a camping fee applies). There are also several campgrounds and some B&Bs. For information about local accommodations see: [www.rideau-info.com/canal/](http://www.rideau-info.com/canal/) and general lodging sites (i.e. Airbnb, bbcanada).

**Supplies:** A local source for supplies is the village of Elgin (off Hwy. 15 opposite Davis Lock Road), which has a grocery store, pharmacy and hardware store. Supplies can also be obtained in Seeleys Bay

## **Big Boats**

You'll be sharing the Rideau with big power boats (cruisers). The Rideau is generally not a crowded waterway and often you'll find the large boats in "packs" - travelling from lock to lock - once they pass by you won't see any for awhile. Some of these boats can generate a large wave. The general rule for a paddler and large waves is to meet them head on, this can actually be fun in a kayak (not as much fun in a canoe).

The main navigation channel is shown on the map as a blue dashed line - this is where the big boats will be travelling. So, if you wish to avoid these, pick a route away from the navigation channel. Many paddlers prefer paddling near shore, it's more interesting (i.e. wildlife, cottages) and it keeps you farther away from the waves produced by big boats.

There are several "no wake" zones on the Rideau - these have been marked on the maps. Boaters within these areas are supposed to be travelling at a slow enough speed (less than 10 kph) that their boat doesn't generate any potentially damaging or dangerous waves. .

## **Wind**

A question often asked is which way does the wind blow? The prevailing wind, powered by the jet stream, is from the southwest. That's about the only rule of thumb. If a front is moving in then the wind can come from any direction. I've been on several paddles where I've been paddling into the wind on the way out in the morning and into the wind on the way back in the afternoon because the wind swung around 180 degrees (for some reason it never seems to work the other way around - at your back both ways). So, if you're going to travel the entire Rideau, going from Kingston to Ottawa improves the odds of having the wind at your back - but be prepared for anything.

## **Etiquette**

Your trip planning should include a "leave no trace" approach - carry out what you carry in. Many areas are un-serviced (no garbage cans) - so plan to be self-contained. The lockstations provide waste disposal facilities.

## **Preparation & Safety**

Please read the trip planning information on [www.rideau-info.com/canal/paddling/](http://www.rideau-info.com/canal/paddling/). While these lakes are easy paddling, normal paddling preparations should be made (all required safety gear, maps, food,

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water, first-aid kit, etc.). Zebra mussels are present in many areas along the Rideau, so a pair of water shoes (to avoid cut feet) is recommended.

Please take all normal safety precautions, including checking the weather forecast before you head out and making sure that someone on shore knows your planned travel route and itinerary

### **Navigation**

While the Rideau is generally easy to navigate, taking along a set of maps is a must (in addition to any electronic device (GPS/Smartphone) you might have). Although the map in this guide is an accurate 1:50,000 representation of the waterway (when printed to 8.5" x 11"), you may also wish to also have the 1:20,000 hydrographic chart for this section (Chart 1513). For power boat navigation, the charts are an absolute must (the map in this guide should not be used for power boat navigation). The charts are also very handy for the paddler, since they show the Rideau in great detail, including depths (which can be helpful when looking for wildlife habitat or just interesting places to paddle).

The charts also show all the navigation buoys. These are all numbered (red buoys have even numbers, green buoys have odd numbers) and so can be used as an aid in locating yourself on the map when you're on open water. A subset of those buoy numbers have been included on the paddling guide maps.

For those wishing to go off the beaten path or want to know more of the topography and geographic features of the surrounding countryside, the 1:50,000 NTS maps for this section are 31C/8 and 31C/9.

### **The Locks**

Most Rideau lockstations offer facilities such as washrooms, water, recycling cans, waste cans and picnic tables. Most also allow camping for paddlers travelling the Rideau for a modest camping fee. Paddlers can portage the locks for free, but you owe it to yourself to lock through at least one lock in order to get the full experience of paddling the Rideau Canal. See [www.rideau-info.com/canal/](http://www.rideau-info.com/canal/) for the current fee schedule.

### **Distances:**

Circumference distances are approximate, following the main shorelines. The navigation channel and the scenic routes are shown on the map.

- Upper Brewers to Brass Point Bridge along navigation channel: 6.5 km (4.0 mi)
- Brass Point Bridge to Jones Falls along navigation channel: 10.8 km (6.7 mi)
- Scenic Route from navigation channel to Seeleys Bay (return): 1.7 km (1.0 mi)
- Scenic Route from navigation channel into Morton Bay (return): 7.0 km (4.3 mi)
- Whitefish Lake Circumference (main shorelines): 28 km (17.4 mi)
- Little Cranberry Lake Circumference (main shorelines): 21 km (13.0 mi)
- Cranberry Lake Circumference (main shorelines): 33 km (20.5 mi)  
(entire lake: Fiddlers Elbow to Brass Point Bridge)

## **The Lakes**

### **Cranberry Lake**

In the pre-canal era this was a very small lake (the area north of Beupre Island bounded by the west shore, Big Island and Track Island). It was greatly expanded by the flooding caused by the canal dam at Upper Brewers lockstation (water impounded in conjunction with the canal dam at Morton). The deepest part of the lake at 17 feet (5.2 m) in the original lake section, the rest of the lake averages about 10 feet (3 m) in depth.

In the pre-canal era, the area from the Round Tail (just north of Upper Brewers Locks - see Map 3) to Deans Island (in the north end of Whitefish Lake), was the Cranberry Flood Plain. It was above water in the summer (non-navigable). This former flood plain, filled with sediment to form an almost flat bed, provides a contrast of high steep cliffs (particularly on the western shore) plunging into shallow water, not the deep water that the topography would imply.

The land bordering the lake is privately owned (the exception being the federally owned Beupre Island, the southern section of which is leased to a private owner). Much of the lake has moderate density cottage and summer home development.

### **Little Cranberry Lake**

This is a man-made lake - in the pre-canal era it was part of the Cranberry Flood Plain, an area of forest, streams, ponds and marshes. The lake was created by the canal dams at Upper Brewers and at Morton. The water depth in the lake (near the navigation channel) averages about 9 feet (2.7 m).

### **Whitefish Lake**

This is a man-made lake - in the pre-canal era the northern part of the lake was the White Fish River and the southern part was the northern end of the Cranberry Flood Plain. Prior to the lake being created by the flooding from the dams at Upper Brewers and Morton, the Jones Falls Rapids marked the start of the White Fish River which flowed past Hog Island, around the south end of Deans Island, through Morton Bay and over White Fish Falls (location of the dam today) before continuing to Lower Beverley Lake and eventually to the St. Lawrence River at Gananoque. The southern part of the lake was a forest of ash trees which only saw water in times of spring flood.

The depth of the lake itself averages about 9 feet (2.7 m).

### **Morton Bay**

Dominated by the large granite exposures of Rock Dunder and Dunders Mate (part of the Lyndhurst Pluton) on the west side of the Bay, in the pre-mill dam/pre-canal era this was a deep gorge with water levels 20 to 25 feet (7.5 m) lower than they are today. The White Fish River ran through here on its way to White Fish Falls (site of today's canal dam). Today this is a beautiful deep water bay. The water that flows through the dam goes into Morton Creek and on to Lower Beverley Lake (and eventually to the Gananoque River).

## **Points of Interest** (listed south to north)

**Brass Point Bridge:** You can't miss this - a long and narrow steel bridge with wooden decking which incorporates a wooden swing bridge (an unequal arm, center bearing timber swing bridge, one of only four remaining on the Rideau) at the west end. The swing bridge is operated by Parks Canada. This long (148 m / 485 ft) bridge was originally built in 1887. The wooden spans were replaced with steel spans in 1903 and new cribbing was installed in 1978. Paddlers can easily pass under the bridge.

This is the only remaining bridge of this type (multi-span with a swing bridge) on the Rideau Canal. There used to be similar bridges at places such as Rideau Ferry, Becketts Landing, Kars and Manotick - those have all been replaced by high level bridges.

**Little Cranberry Lake:** This is a narrow section connecting Whitefish Lake with Cranberry Lake. There are a number of nooks and crannies that harbour wildlife, so it is worth staying off the navigation channel and paddling along the shorelines.

**Haskins Point:** This spot is named after Samuel Haskin who purchased the point in 1840 and set up commercial wharves to serve steamboat traffic. It was also known for a time as Ferry Point with a ferry service (small hand operated ferry) operating between the point and Hewitt Island, from the late 1880s to 1996.

**Seeleys Bay:** A lovely little village - there are extensive public docks and a ramp, plus a paddling station. The paddling station, located just south of the public docks, features a paddling dock, two large racks that will hold 4 canoes or kayaks each and four large and lock-able stow bins that are big enough for paddles, life jackets and lots of gear. There is also a map and information sign to point people to the nearby public toilets and showers, and info about services in Seeleys Bay.

Although the flooding of the Cranberry Flood Plain in 1832 created the bay we see today, it wasn't until the mid-1800s that the removal of stumps and floating marshes in the bay allowed the village to flourish. It became a regular stop for steamers plying between Kingston and Ottawa.

**Whitefish Lake:** The west side of the lakes features some interesting topography - hills and cliffs. There are lots of interesting-looking cottages along both shorelines.

**Native Paddling Route:** Today we can easily paddle from Kingston to Jones Falls, but in the pre-dam era this couldn't be done. The area from the Round Tail to near the channel entrance to Morton Bay (i.e. part of Cranberry Lake, Little Cranberry Lake and part of Whitefish Lake) was above water. It was a flood plain dominated by forests made up mainly of ash trees, marshy areas, streams and ponds. The main native paddling route to get from the Ottawa River to the St. Lawrence River was via the White Fish River, which had its headwaters in Sand Lake and flowed through today's Morton Bay on its way to the Gananoque River. So, today, if you head into Morton Bay, you'll be floating over part of an original native paddling route (much changed now due to dams and flooding).

**Morton Bay:** This sheltered bay is a very pretty area dominated by large granite outcrops; Rock Dunder and Dunders Mate (part of the Lyndhurst Pluton). Much of the land in the vicinity of Rock Dunder is owned by the Rideau Waterway Land Trust and a trail leads to the top. The trail is a bit hard to access from the water - look for a good landing spot between the peak of Rock Dunder and Floods Island and head uphill until you intersect the trail (see the exact location of the trail on Map 4).

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In the pre-dam era (before 1803), the water level was 23 ft / 7 m lower than it is today – it was a river running through a rocky gorge. The scenery is impressive today, it would have been even more impressive before the water level was raised.

**Morton Dam:** Easy access to the dam is provided by a public dock maintained by Parks Canada at the head of Morton Bay. The dam is near the location of the original mill dam at White Fish Falls, erected by Lemuel and Carey Haskins in about 1803. Haskins' dam blocked the flow of the original White Fish River (the western part of which is now known as Morton Creek), which drained the southern Rideau lakes (Newboro, Clear, Indian, Opinicon, Sand) to the Gananoque River (via Lower Beverley Lake).

Prior to the dam being put in place, this was the main native paddling route from the St. Lawrence River (at Gananoque) to the Ottawa River (at Rideau Falls) since there was no water connection to the Cataraqui River. The original 1803 mill dam, and now the canal dam, stopped the flow to the Gananoque River and diverted it to the Cataraqui River. It is this dam, together with the dam at Upper Brewers, that made the area between Deans Island and Upper Brewers navigable (flooding the Cranberry Flood Plain, the area now occupied by parts of Cranberry, Little Cranberry and Whitefish lakes). The concrete dam that can be seen today was built in 1919 and substantially rebuilt in 1982.

On the north side of the dam, you'll find a trail leading to the top of the cliffs. A wooden guardhouse was built here in 1838 in response to the Upper Canada Rebellion. It deteriorated and was torn down in 1929. Today, a walk to the top provides a fine view.

**Morton Creek Portage Road:** Those interested in a bit of milling history will wish to follow the old road on the south side of the creek (from the parking lot above the dam). About 325 m / 1,075 ft down that road you'll find the remains of George Morton's mill site, originally established in the late 1850s. He had to sell his mills in the 1870s. They burned down in about 1886, but were rebuilt. Today only the foundations remain. In the 1880s, plans were drawn up to put two locks in this location, part of a scheme to make a navigable waterway connecting the Rideau Canal to Gananoque on the St. Lawrence River. It never got off the ground. If you follow this road for another 235 m / 775 ft you'll end up at Highway 15 where there is a launch point into Morton Creek (allowing you to paddle all the way to Gananoque).

**Jones Falls Lockstation:** This is one of the prettiest lockstations on the entire Rideau. It consists of an upper lock, a turning basin and a flight of three locks (total lift of 17.3 m / 56.9 ft). At the foot of the locks is the historic Hotel Kenney (also a snack bar - offering tasty treats). The link from the hotel to the locks is over a wooden bridge, originally built in 1883. This was part of a roadway that led to a swing bridge over the middle lock. Today only the abutments for that swing bridge remain.

You'll find a small visitor centre (with washrooms) near the top of the combined locks. The road leads from there to the upper lock. As you walk up that road and look down, you'll see an old road angling down to Jones Falls Bay. This is part of the original haul road for the stones (sandstone) used in the building of the locks, which were brought by wagon from a quarry near Elgin, 10 km (6 mi) away.

Just below and to the west of the upper lock is a blacksmith's shop built in the 1840s. It sometimes has a blacksmith in attendance.

Above the upper lock is a defensible lockmaster's house (a stone building with gun slits, built in the 1840s), usually open during the summer with an interpreter. It is known as Sweeney House, after the first lockmaster, Peter Sweeney (a diary that he kept while living there with his family is available in book form as *The Sweeney Diary*).

Between Sweeney House and the dam you'll find the waste water weir, blasted (using black powder) through a bedrock ridge (you can still see the remains of some of the hand-drilled blast holes). The

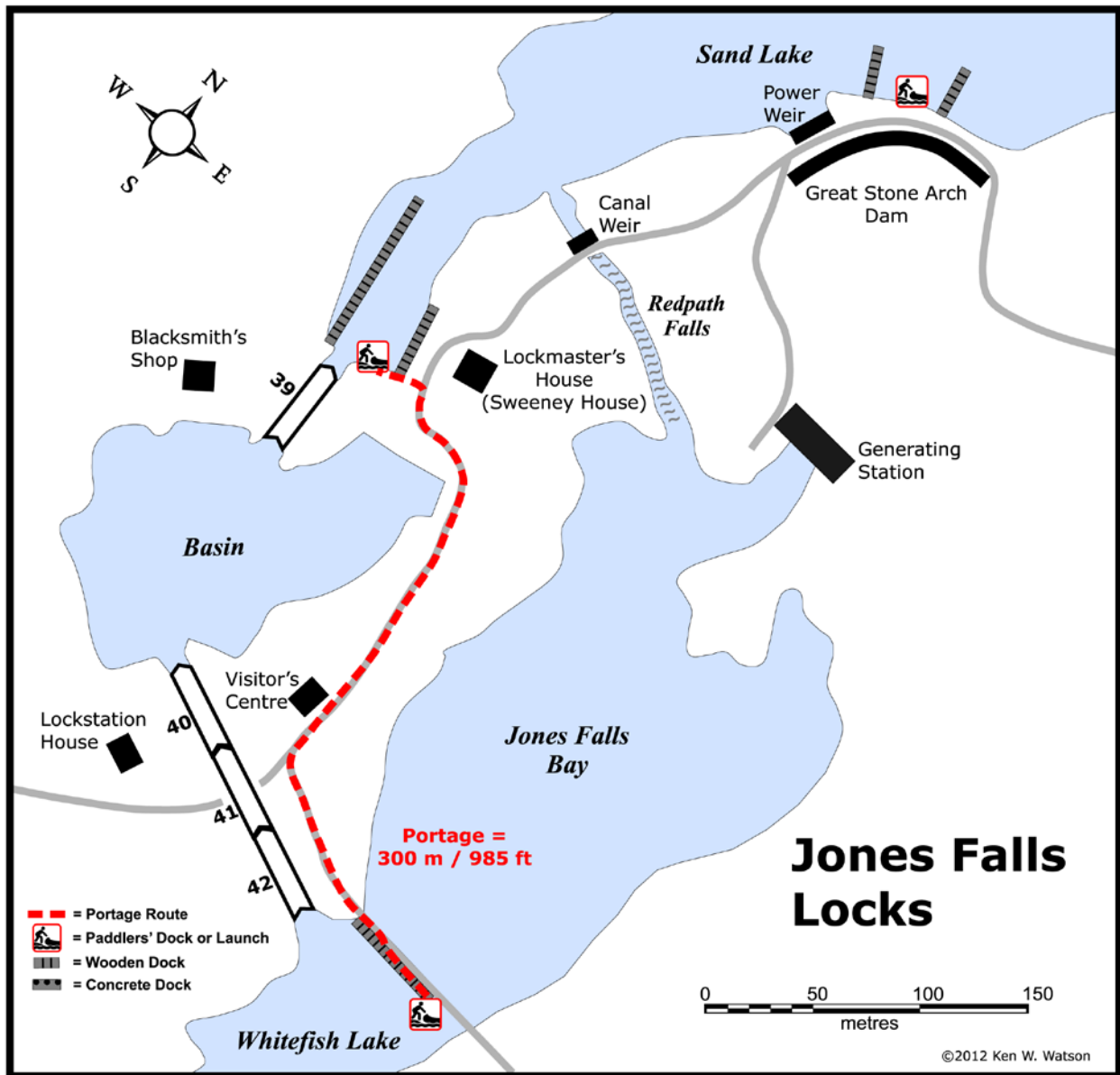


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present weir was rebuilt in 2011. The water flows through this weir to form Redpath Falls, named after the contractor who built the locks and dam, John Redpath.

A walking trail exist around the west side of the basin (from the Lockstation House to the Blacksmith's Shop).

At the time of the building of the Rideau Canal, the locks at Jones Falls featured the greatest lift (15 ft / 4.6 m each) and consequently the tallest lock gates of any lockstation. There was some worry about the size of the gates, whether they could stand up to the water pressure. They served well, being replaced with new gates on a regular basis (every 20 years or so). However, in 1869, the gates between Lock 40 and 41 apparently failed, allowing one barge to crash into another. Two men were killed. As it turns out, the failure of the gates was a result of the accident, not the cause, and that full story is related in *Tales of the Rideau*. No gate has failed since that time.





**Jones Falls Dam:** The most impressive feature at Jones Falls is the Great Stone Arch Dam – the largest dam built during the construction of the Rideau Canal. It is 107 m (350 ft) wide at the top (following the arch) and 30.5 m (100 ft) wide at ground level. The height of the stonework from its base (buried 1.8 m (6 ft) below surface) is 17.4 m (57 ft) and an earthen berm adds about another 1.2 m (4 ft), making the dam about 18.6 m (61 ft) high. It is known as the “whispering dam” since a person standing at one end, talking in regular conversational tone, can be heard by someone at the other end of the dam – the face of the dam providing a reflecting surface for sound.

The dam is located in the bed of the original Jones Falls Rapids. These rapids dropped 18.9 m (62 ft) over a distance of a 1.6 km (1 mile). The dam is actually located some 440 m (1,450 ft) up from the foot of the rapids (today’s bridge below the locks marks the foot of the original rapids). It was placed in a constriction in a rocky gorge that allowed the dam to lock itself into the bedrock on either side. This is the purpose of the arch shape of the dam, it throws part of the immense weight of water that it is holding back into the bedrock on either side of the dam.

As you look down to the valley below the dam, you’re looking at the original channel of the White Fish River, one of the very few “natural topography” spots remaining on the Rideau (since most of the original topography on the Rideau is now below water).

The power generating station, built in 1947, required tunnels to be excavated through the dam for the three penstocks. The penstocks leading down to the power station are built of wire wrapped wood. This privately owned power generating station is still in use today. You can tell which penstocks are being used at any given time by the sprays of leaking water.

## **Route Suggestions**

**Morton Bay Scenic Route (7 km):** It is well worth a paddle into this bay to enjoy the scenery, have a swim and/or hike to the top of Rock Dunder and/or the cliffs above the dam.

**Seeleys Bay Scenic Route (1.7 km):** The village of Seeleys Bay is a short diversion off the route – a place to stop and relax, maybe pick up a few supplies.

## **Off The Beaten Path**

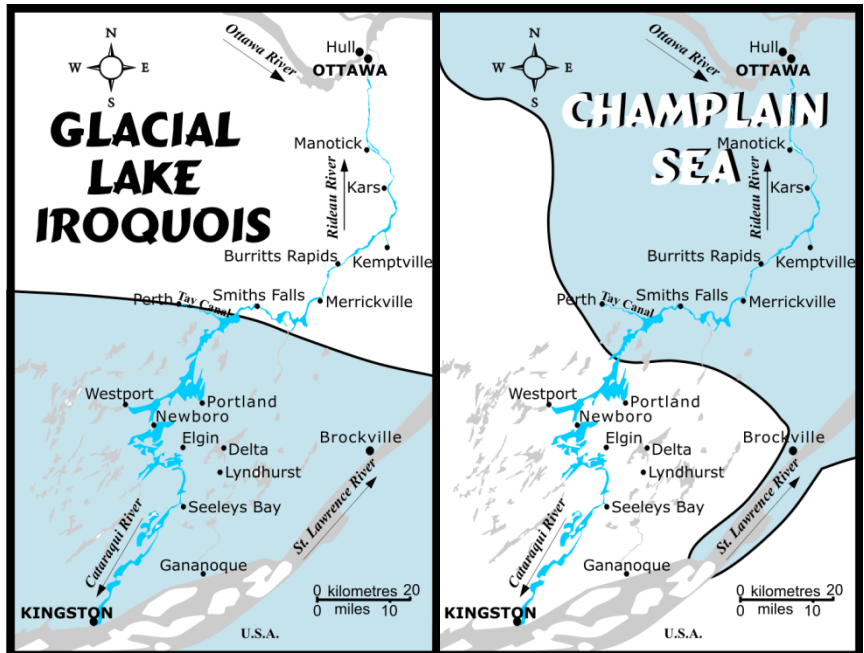
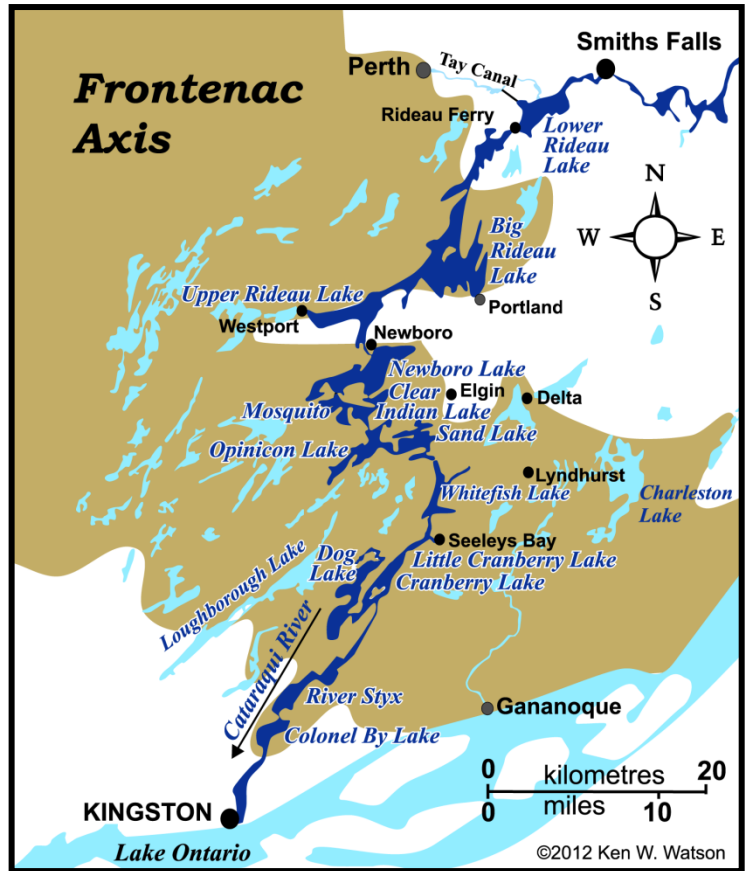
**Morton Bay to Lower Beverley Lake:** At the foot of Morton Bay (location of the canal dam) is an old road (now trail) that follows Morton Creek for 560 m (612 yards) to the bridge crossing the creek on Highway 15. There is spot by the bridge where can put your canoe or kayak into Morton Creek. From there it is 5.5 km (3.4 mi) to Lower Beverley Lake. Morton Creek has little current (except in early spring) and so can be easily paddled both ways. Once into Lower Beverley Lake you can paddle to Delta and/or Lyndhurst (and with portages at Lyndhurst and Marble Rock, all the way to Gananoque). A paddling guide to the Lower and Upper Beverley lakes can be found in the tours section on [www.deltamill.org](http://www.deltamill.org)

## Geology of the Rideau Canal

As you paddle the Rideau Canal, the route you follow is defined by its geology. The area is underlain by part of an old mountain range, the Grenville Mountains, eroded down over many millions of years. Much of this eroded mountain range has been covered by younger sedimentary rocks, but portions of the old mountains are exposed, partly a result of their original topography and partially due to the eroding away of younger overlying rocks. This area is known as the Frontenac Axis. In essence, if you paddle from Kingston to Smiths Falls, you'll be paddling over a (very old) mountain range.

The Frontenac Axis can be thought of as a ridge connecting the extensive area of the Canadian Shield to the north and the Adirondack mountains to the south. On the Rideau, the southern irregular boundary of the Frontenac Axis is near Kingston Mills and the northern irregular boundary is on the northern reaches of Big Rideau Lake. The Frontenac Axis is made up of rocks formed 1.35 to 1.06 billion years ago (Precambrian: middle to late Proterozoic age) and then deformed and metamorphosed 900 million years ago. The rock types that you'll be able to see as you travel through the Frontenac Axis include granite, syenite, monzonite, migmatite, gabbro, quartzite, marble, gneiss and pegmatite. Many of the lakes are underlain by marble (crystalline limestone) which provides some buffering against acid rain.

To the north and south of the Frontenac Axis are younger, 520 to 460 million year old (Paleozoic: Cambrian to Lower Ordovician age) rocks including limestone, sandstone, dolomite, shale and conglomerate. Most of these rocks



Very generalized representations of glacial Lake Iroquois and the Champlain Sea in the Rideau region.

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were laid down in a shallow sea that covered this area, which was near the equator at that time (part of Laurentia which eventually became part of North America due to continental drift). The rocks near Kingston are dominated by limestone which provided much of the building material for the early town (hence the nickname, Limestone City). In the centre part of the Rideau, on the margin of the Frontenac Axis, the younger sedimentary rocks tend to be dominated by sandstone. Beyond that, from Smiths Falls to Ottawa the rocks are mostly dolomite, limestone and shale.

More recently, three events have impacted on the landscape - the ice last age, glacial Lake Iroquois and the Champlain Sea. During the last ice age, which peaked about 20,000 years ago, the Rideau area was covered by ice up to 1.5 kilometres (1.0 mi) thick. The ice polished and moved rocks, excavated some of the landscape and left large deposits of sand and gravel. The weight of the ice depressed the landscape by about 175 m (575 ft) below where it is today.

By 14,000 years ago, the climate began to warm up, melting the glaciers and forcing them to retreat. In the area of Lake Ontario, today's exit of the lake down the St. Lawrence River was blocked by ice and a large lake, about 30 m (100 ft) higher than today's Lake Ontario, formed. That lake, known as Lake Iroquois, extended as far north as Perth and Smiths Falls.

Evidence of that lake exist today in form of glaciolacustrine (a big word for glacial lake) deposits. These include near shore sediments such as gravel and gravelly sand, and deeper water deposits such as silt and clay. These deposits are found all over the southern Rideau, including on heights of land, such as near the top of Rock Dunder. This is because the overall landscape was depressed, and features such as Rock Dunder formed part of the bottom of this large lake.

By about 13,350 years ago a channel opened up in the ice dam (near Rome, NY), rapidly draining much of the lake. At the same time the land was rising as the weight of the ice was removed (this rising is called "isostatic rebound").

As Lake Iroquois and subsequent glacial lakes were getting smaller, the glaciers were continuing their retreat from the St. Lawrence lowlands. About 13,000 years ago this allowed waters from the Atlantic Ocean to mix with glacial melt-waters and river drainage to create a brackish sea known as the Champlain Sea which extended past (west and south) of Ottawa.

The southern limit of this sea on the Rideau Canal was near Nobles Bay of Big Rideau Lake. If you were paddling the sea back then, you would have been enjoying it in the company of whales. The bones of a humpback whale were found near Smiths Falls and beluga (white) whale bones have also been found in Champlain Sea deposits. This sea retreated as the glaciers moved north and the land continued to undergo isostatic rebound. By about 11,100 years ago, the central Rideau had risen above sea level and the land that we see today was being revealed. Rivers and streams continued to modify the landscape up until the building of the Rideau Canal.

There are a some interesting geological features in the Ottawa area. The northern part of the Rideau River is the youngest part of the waterway (outside of canal altered sections) since, in the immediate post-glacial period, the Ottawa River had a channel to the south of where it is today, across much of urban Ottawa to the Mer Bleue area (where the trace of the old Ottawa River channel can be clearly seen). It eventually shifted north (due to isostatic rebound) to its present location and cut a deep channel. The faster excavation by the Ottawa River, through the underlying limestone rocks, compared to the Rideau River, formed Rideau Falls.

Another geological feature at Ottawa is that much of the area is underlain by a thick clay layer, a type of "quick clay" known locally as Leda clay (named after a type of small clam found in the clay deposits). Quick clay is a clay that is not well bonded and is subject to liquefaction, that is, when vibration is

induced, it can turn into a liquid and flow. When undisturbed, it looks and acts like a normal solid form of clay. It was formed by glacial silt settling out on the bottom of the Champlain Sea. There it formed a stable type of marine clay, “glued” with salt. When the sea retreated due to the rising land, this clay was exposed to rainfall that removed much of that salt bonding, creating the unstable clay that is present in much of the region today. Earthquakes can cause this clay to liquefy, leading to landslides. Ottawa is a seismically active region (earthquake prone) and, in the future, an earthquake is going to play havoc with the city (if I lived in Ottawa, I’d check to see if my house is sitting on bedrock or on clay).

## **Mining in the Rideau Region**

The rocks of the Frontenac Axis are host to some small mineral deposits, several of which were mined in the mid-late 1800s and in the early 1900s. In the Rideau Canal region, minerals such as apatite (for phosphate, used for fertilizer), mica, feldspar, graphite and iron were mined. A few of these old mining areas have been noted in the guides.

Some of the earliest mining in the region was for rocks to be used for the dams and locks of the Rideau Canal. Rocks of the Frontenac Axis were not suitable for this purpose (too hard and often fractured) and so quarries to mine rocks for the canal were established in the younger sedimentary rocks, mining sandstone or limestone. You can see the local geology reflected in the type of rocks used for the building of the locks and dams along the Rideau; limestone in the southern area, sandstone (Potsdam sandstone) in the central Rideau and dolomitic limestone and limestone in the northern part.

The first mine on/near the Rideau Canal (excluding the small scale iron mining near Lower Beverley Lake in the early 1800s) was the iron mine on Iron Island near Newboro opened by the Chaffey brothers, John, Benjamin and Elswood, in about 1850. Phosphate mining (for fertilizer, most was shipped to England) started in the Rideau area in about 1867 and continued to the early 1890s. By the late 1880s, mica mining was also underway. Apatite (phosphate) and mica form in the same geological environment, so several mines which started off mining phosphate were later mined for mica. Mica mining ended in the 1920s as the value of the mineral fell to uneconomic levels.

Today, mining in the region is mostly surface quarrying for sand, gravel, and stone.

## **Wildlife of the Rideau Canal**

The Rideau spans a wide variety of ecosystems, due in part to the underlying geology and man’s activity in the last 200 years. The Frontenac Axis, a section of the Canadian Shield (Precambrian rocks - very old) underlies the Rideau from Kingston Mills to Lower Rideau Lake. These hard rocks form rugged topography (hills, ravines), including the basins for the lakes on the system. Most of the lakes are underlain by crystalline limestone which acts as a buffer against acid rain (hence the lakes are very productive for fish and other aquatic life). Outside of the Frontenac Axis, younger (Palaeozoic) flat lying sedimentary rocks form the underlying bedrock (it is from these rocks that the stones for the dams and locks were quarried).

The area has been actively logged since before the canal was built, the entire area cut over several times. Most of the region (including many of the islands in the lakes) was farmed or used for cattle pasture at one time. By the early 20th century, small farms on poor Frontenac Axis lands were being abandoned in favour of better (more productive) pastures.

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So today, along the Rideau you'll find forested areas (some now 100 years mature), active farmland, scrubland and abandoned farmland, low density cottage/summer home developed (rural) land and urban land. The forests are generally mixed, deciduous trees (oak, maple, ash, basswood, birch, elm) and conifer trees (most commonly white pine, white spruce and cedar). On flat lying topography you'll find cedar swamps, hardwood (black ash & silver maple) swamps, and bogs. Along the margins of the Rideau Canal you'll find cattail marshes. All these areas support a varied and healthy wildlife population.

The following is a list of the most common wildlife that you might spot on your Rideau journey. Note that photos of many of these birds and animals can be found on my Rideau website at: [www.rideau-info.com/canal/ecology/fauna.html](http://www.rideau-info.com/canal/ecology/fauna.html)

### **Water Birds**

**Common Loon** - on all the lakes, this bird is distinctive for its haunting call. It's a diving bird, swimming underwater to catch fish

**Great Blue Heron** - along the entire Rideau, a large bird usually seen wading near shore.

**Green Heron** - most commonly in the shallow water sections (Colonel By Lake, River Styx, Rideau River) this is a small heron. Usually seen perched in a tree.

**Canada Goose**- yes, we have these (more each year)

**Ducks** - most commonly the Mallard duck (quacks when flushed), American Merganser duck (a pointed red bill) and Wood duck (squeaks when flushed).

**Pied-billed Grebe** - In some areas you'll also spot the reclusive Pied-billed Grebe (a small diving bird).

**Ospreys** - now common along the Rideau - often spotted in their large nest made of sticks perched high in a pine tree or a power line stanchion. It dives to catch fish (quite spectacular to see)

**Ring-billed Gull** - a gull with mark on bill

**Terns** - the Common Tern, a large white tern with dark bill and the Black Tern, small tern with black body (adult)

**Trumpeter Swans** - An extirpated native species in this region, they were re-introduced in the 1990s. Favourite haunts include Opinicon Lake and Big Rideau Lake (near Narrows and Portland).

### **Other Birds**

There are many other types of birds that you might spot in the near-water environment; red-tailed hawks, red-winged blackbirds, turkey vultures, turkeys, ruffed grouse and many more (bring along your bird book).

### **Reptiles and Amphibians**

**Turtles:** we've got lots of turtles - most common are the Common Map Turtle (a peaked shell and yellow-orange lines on the skin and shell); Midland Painted Turtle (a flat smooth shell with bright red splotches along the edge) and the Common Snapping Turtle (can get very large, a prehistoric looking turtle). You'll

often find Map and Painted turtles sunning themselves on logs and rocks. The Snapping turtle almost always stays in the water, you'll find it floating or slowly swimming near marshy areas. There are also three other less commonly seen turtles, the Stinkpot Turtle (aka Musk Turtle) a small turtle found in areas with aquatic plant growth; Blanding's Turtle with a "war helmet" type shell and bright yellow chin and throat, usually found in wetlands and the Spotted Turtle, a small turtle with bright yellow spots on its shell, usually found in areas with aquatic plants and a silt bottom.

**Frogs:** we have lots of frogs that will provide you with a nightly serenade. The two biggest are the bullfrog and the green frog. Also the leopard frog, spring peeper and many others.

**Snakes:** we do not have any poisonous snakes. The two largest snakes are the Northern Water Snake and the Black Rat Snake - both generally found near water. The common garter snake can also be found throughout the region.

## **Mammals**

In the near shore environment you'll likely spot muskrats and beavers. You may even spot the somewhat reclusive river otter (found in the lakes here as well as rivers). And there are the usual Eastern Ontario mammals to be sometimes found near the water: raccoons, black, grey and red squirrels, chipmunks, foxes, coyotes, white-tailed deer and skunks. Black bears, although quite rare in the region, are present.

## **Fish**

The Rideau is home to healthy populations of many fish species. The lakes and most of the rivers are home to species such as Large Mouth Bass, Small Mouth Bass, Northern Pike and Crappie. Lake Trout are present in some lakes that have depths in excess of 80 ft / 24 m (i.e. Big Rideau Lake). There are Walleye in some areas (i.e. Upper Rideau Lake and the Rideau River) and Muskellunge (Musky/Maskinonge) in some sections of the Rideau River.

## **Aquatic Plants:**

The Rideau hosts quite a variety of aquatic plants.

**Submerged Plants:** Waterweed (like aquarium plants); Pondweed; Smartweed (holds flower above surface of water); Tape-grass (like underwater grass, flower on coiled stem); Coontail (like a thick furry coon's tail); Water-milfoil (one species an invasive plant).

**Aquatic Plants ( floating):** White Water-lily (white fragrant flower); Bullhead Water-lily (round yellow flower); Frogbit (invasive alien, small floating leaf like water lily); Duckweed (food for ducks, tiny plant)

**Aquatic Plants (emergent):** Cattail (big brown seed heads); Pickerelweed (blue flowers on stalk); Flowering Rush (invasive alien); Arrowhead (arrowhead-pointed leaves, white flowers); Purple Loosestrife (invasive alien, now controlled by beetles in some areas).

Oh - and those amorphous green blobs floating under the water in near-shore areas. They are benign (not due to pollution), a type of filamentous green algae. Their abundance is due to zebra mussels which don't eat this type of algae, but do eat their competition (single-celled algae) - and so, by removing the competition, have allowed these blobs to expand in numbers and length of season.

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*My thanks to Simon Lunn and the Rideau Roundtable ([www.ridearoundtable.ca](http://www.ridearoundtable.ca)) for assistance with the wildlife and aquatic plants information.*

Those interested in some tips for taking good photos of wildlife should view “The Nature of Wildlife Photography” on my website at: [www.rideau-info.com/canal/ecology/nature-photography.html](http://www.rideau-info.com/canal/ecology/nature-photography.html)

One photography hint, a very simple one, is to choose a paddling route that puts the sun to your back for most of the day. Try to choose a route that has you on a west shore in the morning, a north shore at mid-day and an east shore in the afternoon. For those doing the entire Rideau, this means going from Kingston to Ottawa rather than the other way around. This will put the wildlife that you see on your paddle in the best light.

### ***Errors***

If you find any errors or omissions in this guide, please let me know ([rideauken@gmail.com](mailto:rideauken@gmail.com)) and I'll get them fixed.

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