



SHORES OF LAKE AGASSIZ Self-Directed Mountain Biking Tour

Welcome to a Routes on the Red self-directed tour of the Red River Valley. These itineraries guide you through the history and the geography of this beautiful and interesting landscape. Several different Routes on the Red, featuring driving, cycling, walking or canoeing/kayaking, lead you on an exploration of four historical and cultural themes: Fur Trading Routes on the Red; Settler Routes on the Red; Natural and First Nations Routes on the Red; and Art and Cultural Routes on the Red.

The purpose of this route description is to provide information on a self-guided cycling trip. The cycling described includes roads and trails. While you enjoy yourself, please cycle carefully. You are responsible to ensure your own safety and that any activity you undertake is within your abilities. Every effort has been made to ensure that the information in this description is accurate and up to date. However, we are unable to accept responsibility for any inconvenience, loss or injury sustained as a result of anyone relying upon this information.

This mountain biking tour takes you into a remarkable landscape shaped by immense forces over tens of thousands of years. Read the details of the landscape and imagine melting glaciers, ancient beaches, and marshes teeming with wildlife. Discover remnants of riverside woodlands and fields blue with flax, charming French-Canadian villages,

and meadows of wildflowers. Follow a route between St. Pierre-Jolys and St. Malo that reveals our natural heritage in the midst of the farming which sustains our cities. Please note that much of the ride is on gravel or dirt roads or on trails. After rain, the dirt roads will be very muddy with gumbo clay.

There are two mountain biking tour options – a full day's ride of approximately 45 km that starts and ends in St. Pierre-Jolys – with an optional add-on loop of approximately 20 km. And a shorter, family tour of approximately 19 km that starts and ends in the St. Malo Provincial Park.

- For a short, easy tour that is excellent for families or beginning mountain bikers, you start and end at St. Malo Provincial Park, so it is a particularly good ride if you are camping here. The ride is mainly on gravel and dirt roads.

- For the Long Tour - start the ride in St. Pierre-Jolys, mountain bike to St. Malo Provincial Park along the Trans-Canada Trail, then return to St. Pierre-Jolys. Most of the ride is on gravel and dirt roads. The terrain is level and besides mountain biking you'll have the opportunity to do some walking, enjoy museum visits and historical sites, and relax by the lake in St. Malo Provincial Park. The optional add-on loop follows the Trans-Canada Trail north out of St. Pierre-Jolys to Otterburne.

SHORT TOUR – ST. MALO LOOP

On today's trip you will visit the following sites:

St. Malo Provincial Park

phone: 1-888-482-2267
Open May to September
Camping is available – it is possible to make reservations (888-482-2267 or in Winnipeg 948-3333).

St. Malo Church & Grotto

phone: (204) 347-5518
Open daily

There are shops and restaurants in St. Malo.

St. Malo Provincial Park is a good place for a picnic.

There are also a number of scenic spots along the way where you may want to pull over for an impromptu picnic

It was the Ice Age that created the remarkable landscape that you'll discover today. Starting over 75,000 years ago (in an era known as the Pleistocene) and coming to an end only 8,000 years ago, the Ice Age lasted for more than 65,000 years. During this time a huge glacier covered almost all of Canada, and at its height Manitoba was covered by ice more than two kilometres thick.

In the beginning, as the icesheets advanced from the northwest across Manitoba, the ice scraped away a huge trough through the centre of the province. The resulting long and broad depression is known as the Manitoba Lowlands. Today the Red River Valley forms the southern end of these lowlands, while Lakes Winnipeg, Manitoba and Winnipegosis make up the northern section.

Then, about 16,000 years ago, the temperature began to rise, the ice melted, and the glacier began its northward retreat. The resulting meltwater formed a huge lake known as Lake

Agassiz in front of the glacier, following it as it continued to recede. The deepest parts of Lake Agassiz were in the huge glacial trough that had been scraped away a mere 60,000 years earlier. During the lake's existence, the entire Red River Valley was part of its floor, while the Manitoba Escarpment (in the West) and a variety of ridgelines in the east were beaches along its shore.

Once the glacier had retreated far enough north to open the passage to Hudson Bay, the lake water was able to drain away, leaving Lakes Winnipeg, Manitoba and Winnipegosis as small reminders of Agassiz's past grandeur. The former lake bottom developed into grasslands that were cut by slow moving meandering prairie rivers. Ultimately, it is the deposits of silt and clay that were left on the lake bottom during the 3,000 years of Agassiz's existence, that now allow for the variety of flora and fauna found in the area and form the rich agricultural land that is the basis of southern Manitoba's economy.

Short Tour Start:

To reach the St. Malo Provincial Park, where the tour starts, use the following route instructions:

- From Winnipeg follow Lagimodiere south out of the city. It becomes PTH 59 after the Perimeter Highway.
- St. Malo is located approximately 65 km south of Winnipeg on PTH 59.
- To reach the provincial park, turn left on rue de la Grotte (also signed for the provincial park) off of PTH 59 on the outskirts of the town.
- You will reach the entrance to the park in approximately 1 km. This is the location of the tour start. There is parking just beyond the park entrance, at the beach. You actually begin the tour by exiting the park and retracing the last kilometer of your drive. At the end of the tour you will enter the park through another entrance.

This tour begins and ends at St. Malo Provincial Park. If camping, this is a good ride as it begins and ends at the park. This is a lovely spot on the shore of an artificial lake that has been created by damming the Rat River. In addition to camping facilities, there are two beaches as well as a number of walking trails. One of the trails takes you through a small patch of tall grass prairie. Be sure to pick up a map of the park at the entrance kiosk/park gate.

km to next location	DIRECTIONS	Total km
0.0	Exit St. Malo Provincial Park by putting the park gate to your left.	0.0
0.6	Cross the Rat River.	0.6
0.3	Cross PTR 59 on the left side of the road (as indicated by the blue signed Trans-Canada Trail arrows).	0.9

Just before this turn on your right is the entrance to the "Lady of Lourdes Grotto and Shrine". This hidden treasure tucked into the woods overlooks an amphitheatre and creek. For a quiet relaxing stop, visit the church and walk down the Way of the Cross to the amphitheatre below – which is usually empty of people. Every year in mid-August, however, a pilgrimage is held here. At this time mass is held, confessions and an afternoon of prayer and meditation take place.

On your left is the entrance to the Maison Chapelle, which is a replica of the original church in St. Malo. No metal (not even nails) was used to build the wooden structure. In addition to being a restaurant (which will not open until fall 2003) and office complex, the structure houses a Métis craft store.

0.4	Turn right at the stop sign onto Rue St. Malo. You are no longer on the TCT. To visit the St. Malo Church, turn left.	1.3
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People began to move into this area between 1881 and 1889. At that time, Louis Malo (a pioneer farmer in the area) and Father Jolys (from St. Pierre) asked Bishop Taché in St. Boniface to establish a new parish here. Thus in 1890 the 1st chapel was built and the town itself was established in 1892.

*Want to know more about the early French settlement in the Red River Valley? Try **Rivers West's French and Mennonite Settlement: self-directed cycling tour** or **In the Footsteps of the Voyageurs: self-directed walking tour**.*

0.3

Continue straight to cross PR 218, you are now on Le Rang. On your right you will pass an Alpaca farm.

1.6

St. Malo is located near the transition between the upland woodlands that were once the lake shore of Lake Agassiz and the flat prairie grasslands that were the bottom of Lake Agassiz. As you exit the village of St. Malo you have come off the ridgeline of the shore and are now in the Red River Valley, the former lake bottom. Some of the flattest land in the world is located in the Red River Valley. Celebrate the flatness that surrounds you – there are few other places on Earth where you can experience this!

The flatness of this land is the result of Lake Agassiz. As the glacial ice melted, the resulting lake covered much of Manitoba, north-western Ontario, parts of eastern Saskatchewan, North Dakota, and north-western Minnesota. This ancient lake well exceeded the total area of the five great lakes. At its largest, it was about 1500 km long, over 1100 km wide with an area of approximately 285,000 square kilometres, and its watershed was 906,000 to 1,295,000 square kilometres. If the lake were still in existence today, the surface would be more than 200 metres above your head (this is greater than the height of the Calgary Tower or almost twice the height of the Richardson Building in downtown Winnipeg).

As the ice sheet slowly melted away and the front retreated, the whole of the region covered by Lake Agassiz was blanketed by glacial sediments that had been caught up in the ice. These materials ranged from deposits of fine sand and gravels, to stones, rocks, and even huge boulders. This mix of material was added to and often modified by the action of the accumulating glacial melt waters. Swift-flowing glacial rivers, such as the Assiniboine and the Souris (at that time much different from their present incarnations), deposited a huge quantity of sediment into the lake. Upon entering Agassiz, the heavier particles (sand, gravel, boulders) settled quickly to the bottom (thus near the shoreline), and the finer material (silt and clay) remained suspended in the water for longer – only settling down in the undisturbed basins of the deepest part of the lake. The largest of these sediment basins became the Red River Valley. The surface of this basin was almost perfectly flat because it was so deep, that there were few forces to modify it, except for the occasional iceberg dragging along the lake bottom and creating tracelines. As a result, once the lake disappeared, the resulting land was also perfectly flat.

1.5

Turn left at the T-intersection.

3.1

As you cycle along through the fields, note the rich black soil that surrounds you. This is not the same material that was at the bottom of Lake Agassiz. However, these black soils are the result of the mixture of those sediments with the decaying plant material that grew here after the waters of Lake Agassiz drained away. Unlike in other parts of the province, these soils have very few if any rocks or boulders in them because any boulders that were deposited here by the glaciers were buried beneath the thick layer of clay and topsoil.

Underlying this rich soil is a deep bed of very fine clay material (the remains of the glacial sediment). It is this clay – also known as Red River Gumbo – that contributes to the flooding difficulty of the Red River Valley, since it is essentially impervious to water. This prevents floodwaters, or any surface water, from having good drainage on these Red River flats.

Note the trees that you see among the crops in the Red River valley (not the ones that line the Rat River to your right). For the most part, all of these have been planted by the farmers. These rows of trees, called shelterbelts, are planted in order to protect the fields (field shelterbelts) or farmyards (farmstead shelterbelts) from the elements. For more than 90 years, farmers have been planting field shelterbelts in the Red River Valley in order to reduce soil erosion by blocking the wind. The rows of trees are usually planted perpendicular to the prevailing wind in order to reduce the speed of the wind (and thus its ability to blow away the soil). Field shelterbelts also help to retain moisture by trapping snow in the wintertime, which is especially important at times of drought.

1.4

Turn right onto a dirt road immediately after crossing a drainage ditch.

4.5

As soon as settlers began to farm the land, they began to dig drainage ditches to deal with the problem of standing water. Below the soil is a deep bed of fine clay material, the remains of glacial sediment, known as Red River Gumbo. Because it is impervious to water, this clay inhibits good drainage and

after a heavy rainfall water will collect and stand for days, even months. By 1881 there were 320 kilometres of drainage ditches across the Red River Valley and today there are tens of thousands.

3.3	Turn right onto paved road PR 23.	7.8
0.1	Cross Rat River and enter La Rochelle.	7.9

The Rat River's banks are in quite a natural state with a significant part of its riverbank forest still intact. Most of rivers in the valley used to be lined by treebelts, which could be seen for miles. In many places these forests extended for more than 2 kilometres on either side of the rivers. Many of these are gone, cleared away when settlers broke the land for farming, and where they still exist they are only very narrow

bands just along the riverbanks. Plants and trees growing in the zones along the rivers help to stabilize the soil and reduce erosion. The vegetation is also important during times of flood, as it soaks up the water and slows the speed of the water flooding its banks. Different trees that you will see in these forests include oak, ash, poplar, and willow.

0.5	Continue straight at the stop sign to cross PTH 59. You are now on a dirt road.	8.4
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As you travel along this section note that the fields are filled with boulders. This was once the beach area of Lake Agassiz. Beach deposits formed where water levels were stable for several years. As the lake level dropped, finer silt settled in

the deepest part, while coarser sediment settled in the shallower areas near the edge. High waves and strong winds would wash away the finer material, leaving gravel and boulder beaches.

3.1	Turn right onto a trail of grass.	11.5
1.3	Continue straight onto a gravel road.	12.8

This corner is filled with lots of wildflowers. Prairie grasslands are home to a huge variety of flowers, including the prairie crocus, one of the first signs of spring, and the purple coneflower, whose roots were used by First Nations peoples for medicinal purposes.

There are plans for a set of interpretive panels at this intersection, which may already be up.

1.5	Turn right at intersection onto a sandy road.	14.3
1.7	Continue straight at stop sign to cross PR 403.	16.0
0.5	Turn right just past the hydro line that crosses the road, onto a very narrow trail to enter St. Malo Provincial Park. Almost immediately you will pass between some boulders. <i>If you reach the turn off for the St. Malo Lodge, you have gone too far. Turn around to go back to the Hydro line.</i>	16.5

St. Malo Provincial Park is a lovely spot on the shore of an artificial lake that has been created by damming the Rat River. This is a small example of the vast marshes and lakes that once existed naturally in the Red River Valley. Rivers such as the Rat, Seine and Roseau originate in the highlands of the east that propelled the waters downhill. As they crested the lip of the Red River Valley – over the eastern ridgeline, these waters arrived in very flat terrain with little slope or gradient.

Before the arrival of settlers, these waters tended to pond across the landscape creating large marsh-like areas often very near the ridgeline, since the water's momentum was drastically reduced. In fact on early maps, the Seine River is shown flowing through two large marshes. Today, all of these marshes have been drained as well as the smaller sloughs that would develop during wet cycles on the impermeable clay beds.

0.1	Keep left to veer onto gravel road.	16.6
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Ignore different style of blue signs in this section. These are for the ski and hiking trails in St. Malo Provincial Park.

0.1	Turn right onto a paved road.	16.7
0.2	Pass a park map on your right that shows all the various hiking trails in the park.	16.9
0.6	Continue straight at the stop sign.	17.5
0.9	Arrive at the park exit, where you began your ride.	18.4

LONG TOUR – ST. PIERRE-JOLYS LOOP

On today's trip you will visit the following sites:

Le Musée de Saint-Pierre-Jolys

phone: (204) 433-7226

St. Malo Church & Grotto

phone: (204) 347-5518

Open daily

St. Malo Provincial Park

phone: 1-888-482-226

Open May to September

Camping is available – it is possible to make reservations (888-482-2267 or in Winnipeg 948-3333).

Please note: if you are passing through by bike, you do not need a park pass.

There are shops and restaurants in St. Pierre-Jolys and St. Malo.

St. Malo Provincial Park is a good place for a picnic.

It was the Ice Age that created the remarkable landscape that you'll discover today. Starting over 75,000 years ago (in an era known as the Pleistocene) and coming to an end only 8,000 years ago, the Ice Age lasted for more than 65,000 years. During this time a huge glacier covered almost all of Canada, and at its height Manitoba was covered by ice more than two kilometres thick.

In the beginning, as the icesheets advanced from the northwest across Manitoba, the ice scraped away a huge trough through the centre of the province. The resulting long and broad depression is known as the Manitoba Lowlands. Today the Red River Valley forms the southern end of these lowlands, while Lakes Winnipeg, Manitoba and Winnipegosis make up the northern section.

Then, about 16,000 years ago, the temperature began to rise, the ice melted, and the glacier began its northward retreat. The resulting meltwater formed a huge lake known as Lake Agassiz in front of the glacier, following it as it continued to

recede. The deepest parts of Lake Agassiz were in the huge glacial trough that had been scraped away a mere 60,000 years earlier. During the lake's existence, the entire Red River Valley was part of its floor, while the Manitoba Escarpment (in the West) and a variety of ridgelines in the east were beaches along its shore.

Once the glacier had retreated far enough north to open the passage to the Hudson Bay, the lake water was able to drain away, leaving Lakes Winnipeg, Manitoba and Winnipegosis as small reminders of Agassiz's past grandeur. The former lake bottom developed into grasslands that were cut by slow moving meandering prairie rivers. Ultimately, it is the deposits of silt and clay that were left on the lake bottom during the 3,000 years of Agassiz's existence, that now allow for the variety of flora and fauna found in the area and form the rich agricultural land that is the basis of southern Manitoba's economy.

Long Tour Start:

To reach the St. Pierre-Jolys Museum, where the tour starts, use the following route instructions:

- From Winnipeg follow Lagimodiere south out of the city. It becomes PTH 59 after the Perimeter Highway.
- St-Pierre-Joly is located approximately 50 km south of Winnipeg on PTH 59.
- Upon entering St. Pierre, turn right after passing the Shell Gas Station (on your right), onto Joubert Street.
- In approximately 100 metres you will see a sign "Musée" on the left. The driveway to the museum is about 30 metres past this.
- Turn into the Musée de Saint-Pierre-Jolys parking lot.

You begin your ride at Le Musée de Saint-Pierre-Jolys, located in the former convent of the Sisters of the Holy Names of Jesus and Mary. Local history, religious and educational exhibits are featured in the museum. Behind the museum, amongst the trees near Joubert Creek, is the Goulet House. This log house was built by Moïse Goulet, a freighter on the Crow Wing Trail for the Hudson's Bay Company, in 1870. The house is typical of French homes in the Red River Valley at that time. The house features a double-pitched mansard roof and has been refaced with vertical board and batten siding common to early French Manitoba buildings.

0.0

From the museum turn right out of the parking lot to follow the Trans Canada Trail through St. Pierre-Jolys.

0.0

This was the route of the actual Crow Wing Trail, an old trail used by the Hudson's Bay Company to transport furs and other goods by ox-cart down to St. Paul, Minnesota when it was found to be cheaper than shipping them north by York boat to York Factory on Hudson Bay. The trail was never a set route because the Red River Valley tended to become waterlogged and the freighters manning the ox-carts were always veering back and forth to stay on higher ground. Today, the Crow Wing section of the Trans-Canada Trail

replicates the general route of the original trail; however, St. Mary's Road from St. Adolphe to Winnipeg and portions of PTH #59 near St. Pierre-Joly and St. Malo overlap the exact route of the trail.

There are washrooms on this site.

Want to know more about the Fur Trade in the Red River valley? Try Rivers West's [The People of the Fur Trade: self-directed drive & stroll tour](#).

0.2

Follow the trail as it crosses rue Sabourin, PTH 59.

0.2

0.2

Continue straight at intersection, passing a bakery on your right.

0.4

0.1

Continue straight to enter Parc Carillon, the location of the Frog Follies Festival.

0.5

Every August long weekend, St. Pierre-Joly celebrates the Frog Follies. Sports, crafts, a pancake breakfast, and a variety of other community events are held.

But the frog-jumping contest, held on the Sunday, is most definitely one of the highlights.

0.1

Upon exit of Parc Carillon, turn right onto gravel road.

0.6

0.1

Turn left onto Jolys Avenue East.

0.7

St. Pierre-Jolys first became a permanent settlement in 1872 with the arrival of 8 families, although it had been the site of a trading post earlier. The village was originally named after St. Peter ("Pierre" in French), because it was on this saint's

feast day that a group of settlers had finished clearing land that would be the site of the parish. The Jolys was added almost a century later in honour of Father J. M. Jolys who came here to be the parish priest in 1880.

0.4	Turn right onto chemin Parenteau, a gravel road.	1.1
0.3	Cross the Joubert Creek.	1.4
0.9	At stop sign, turn left onto PR 205. To stay off the highway, the Trans-Canada Trail follows on the north side of the road, on the berm.	2.3
2.5	Turn right onto Perreault Road, a dirt road. Watch for the blue arrow signs indicating the route of the Trans-Canada Trail. This is an easy turn to miss.	4.8

You are now riding along the ridgeline and watershed of Lake Agassiz, known locally as La Petite Montagne. The next few kilometres are lined with lots of berries and other eatables:

chokecherries, saskatoon-berries, high-bush cranberries, hazelnuts, and such.

3.2	Upon exit of Parc Carillon, turn right onto gravel road.	8.0
0.2	Turn left onto Jolys Avenue East.	8.2

Note the large boulders on the right. Receding glaciers deposited these. As glaciers advanced they scoured the land down to the

bedrock and left behind the sand, stones, and rocks they had picked up.

0.6	Continue straight onto a grassy / dirt trail as the gravel road veers right in order to stay on the TCT trail.	8.8
0.7	Continue straight as trail merges onto a dirt road.	9.5

Wild roses line this area.

0.2	Continue straight to cross the road. At times this section is detoured to the right – follow the TCT detour signs if they are in place (pick up the routes at km 13.1 below by going straight across a gravel road).	9.7
0.3	Continue straight to stay on the trail, passing pasture gates on the left.	10.0

Here you'll see wild sage, aspen, and poplars sheltering young oaks. Eventually, the oaks will grow tall enough to cast a shade over the other plants and the other plants will decline and fade away.

This is all part of the natural cycle of plant growth. Trees and other vegetation are removed by cutting or by natural disasters including fire, after which new plants appear. Fire is not always bad because it does release nutrients previously locked in the soil and some seeds need heat before they will germinate.

Once vegetation has been cleared, plants tolerant of direct sun begin to grow. These plants also help to replace nitrogen in the soil. As they grow, they provide shade that protects new seedlings from the sun and allows them to grow large enough to overshadow their former protectors. At some point they too will be replaced as the cycle continues.

1.3	Cross a creek.	11.3
0.1	Turn right onto gravel road.	11.4
1.7	Turn left onto dirt road. If you keep heading straight, you will reach PTH 59.	13.1
0.8	Continue straight to pass along the edge of the surveyed township lot (on left) and a traditional French river lot (on right).	13.9

Right now the field on the right has been planted with flax. Don't venture into the fields, since these are private property.

Most of the land on the prairies has been divided into townships according to the Dominion Township survey system, which was adopted in 1869 to survey the territory that was about to be transferred by the Hudson's Bay Company to the Dominion of Canada. The first line to be laid out was the Principal Meridian, a straight line running north and south 23 km west of Fort Garry. The line was established at the western end of the most westerly riverlot in the Morris area. It formed the baseline from which all of western Canada was divided into townships, each of which comprised 36 one-mile sections. Each section was divided into quarter sections of 160 acres each. A homestead claim was a quarter section, which could be acquired for a fee of \$10. Settlers also had to meet residence and land improvement requirements. The result is the grid of long straight roads that now characterize the countryside, though the surveying itself contributed to what was to become the Red River Resistance.

Before this time land was laid out in the long-lot system, which is characterized by narrow lots two miles long running back from the river. Settlers' houses were close to the riverbank, since the river was the main transportation route. This survey system was based on the one used in Europe and in Quebec and was adopted because it was the one to which French settlers and Métis were accustomed. The arrival of the British surveyors in 1869, with their new way of dividing up the land led many to believe that their traditionally surveyed property could be confiscated. As a result the large population of French and Métis farmers that lived along the Red River and its tributaries were quite alarmed and contributed to the discontent that led to the uprising in 1870 (which ultimately led to the creation of the Province of Manitoba on July 15th, 1870).

Want to know more about the Métis along the Red River? Try Rivers West's Métis and the Path to Confederation: self-directed drive & stroll tour.

0.8	Turn left onto a dirt road. If you would like to cut your mountain biking trip short, turn right at this intersection. Continue straight across PTH 59 onto PTH 23. You will pick-up the return route to St. Pierre-Jolys in 1.6 km from here, where it reads: "Continuation of routes".	14.7
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As you travel along this section note that the fields are filled with boulders. This was once the beach area of Lake Agassiz. Beach deposits formed where water levels were stable for several years. As the lake level dropped, finer silt settled in the

deepest part, while the coarser sediment settled in the shallower areas near the edge. High waves and strong winds would wash away the finer material, leaving gravel and boulder beaches.

2.1	Turn right onto trail of grass.	16.8
1.3	Continue straight onto a gravel road.	18.1

This corner is filled with lots of wildflowers. Prairie grasslands are home to a huge variety of flowers, including the prairie crocus, one of the first signs of spring, and the purple coneflower, whose roots were used by First Nations peoples for medicinal purposes.

There are plans for a set of interpretive panels at this intersection, which may already be up.

1.5	Turn right at intersection onto a sandy road.	19.6
1.7	Continue straight at stop sign to cross PR 403.	21.3
0.5	Turn right just past the hydro line that crosses the road, onto a very narrow trail to enter St. Malo Provincial Park. Almost immediately you will pass between some boulders. <i>If you reach the turn off for the St. Malo Lodge, you have gone too far. Turn around to go back to the Hydro line.</i>	21.8

St. Malo Provincial Park is a lovely spot on the shore of an artificial lake that has been created by damming the Rat River. This is a small example of the vast marshes and lakes that once existed naturally in the Red River Valley. Rivers such as the Rat, Seine and Roseau originate in the highlands of the east that propelled the waters downhill. As they crested the lip of the Red River Valley – over the eastern ridgeline, these waters arrived in very flat terrain with little slope or gradient.

Before the arrival of settlers, these waters tended to pond across the landscape creating large marsh-like areas often very near the ridgeline, since the water's momentum was drastically reduced. In fact on early maps, the Seine River is shown flowing through two large marshes. Today, all of these marshes have been drained as well as the smaller sloughs that would develop during wet cycles on the impermeable clay beds.

0.1	Keep left to veer onto gravel road.	21.9
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Ignore different style of blue signs in this section. These are for the ski and hiking trails in St. Malo Provincial Park.

0.1	Turn right onto trail of grass.	22.0
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0.2	Continue straight onto a gravel road.	22.2
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You may want to explore some of these trails or head to the beach. In addition to camping facilities, there are two beaches as well as a number of walking trails.

One of the trails takes you through a small patch of tall grass prairie. Be sure to pick up a map of the park at the entrance kiosk.

0.6	Continue straight at the stop sign.	22.8
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0.9	Turn right to exit the park (if you would like to go to the beach, turn left).	23.7
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0.6	Cross the Rat River.	24.3
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0.3	Cross PTR 59 on the left side of the road (as indicated by the blue signed Trans-Canada Trail arrows).	24.6
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Just before this turn on your right is the entrance to the "Lady of Lourdes Grotto and Shrine". This hidden treasure tucked into the woods overlooks an amphitheatre and creek. For a quiet relaxing stop along the Rat River, visit the church and walk down the Way of the Cross to the amphitheatre below – which is usually empty of people. Every year in mid-August, however, a pilgrimage is held here. At this time mass is held, confessions and an afternoon of prayer and meditation take place.

On your left is the entrance to the Maison Chapelle, which is a replica of the original church in St. Malo. No metal (not even nails) was used to build the wooden structure. In addition to being a restaurant (which will not open until fall 2003) and office complex, the structure houses a Métis craft store.

0.4	Turn right at the stop sign onto Rue St. Malo to begin your return loop to St. Pierre-Jolys. You are no longer on the TCT.	25.0
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To visit the [St. Malo Church](#), turn left

People began to move into this area between 1881 and 1889. At that time, Louis Malo (a pioneer farmer in the area) and Father Jolys (from St. Pierre) asked Bishop Taché in St. Boniface to establish a new parish here. Thus in 1890 the first chapel was built and the town itself was established in 1892.

Want to know more about the early French settlement in the Red River Valley? Try [Rivers West's French and Mennonite Settlement: self-directed cycling tour](#) or [In the Footsteps of the Voyageurs: self-directed walking tour](#).

0.3	Continue straight to cross PR 218, you are now on Le Rang. On your right you will pass an Alpaca farm.	25.3
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St. Malo is located near the transition between the upland woodlands that were once the lake shore of Lake Agassiz and the flat prairie grasslands that were the bottom of Lake Agassiz. As you exit the village of St. Malo you have come off the ridgeline and are now in the Red River Valley. Some of the flattest land in the world is located in the Red River Valley. Celebrate the flatness that surrounds you – there are few other places on Earth where you can experience this!

The flatness of this land is the result of Lake Agassiz. As the glacial ice melted, the resulting lake covered much

of Manitoba, north-western Ontario, parts of eastern Saskatchewan, North Dakota, and north-western Minnesota. This ancient lake well exceeded the total area of the five great lakes. At its largest, it was about 1500 km long, over 1100 km wide with an area of approximately 285,000 square kilometres, and its watershed was 906,000 to 1,295,000 square kilometres. If the lake were still in existence today, the surface would be more than 200 metres above your head (this is greater than the height of the Calgary Tower or almost twice the height of the Richardson Building in downtown Winnipeg)

As the ice sheet slowly melted away and the front retreated, the whole of the region covered by Lake Agassiz was blanketed by glacial sediments that had been caught up in the ice. These materials ranged from deposits of fine sand and gravels, to stones, rocks, and even huge boulders. This mix of material was added to and often modified by the action of the accumulating glacial melt waters. Swift-flowing glacial rivers, such as the Assiniboine and the Souris (at that time much different from their present incarnations), deposited a huge quantity of sediment into the lake. Upon entering Agassiz,

the heavier particles (sand, gravel, boulders) settled quickly to the bottom (thus near the shoreline), and the finer material (silt and clay) remained suspended in the water for longer – only settling down in the undisturbed basins of the deepest part of the lake. The largest of these sediment basins became the Red River Valley. The surface of this basin was almost perfectly flat because it was so deep; there were few forces to modify it, except for the occasional iceberg dragging along the lake bottom and creating tracelines. As a result, once the lake disappeared, the resulting land was also perfectly flat.

1.5 Turn left at the T-intersection.

26.8

As you cycle along through the fields, note the rich black soil that surrounds you. This is not the same material that was at the bottom of Lake Agassiz. However, these black soils are the result of the mixture of those sediments with the decaying plant material that grew here after the waters of Lake Agassiz drained away. Unlike in other parts of the province, these soils have very few if any rocks or boulders in them because any boulders that were deposited here by the glaciers were buried beneath the thick layer of clay and topsoil.

Underlying this rich soil is a deep bed of very fine clay material (the remains of the glacial sediment). It is this clay – also known as Red River Gumbo – that contributes to the flooding difficulty of the Red River Valley, since it is essentially impervious to water. This prevents floodwaters, or any surface water, from having good drainage on these Red River flats.

Note the trees that you see among the crops (not the ones that line the Rat River to your right). For the most part, all of these have been planted by the farmers. These rows of trees, called shelterbelts, are planted in order to protect the fields (field shelterbelts) or farmyards (farmstead shelterbelts) from the elements. For more than 90 years, farmers have been planting field shelterbelts in the Red River Valley in order to reduce soil erosion by blocking the wind. The rows of trees are usually planted perpendicular to the prevailing wind in order to reduce the speed of the wind (and thus its ability to blow away the soil). Field shelterbelts also help to retain moisture by trapping snow in the wintertime, which is especially important at times of drought.

1.4 Turn right onto a dirt road immediately after crossing a drainage ditch

28.2

As soon as settlers began to farm the land, they began to dig drainage ditches to deal with the problem of standing water. Below the soil is a deep bed of fine clay material, the remains of glacial sediment, known as Red River Gumbo. Because it is impervious to water, this clay inhibits good drainage and

after a heavy rainfall water will collect and stand for days, even months. By 1881 there were 320 kilometres of drainage ditches across the Red River Valley and today there are tens of thousands.

3.3 Turn left onto paved road PR 23.

31.5

Continuation of Routes for shortcut back to St. Pierre-Jolys.

1.5 Turn right onto the first gravel road you come across.

33.0

Note the line of trees on your right – this is the location of the Rat River. Most of rivers in the valley used to be lined by treebelts, which could be seen for miles. In many places these forests extended for more than 2 kilometres on either side of the rivers. Many of these are gone, cleared away when settlers broke the land for farming, and where they still exist they are only very narrow bands just along the riverbanks.

The Rat River's banks are still in quite a natural state. Plants and trees growing in the zones along the rivers help to stabilize the soil and reduce erosion. The vegetation is also important during times of flood, as it soaks up the water and slows the speed of the water flooding its banks. Different trees that you will see in these forests include oak, ash, poplar, and willow.

3.3	Continue straight to cross a gravel road.	36.3
5.0	Road becomes gravel.	41.3
0.5	Pass a mural covered barn on your right.	41.8
0.9	Veer left with the road.	42.7
0.4	Turn right onto PR 205.	43.1
0.4	Cross the Rat River.	43.5
1.8	Cross Joubert Creek, and immediately turn left onto trail.	45.3

You are cycling on a dyke that protects St. Pierre-Jolys from high water in the creek. Like other Red River Valley towns, St. Pierre-Jolys has a dyke to protect it from flooding.

0.3	Stay on the trail as it veers right and pass the Goulet House on your right.	45.6
0.1	Arrive at the St. Pierre-Jolys Museum parking lot.	45.7

Add-on loop from St-Pierre-Jolys

This add-on loop takes you from the museum in St. Pierre-Jolys to Otterburne and back partially along the Trans-Canada Trail.

0.0	From the museum turn left out of the parking lot, following the Trans-Canada Trail signs north.	0.0
2.5	Cross Curé Road.	2.5
0.3	The road becomes gravel.	2.8
2.0	Turn left onto River Oak Drive.	4.8
0.7	Cross Gagné Bridge.	5.5
0.7	Turn right at the T-junction to stay on trail.	6.2
2.3	Turn right to follow the blue signed arrows.	8.5
0.2	Turn left onto Ave de L'Église.	8.7
0.2	Turn left at stop sign at the T-intersection, to return to St. Pierre-Jolys.	8.9

If you would like to explore Otterburne, turn right at this intersection – following the blue Trans-Canada Trail signs. This is a lovely little community to explore.

After your visit, return to this intersection and go straight to the next T-intersection..

0.2	Turn left at stop sign at the T-intersection.	9.1
2.6	Continue straight at the intersection. You are leaving the Trans Canada Trail.	11.7
2.5	Turn left at the T-junction.	14.2
1.2	Turn left at the T-junction.	15.4
1.7	Turn left at the stop onto PR 205.	17.1
0.4	Cross the Rat River.	17.5
1.9	Cross Joubert Creek and turn left onto the path onto the dyke.	19.4

Once again you are cycling on a dyke that protects St. Pierre-Jolys from high water in the creek.

0.3	Stay on the trail as it veers right and pass the Goulet House on your right.	19.7
0.1	Arrive at the St. Pierre-Jolys Museum parking lot.	19.8

Thank you for joining Routes on the Red's self-directed excursion exploring the ancient shores of Lake Agassiz. We hope that you had an enjoyable trip. We would love to have you discover more of the Red River Valley on our other self-directed itineraries.

We greatly value your input and comments. If something was not clear, a road sign changed, or if you found a delightful picnic site or visit that you would like to share with future travellers, please let us know. The best way to communicate is to write the changes or new information directly onto the appropriate route description page, and mail or fax it to the Rivers West office. Thank you in advance for your contributions!

Rivers West, officially known as Red River Corridor Inc./L'Association du Corridor Rivière Rouge, is a not-for-profit organization, with the overall objective to develop the Red River Corridor as a destination. Our mandate is to create and implement a long-term tourism and conservation strategy focusing on the development, promotion and management of the natural, tourism, cultural and heritage, and recreational resources of the Red River from Emerson to Lake Winnipeg.

We are pleased to receive financial support from the federal and provincial governments and the participation of rural municipalities, towns and cities along the length of the river. A variety of projects are underway in the Red River region. These include the preservation of special lands for conservation, designation of the Red River as a heritage river, increasing opportunities for public access to the River, and the development and promotion of the river valley's natural, cultural, recreational and tourism resources.

Contact us for more information at:

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