

ROW TOURING MANUAL FOR CANADA

Revised several times; latest version January 2022

PREAMBLE:

This Manual is intended to provide recreational rowers, particularly people organising rowing tours, with most of the information required to plan and undertake touring safely.

Touring is unlike rowing in racing shells. First and foremost, you will not be rowing on your “home turf”, or on a marked course closely supervised by umpires, but on unfamiliar water. This water must be scouted to ensure the safety and enjoyment of the tour group. The scouts (organisers) must be alert for potential problems and hazards, and be prepared to deal with them. ***To do this effectively, scouts must be familiar with touring, the skill & fitness level of people likely to participate and with the venue, weather patterns, currents, obstacles and other potential hazards.*** Second, instead of rowing for an hour, you will be rowing for several hours, expecting to cover over 30km in a day.

On tour, you are unlikely to have a motorboat “shepherd” to rescue you. Without a motorboat escort, safety equipment, spare parts and tools normally carried by your club’s coach boat must be accommodated in your touring shell. Your low-level club dock will not be available to facilitate a safe landing should the weather turn nasty. Boat captains and coxes must know how to make a beach landing, how to deal with a (possibly) rocky shore, how to disembark at a dock higher than the boat’s riggers and how to disembark at a motorboat launch ramp.

This manual was first created in 2000, based on Dr. Claudia Mosner’s translation of “***The Captain and the Cox***”, the ***German Rowing Association*** manual, Hannover, 1992. However, it has been shortened & edited to better reflect Canadian touring. (*Canadians rarely row on canals or rivers with heavy commercial traffic. Also, European canals often have methods & equipment (chutes, tiny rail cars, etc.) allowing touring rowers to bypass a lock without having to “portage” their boats.*) The purpose of this manual is to make recommendations designed to keep you out of trouble, and help you cope with problems which even the best planning cannot eliminate.

The first Canadian touring event was mounted in 1995 from Poonamalie to Portland on Big Rideau Lake. Since then, numerous tours have been mounted occurred in Ontario and Quebec with coastal events in Prince Edward Island, British Columbia, and Nova Scotia. We hope people participating in Canadian touring will suggest additions and improvements to this document, which should be regarded treated as a “work in progress” always open to revision. Meanwhile, we hope Canadian rowers who participate in touring will find it informative and useful.

Touring is highly enjoyable. Touring is also an opportunity to meet rowers from other clubs and row with, rather than against them! You will row hard, and for hours on end, but usually not under pressure. You will have time to make fast friendships with people you might normally only encounter briefly, or not at all, at a regatta.

Touring in rowing boats is much like canoe tripping, except for the speed. You may experience the natural world, and even sneak up on wildlife. You will definitely enjoy powering past canoes struggling into a headwind.

Do join us!

Peter Bursztyn, Barrie, April. 2000 – for Ontario Adventure Rowing
*Revised by Peter Bursztyn, March 2016, December 2017, September 2018,
January, 2022.*

Ontario Adventure Rowing subscribes to the anti-harassment policies of RowOntario & Rowing Canada Aviron.

NOTE: This is considered a “living document” and meant to be revised. If you have comments, complaints, or suggestions on how it might be improved, simply write to me: bursztyn@infinity.net

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Touring Equipment – Boats

Worldwide, there are many different styles of boat used for touring. They all share certain qualities. They are wider and more stable than racing shells. Because they are often hauled up on beaches, they are sturdier. The seating position leaves more space between your hands and your thighs greatly facilitating rowing in rough water. Touring boats usually use a skeg rather than a fin for directional stability, allowing them to be beached standing on their hulls. (Many coastal boats use a fin, detachable in some, but not all, designs.)

Inland or River Touring Boats

River touring is usually done in relatively narrow “C-gigs”, which originated in Germany; now very popular in Europe. A few wooden German boats were brought to Canada, however, Hudson Boat Works began making their version here. The Hudson T-11 (4x+), T-7 double and T-6 single are all “C-gigs”. (The numerical designation refers to the boat length in metres.) The T-11 (below) is constructed like a modern racing shell – of lightweight honeycomb material sheathed in carbon-fibre polymer, both cured together into a single, very stiff unit. The T-7 & T-6 are made of “Royalite”, a tough material like that used for whitewater canoes. Royalite resists damage from rocks and docks, but the boats remain light enough to be carried by their crews. Hudson no longer makes touring boats, but a few Chinese-built imports are now available. Of course European-made boats can also be bought, but a container would have to be filled to make importing affordable!



In Europe, the “D-gig” is also used. Where a “C-gig” quad is ~0.75m across the beam, the “D-gig” measures ~1m. These boats are even more stable and far more roomy (for baggage), but slower. To the best of my knowledge, there are none in Canada. Europeans also row uncoxed triple sculls (~0.7m beam). I have seen a coxed quint (5 seats), hex (6 scullers) and have rowed a seriously fast coxed oct (8 scullers)!

Holland’s traditional boat (copied in Argentina) is a coxed double with a luxuriously broad coxie’s seat. The Dutch also use coxed “C-gigs” on their canals and rivers. They tend to avoid coxless boats due to the relatively heavy traffic on their waterways. Traditionally, Venetians row standing up, pushing on their oars as in their gondolas!

On the Baltic Sea, the Danes prefer “inrigger pairs”. The rowers sit against one gunwale with their oar pin on the opposite gunwale. The “staggered-seat” design allows them to be quite short. These boats are not fast, however, they are very buoyant and astonishingly capable in choppy seas, taking in little if any water.

Norway and Sweden favour the same inrigger design, but built for four sweep rowers (left). These are longer, but shorter than a boat with in-line seating.

The fleet for a rowing tour on the Oslo Lagoon consisted mostly of these inrigger fours, but four were coastal quads (next section). When the

water was relatively calm, the quads were generally faster than the inrigger fours. However, one day the water was particularly rough, and the inrigger boats proved faster than the quads and much more pleasant to row! Clearly, the Scandinavians know their boats and designed them to perform well in their water!

Finland has a unique boat derived from the Viking Longship. The wooden, 2m beam "Kirkkoven" or "Church Boat" has 14 sweep rowers sitting side-by-side plus a cox (right). It too has no riggers and is the largest boat I have rowed. The oars are carried on a pin mounted directly on the gunwale and do not feather. With the power of 14 rowers, it is seriously fast; the record for Finland's annual Sulkava race is 4 hours for a 60km course! Typically, 7000rowers compete in this event. On a Lithuanian tour, I saw but did not row a "barge" carrying 8 rowers, side-by-side like the Finnish boat. Unlike the Finnish boat, it was heavy and slow, but did have room for two passengers in addition to the cox!

Coastal Boats

Coastal rowing boats must include the Danish inrigger boats and Finland's Church Boat, very capable traditional designs. However, France makes a number of similar boats designed for coastal racing. Their boats are double-hulled enclosing a sealed air space. So long as they are not punctured, they are unsinkable. The cockpit has no transom (below) so if a wave should sweep over the boat, the water flows out the stern. Italy's Filippi produces a similar, but wider, heavier boat with short riggers (right). Their coastal boat handles rough water very well; momentum keeps it moving in waves which might stop a lighter craft completely.

Unfortunately, the coastal boats cannot be launched by their crews. The French coxed quad needs at least 6 people (preferably 8) to carry it; Filippi's coxed quad really needs 8 – 10 people to lift it out of the water. At their home clubs, these



boats are usually launched from a hand-pulled cart rolled down a ramp into water deep enough to float the boat. The French coastal double can be carried by its crew (two people).

My rowing partner and I carry my Eurodiffusion double (left) 10 metres, from its purpose-built 4-wheeled cart and into the water.

The traditional Cornish Pilot Gig has acquired a loyal following. This sturdy, heavy boat has six fixed and staggered seats. Once used to tow square-rigged sailing ships into harbour, these gigs were designed to be fast (for their era); the coxswain of first boat to reach the sailing vessel would get to pilot the large ship into harbour, earning the pilot fee. The other boats would help with towing. I saw these boats when I participated in an annual “Wooden Boat Festival” on Brittany’s Golfe de Morbihan.

Please note that I do not claim to be familiar with all types of touring and/or coastal boats. There certainly are other rowing craft which I have never seen. A Canadian example is the Royal St. John’s Regatta where racers use fixed-seat boats with six rowers in each. Seats are staggered in similar fashion to the Scandinavian boats described (with photo) on Page 2, above. I have never seen this regatta, and the boats seem not to be used anywhere else.

Blades

Canadian touring rowers often make do with blades their club’s racing programme no longer needs or wants. In the 1990s, they would have used ‘macon’ blades which were being replaced with the then new ‘hatchet’ style. These days, ‘hatchet’ hand-me-downs are, pretty much, all that remain available. Moreover, these blades tend to have stiff shafts.

Tour rowing is concerned with endurance rather than speed. A tour rower can expect to row for 15 to 20 kilometres (around 2 hours) before getting out of the boat for a lunch break. After an hour or so for lunch, the tour rower will embark once again for another 15 to 20 kilometres of rowing.

The stiff shafts and large blades designed for maximum speed, limit slip in the water and impart a shock load to the shoulders at the start of every drive. The use of macon blades on slightly flexible shafts reduce the shock and are more comfortable in the long run. In the context of touring, they will make no difference to boat speed.

Another advantage of macon blades over hatchets is their suitability for use on either starboard or port side. A rowing tour should always carry spare oars. With macon blades, only one spare oar is required!

Tour Planning

A tour's success depends principally on careful planning. The real work begins after choosing an interesting, picturesque route. This is the scouting work; looking over the route with a view to safety and practicality. The tour organiser/leader should begin with road (parking for cars and trailers) and water access at the launch and take out sites, including road access at intermediate stops for lunch. The tour should also consider places to stop for biological breaks, viewpoints, swimming sites, or other purpose, and to ensure the site has enough space for the boats to be beached or moored safely.

Travel distances need to consider the likely speed of the boats taking part. A reasonable morning run may be 15-25 kilometres; the afternoon finale should be shorter since participants will be full of lunch and may be tired. Tour organisers tend to be strong, skillful rowers so may expect the "fleet" to achieve the same speed they attain on their regular 10-15 kilometre club outings – 10-12km/hr. In reality, the tour will include weaker rowers. A realistic average speed is probably 8-9km/hr. If the tour travels faster, consider that a bonus!

Of course, this is speed through the water and current must be considered. Wind can speed or slow the fleet, and the boats will be faster in calm than in rough water. A river tour is unlikely to be straight; curves, fallen trees, deadheads, rocks or other obstacles will reduce speed, perhaps considerably! The organiser has to assume the fleet will move more slowly than expected because it is definitely not amusing to arrive at a take-out site in the dark!

The organiser must also check the route for emergency landing sites in case of sudden storms and identify these to the boat captains. Will the tour need a shore support crew (to bring lunch for example)? Should motorised safety boats accompany the tour? How many boats can the launch, landing & take-out sites accommodate?

Touring Equipment Checklist

1. Boat(s) must be in good condition. Check boats, blades & riggers **before** taking a boat on tour!
2. Obtain **Maps**, **Charts**, or supply detailed **Written Directions** before setting out. *A map with any needed directions should be aboard each boat, preferably in a waterproof, transparent (zip-lock) bag.*
3. One Life Jacket **must be carried for every participant** on a tour and stowed on board or tied to the deck. Inflatable life jackets are acceptable, but these must be rapidly accessible in an emergency.
4. Take tools (for riggers, oarlock pitch, seats, tracks, pliers), spare parts (rigger nuts & bolts, footstop & track nuts & bolts, washers, oarlocks, oar collars), plus duct tape, etc for repairs. *(only you know what your boats need)*
5. One or two spare blades should be taken on each trip. These can be carried by laying them on top of the riggers of one of the boats.
6. One bailer or pump, one whistle (or other signaling device), a signalling mirror or flashlight, and a throw line must be on board each boat. ***These are required by the Canadian Coast Guard & Police!***
7. Take at least one first aid box with disinfectant, bandages, sunscreen, insect repellent, antihistamine cream, etc.
8. For canal tours, each boat should have a paddle & a boathook to help manoeuvre near a dock or lock wall.
9. Participants are responsible for packing appropriate clothing & keeping it dry in case of rain or capsize.
10. Bring along your sense of humour!

NOTE (1): Check your equipment to ensure that it complies with Canadian Coast Guard requirements.

NOTE (2): A Cell Phone may be useful, but check if there is service in the area!

NOTE (3): Canadian touring boats use hatchet racing blades, "inherited" as racing folk upgrade equipment.

Touring oars with more flexible shafts and macon spoons help to reduce fatigue.

Responsibility in the Boat

On a tour, there are 3 levels of command. The **Tour Leader** (and/or **Organiser**) is in charge of the overall planning, safety and organisation of a trip. The **Boat Captains** are in charge of their own boats, equipment and safety. The **Tour Leader** need not be a **Boat Captain**. The **Coxswain (Cox)** is in charge of steering a boat. The **Cox** need not be a **Boat Captain**. Indeed, the position of **Cox** should change several times in a day.

The Tour Leader chooses Boat Captains when the crews are selected. Boat Captains are responsible for choosing their Coxies, but volunteers are usually very welcome. The Boat Captains are ultimately responsible for the actions of their Coxies, and must be prepared to ask them to carry out manoeuvres. The Tour Leader is in charge of the trip and its participants, but **does not usually command individual boats (too busy!).**

The trip route, maps, charts, instructions, weather forecast, rendezvous locations for participating boats & for accompanying vehicles if any, plus emergency landing sites are all the responsibility of the Tour Leader. The Tour Leader is responsible for ensuring that Boat Captains understand all of the above and have maps/instructions in a waterproof pouch (*zip-lock or similar*). The Boat Captains take responsibility for their boats & their crews (*ensuring their boat has life jackets, water bottles, snacks, etc.*). While the Boat Captain retains responsibility for the boat, the (*forward-facing*) Cox is responsible for maintaining the course of the boat & for issuing the appropriate commands to the crew. The Cox operates under the general guidance of the Boat Captain.

The Boat Captains and the Tour Leader can only have responsibility if the command structure is followed. A Tour is not a naval squadron & commands are not normally issued in a commanding tone; they may not even sound like commands, however, crew are expected to obey their Boat Captains & Coxies.

The first objective of every rowing trip is ***to return safely!*** The second objective is ***to bring the boats back in good condition.*** Both are the responsibility of the Coxswains, Boat Captains, and of the Tour Leader. A third objective is as important as the first two: ***to have fun!***

In order to achieve these objectives the tour leader's authority must be respected. In the boats, the cox must have authority & the respect of his/her crew mates. In order to have the respect of the crew, the cox must be able to handle the boat proficiently. *If the cox is a novice, the Boat Captain should take the stroke seat and instruct the cox!*

Safety Regulations

Under the Canadian Coast Guard Regulations, **a rowing boat is considered to be unpowered and treated in the same way as a sailing craft.** The rules state:

- i. power boats give way to unpowered boats
- ii. **both** power & unpowered boats must give way to large craft which can only operate in a marked channel
- iii. unpowered boats give way to other unpowered boats on their *starboard quarter*
- iv. when approaching head on, *two boats should steer so as to pass each other portside to portside.*

NOTE: The above is a condensed summary of the Coast Guard Regulations as given in the “Safe Boating Guide”, which may change from time to time. It is the responsibility of the Tour Leader & the Boat Captains to ensure that all vessels under their command understand and comply with these Regulations.

No licensing exists for “unpowered craft” in Canadian waters. However, every cox should understand how motorboats and sailboats operate, and to steer the rowing boat so as to give other boats “sea room”. In particular, the cox must understand that

- (a) the sails of a sailing boat may restrict the view of the helmsman, and
- (b) the course of a sailing boat is largely dictated by the wind – leave them room to tack!
- (c) the course of a personal watercraft is ***totally unpredictable – give them lots of room!***
- (d) large motorboats (cruisers, etc) tend to keep a straight course (but be careful because some motor boat drivers are inexperienced, inattentive, and may be intoxicated.)
- (e) large motorboats & sailboats (with a keel) require deep water & may be unable to avoid you if doing so could cause them to run aground – *you must respect their inability to give you all the room you may want*

NOTE: It is not clear whether a sailboat has priority over a rowing boat (or v.v.).

Common Sense Rules

(#1 is also a Coast Guard Requirement)

1. The tour leader **MUST** know how to read a marine chart and/or a topographical map when venturing into unknown waters. The tour leader **MUST** have a detailed chart for unfamiliar waters or a less detailed map, but with directions from people who know the waters, warning of **specific dangers (shallow water, deadheads, rocks, etc.).**
2. The tour leader **MUST** scout the route of the tour and have emergency plans in case of bad weather or other problem, including **emergency landing beaches/docks**. If there is a **shore party** with vehicles/trailers, a meeting point & emergency plans must be shared with them.

3. It may be dangerous to travel on unknown waters. The tour leader **MUST** brief the coxies/captains of participating boats on the day's course before setting out. On their part, the **coxies must allow the tour leader to lead**, particularly over potentially hazardous parts of the day's course. *If there are issues, they should be aired & discussed BEFORE the boats are launched!*

4. "Coxless" boats should allow a coxed boat to lead them through shoal waters or other hazards. **There is no such thing as a coxless boat! In a rudderless boat or one without a coxie's seat, the bow rower is responsible for steering.**

You cannot read a map while rowing! A coxless boat should always follow a boat with a forward-facing cox, not only through hazards.

5. When several boats participate in a tour, the tour leader should keep the boats together (within sight or hailing distance) at all times. *If the boats are likely to travel at very different speeds, they should be put into buddy pairs or groups which agree to stay together.* The boat captains must be told of this arrangement, and then keep their group's boats close enough to render assistance to each other should the need arise.

6. Trip participants should bring appropriate clothing for the trip. Keep this in a waterproof compartment on the boat or in a waterproof bag to be stowed in or on the boat.

7. Novice coxies should be coached. The boat captain must ask all crew members whether they have had coxing experience. If a crew member admits to little or no such experience, the captain should occupy the stroke seat to facilitate coaching the coxie. The boat captain may appoint another experienced crew member to do this in their stead. The crew needs to understand that coxie coaching is mandatory. *The objective is to give all rowing "tourists" coxing coaching and experience; ultimately, all crew members should be able to cox the boat reasonably skillfully.*

Preparing to Row

The Boat Captains & the Trip Leader should do the following:

- Provide a sealed transparent plastic bag (eg: zip-lock) containing a map and/or route instructions to each boat, or at the minimum in the hands of one of each "buddy group".
- Obtain a recent area weather forecast & be prepared to change or cancel plans if the weather deteriorates.
- *Plans should include the location and a description of emergency landing sites along the day's route in the event of the sudden onset of stormy weather, or some other issue (eg: a punctured hull . . .)*
- Assign the crews to boats. Try, if possible, to accommodate the crew's wishes. However, make sure the crews are roughly balanced as to strength & skill so that some boats do not surge ahead while others lag behind.
- ***Each boat must have at least one crew member who is highly skilled & experienced in touring.***
- Ensure that each crew checks their riggers & other equipment prior to launching and at the end of the day. The Boat Captains or Coxies must repair, or report any breakages or problems to the trip leader.
- Order each crew to launch their boats, alone or with help from other crews, depending on the launch site and conditions. Avoid launching if motor boats are making waves – wait for calm water.
- Supervise stowing life jackets, inserting oars, rudder & other equipment.
- Supervise the loading of the boats with whatever baggage is to be taken. Make sure that baggage is sensibly stowed and does not overload the boat or hamper rowing.

Launching a Touring Boat

Touring boats are heavier and wider than racing shells. Accordingly, they are not launched by pressing them overhead and lowering into the water. Typically, the boats have neither a fin keel nor a rudder protruding below the hull*, and can be set directly on the ground (**never on rocks please**) or on a dock. They may be launched by sliding the hull from a dock into the water.

Of course, you must never do this from a rocky shore. From a rocky shore, the crew carries the boat right side up by its gunwales and walks into the water with the boat; it is best to have more people carrying each boat in case someone loses their footing! If the water becomes deep rapidly, launch the boat parallel to the shore so all rowers are able to embark easily.

* ***WARNING: Coastal Boats may have a fin and/or a rudder protruding below the hull. These are vulnerable to damage. Such boats must be carried into water deep enough to float them without damaging the rudder or fin.***

Getting In and Setting Off

As in a racing shell, before you embark, ***all blades must be installed and their gates closed.*** Baggage should be stowed before the crew embarks. Occasionally, when embarking from a high dock, one person may have to get in first to stow baggage while others steady the boat from the dock.

You get into a touring boat exactly as you would get into a racing shell – *taking care to step into the centre of the boat if possible.* However, you may not have the luxury of stepping off a low level dock! You generally have a beach launch – standing in knee deep water.

Occasionally, you may have to embark from a rocky shore, or from a very high dock. Both situations can be difficult and should only be attempted under the guidance and with the assistance of an experienced person. If the dock is suitably low, the entire crew can board simultaneously. Otherwise, board one at a time.

Take great care; as baggage is loaded and people embark, the boat sinks in the water. ***Ensure the riggers never support the boat's weight or begin to tilt the boat as it sinks in the water.*** You may have to protect the riggers by moving the boat away from the dock as loading and embarkation proceed.

If boarding is from a beach, board one at a time with the rest of the crew steadyng the boat. Once boarded, rowers need to steady the boat with their blades (i.e., feather) for the last crew member.

Check that the course is clear before starting to row. Move the boat to the end of the dock until the bow rower is clear to row, ***OR***

Push the bow of the boat away from the dock until the bow rower is clear to row. The bow rower may use his/her dockside blade to push off & then pull away from the dock, while the rest of the crew steadies the boat. Try to avoid setting off stern-first because the coxie cannot steer with the boat going backwards!

Steering – Boat Moving

Always ensure that the steering rope (*most common – some boats have foot-operated steering or some other arrangement*) is stowed under your legs and is not wrapped around you (the cox). Ensure that, if the boat should overturn, the cox will not be entangled in the steering rope.

Pull the steering rope on the side of the boat towards which you wish to turn. The rudder pivots to that side, pushing water towards that side, kicking the stern of the boat to the other side.

Except in emergencies, course corrections should be gentle. Move the rudder 10°–20° only. Large rudder movements slow the boat unnecessarily. If a large rudder movement is required to negotiate a tight turn, time this to the rowing stroke. Maximise the rudder deflection during the recovery stroke, returning towards the centre position during the power stroke; this minimises the disturbance to the crew.

The boat cannot respond to the rudder unless it is moving through the water! The faster the boat is moving, the better it responds to the rudder.

Steering – Boat Stationary

If the boat is stationary, drifting, or moving very slowly *it can only be steered with the oars.* The cox must give the appropriate commands. Pull with the Starboard blades to move towards Port, and v.v.

In an emergency, steering & slowing can be accomplished simultaneously by holding water on the side towards which you wish to turn.

In a bow coxed (rudderless) boat, the cox steers by asking for more power on one side or the other. Pull on the side away from which you wish to turn. In an emergency, the cox may ask the crew to hold water on the side towards which they must turn.

The cox must be prepared to ***act without hesitation*** in an emergency. Of course, an alert cox will experience few emergencies, giving the crew a peaceful run!

Docking or Landing

*It is generally best to come to land/dock into the wind and/or the current so the boat stops when rowing stops. If the current and wind are in opposite directions, come to land **against the current & with the wind** so that the boat can be steered (making way through the water), even when it is not actually moving with respect to the shore.*

BEACH LANDING

Approaching a beach, always watch (ask bow seat for help) for rocks or deadheads which might damage the boat.

- Do not run the boat up the beach – there may be rocks!
- Have one or two crew disembark **before the boat grounds**. *This is particularly important in a Coastal Boat whose fin or rudder can be damaged contacting the bottom.* Let the disembarked crew pull the boat in towards the beach.
- If there are waves, **never let the boat pound the shore!** Always carry it “high & dry”.

DOCK OR LOCK WALL LANDING

Approach the dock at an angle of about 30°. Gently brake with the waterside blades with the short-side blades lying alongside. Skillfully done, this should turn the boat parallel to the dock or wall.

- Make sure that the riggers will clear the dock OR
- Approach, remaining far enough so that the riggers do not hit the dock or wall.
- Bring the blades parallel to the boat while docking. Use a paddle or boat hook to complete the docking procedure.
- All crew to fend off the dock - ***never allow the riggers to take the first shock***
- never allow the hull to strike the dock!
- If crew disembarks onto a low dock in calm water, all can disembark together
- If crew disembarks onto a high dock, **disembark one at a time** while the rest of the crew balances the boat with their blades. Once disembarked, one or two crew members must steady the boat by holding the riggers or gunwales until all have disembarked.

Storing the Boat Onshore

Touring boats are designed to rest safely on their flat keels. *Of course, the boats cannot be turned upside down without first removing the riggers or supporting the boat on its gunwales!*

Coastal Boats must be supported in such a way that their fins & rudders do not touch the ground!

Make certain that the boats are pulled up, well out of reach of waves or changes in water level, which may be caused by opening or closing dams.

If you expect a heavy rain overnight, the boats should be stored upside down. If the boats fill with water, the weight of water inside could damage the hull. Upside down storage can be achieved by resting the gunwales on supports (logs or picnic tables). ***It is not a good idea to leave the boat resting on its oarlocks!*** If this is not possible, remove the riggers. ***Do not support the boat overnight on life jackets;*** these may compress under the boat’s weight leaving it to rest on its oarlocks!

Rowing on Rivers with a Current

A current can be both useful and dangerous. Beware! Unless you are interested in extra fitness training, always seek out the slowest current when heading upstream and the fastest current when heading downstream.

However, row in a current only if it is totally safe (no deadheads or rocks) to do so!

When trying to cross a flowing river, use the current to help where possible. If the current is strong enough and you are able to place the boat appropriately, turning around may be achieved by the action of the current alone.

Rowing upstream, row close to shore, then with the waterside oars holding water, allow the bow to turn into the current so that the stern swings into still water near the shore. The current may then carry the bow right around without another stroke.

Rowing downstream, aim the bow into calm water near shore while the stern is in the current. The current should now carry you around without another stroke.

Take care that you do not inadvertently execute one of these manoeuvres when drifting downstream! When drifting, try to keep the bow pointed ready to row at all times. Avoid drifting downstream broadside; broadside, your boat occupies a large percentage of the channel, and also is more vulnerable to obstacles in this orientation.

Never drift downstream through a narrow passage. Try to keep the boat moving (relative to the water) so that steering control can be maintained!

Remember

- The current is generally fastest in the middle of a straight stretch of river.
- On bends, the current is generally fastest on the outside of the bend.
- On bends, the calm water on the inside of the bend *is likely to have shallow sandbars or gravel deposits*.
- The current tends to accelerate in shallow water.

HAZARDS:

Rowing on Large Lakes or Coastal Rowing

Large bodies of water are potentially hazardous because a wind may spring up suddenly, raising large waves. Always watch *carefully* for signs of changing weather and developing storms. When possible, keep close to shore.

In the “old days”, sailors were warned to “Beware the Lee Shore”. The “Lee Shore” (observed from the boat) is the shore seen from the side of the watercraft away from the wind. (1) A boat is being pushed, by the wind, onto the Lee Shore. (2) If the wind is strong, breakers may be crashing onto this shore. Both conditions make it hard for a sailboat to manoeuvre away from a Lee Shore and to avoid running aground. Large cargo ships may have insufficient power to fight a strong wind, and may run run aground on a Lee Shore. Rowing boats would do well to keep this warning in mind!

Not all shores are created equal. Beware of getting close to a lee shore (box above); the wind could blow you onto the shore, causing damage to the boat and potentially injuring the crew.

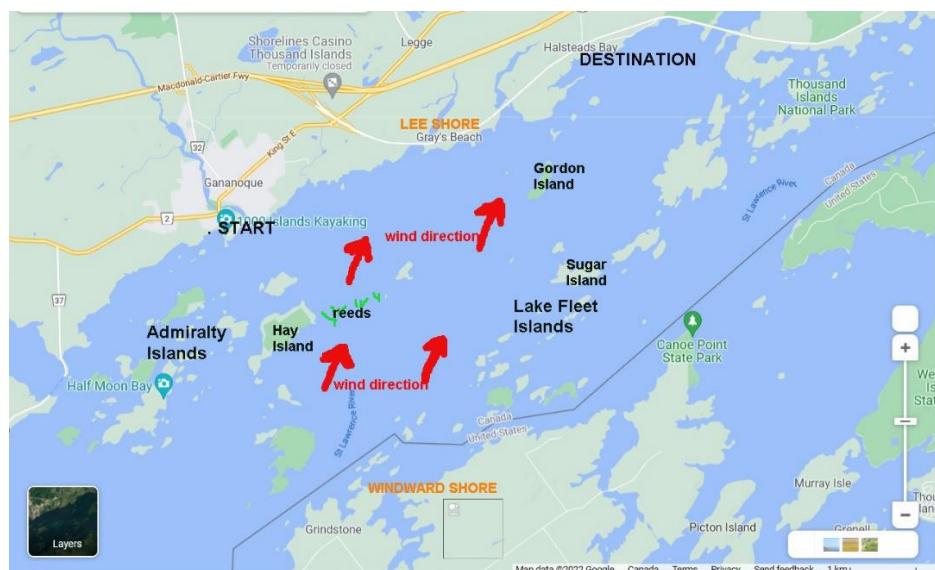
Your boat is far safer if the wind is blowing from the shore. Wave action will be less or even nonexistent near shore, and it is much easier to avoid unintended contact with the shore if the wind is blowing you away.

If you intend to land the boat at a site which turns out to be a Lee Shore, make sure that the coxswain is experienced. If there are boats ahead of you, and there is room for just one boat at a time to disembark, remain well offshore until the landing area is clear. Tell the crew how you plan to beach the boat. Announce which crew member(s) are to disembark to hold the boat & which crew are to stabilise the boat with their oars.

Remember, crew safety is paramount, however tour organisers will be grateful if their boats are not damaged.

It is worth noting here that long, straight coastlines tend to force winds to align with the shore. Barrie's Kempenfelt Bay is 2.5km wide, 8km long, nearly rectangular and aligned East-West. North east and south east winds align with the bay, raising considerable swells at my rowing club's dock near the end of the bay.

Winds and Waves: A Case Study



In this situation (map), the wind is southwest at 22 km/hr, gusting 50-55 km/h. A direct route, along the north shore is shortest, but is probably not the best route to take. The strong southwest winds will create substantial waves with whitecaps in unsheltered water. A longer, more southerly route would find shelter in the lee of the Admiralty Islands, skirt just north of Hay Island and a reed bed. This route would make a relatively fast east by north-east passage helped by a following wind, eventually finding shelter north of Gordon Island for the final leg to the destination. Better shelter would be found farther south along Grindstone Island and the Lake Fleet Islands, but at the risk of entering American waters by accident . . .

Coastal Rowing: Tides and Tidal Tables

Tides are changes in sea level caused by the gravitational attraction of the sun and the moon. These large bodies cause the sea water to bulge upwards as they pass overhead – more so when both are in line and less so when they pass overhead separately. High (or low) tides occur approximately every 24 hours & 25 minutes.

There are two components to tidal information; the tidal range or height difference between high & low tide, and the timing of high and low tide. A tide table will give you the tidal range at (say) Quebec City and at various smaller centres along the Gulf of St. Lawrence like Rimouski. It will also tell you that high tide at the smaller centre precedes high tide at Quebec City by a certain number of hours. So if you know (from the newspaper) that high tide at Quebec City on September 1st 2018 will be at 9:35am, you will then know when to expect high tide at Rimouski, and what the tidal range will be too.

Tidal information is important because (a) areas with deep water at high tide may be dry at low tide and, (b) as the tide rises and falls, it creates currents which may be both fast moving and hazardous. At Mont St. Michel on the Gulf of St. Malo, the tide is said to flood over the sands “faster than a horse can gallop!” More to the point, in various narrow straits, the tide can flow at 10-15 kilometres per hour – faster than most boats can row! Even where the tidal flow is not as rapid, you really don’t want to find yourself rowing against the tide – *it can crush your soul!*

For coastal rowing, organisers must have the appropriate tide tables and to know the height and time of high and low tide at various points along their tour – *and be able to estimate it in between!*

Although the Great Lakes are huge, they are too small to have significant tides; their tidal range is only a few centimetres – barely noticeable. The Mediterranean Sea’s tides are slightly larger, and of little consequence to human activity. (*Agua Alta is assisted by Mediterranean tides and does cause the City of Venice considerable grief!*)

Whitecaps

Whitecaps are caused by winds of Beaufort Force 4 (above 20 km/hr, but see below) or higher on open water. Waves take distance (and time) to form. Whitecaps tend not to form on narrow rivers or small lakes unless the wind is very strong indeed. A Force 5 “fresh breeze” may take 15-20 minutes to create whitecaps over open water. Whitecaps should be avoided. They accompany waves which tend to splash over the riggers and into the boat. The occasional wave may simply sweep over the gunwales, spilling water into the boat as it goes. Under such circumstances the boat gradually fills, rides lower in the water and is eventually swamped. If whitecaps appear, boats should be rowed to the nearest calm water, and then to the nearest available landing site where the tour fleet should wait until the wind drops.

Coastal Boats cannot sink (unless the hull is punctured) or be swamped, so may continue rowing under severe conditions of wind & wave. *However, they are no easier to steer in a strong wind than other boats! Despite being unsinkable, a boat captain must decide whether it is safe to proceed from the point of view of boat control.*

The Beaufort Wind Speed Scale

Beaufort number	Description	Wind speed		Sea conditions	Land conditions
		kts	km/h		
0	Calm	< 1	< 1	Flat.	Calm. Smoke rises vertically.
1	Light air	1–2	1–5	Ripples without crests.	Wind motion visible in smoke.
2	Light breeze	3–6	6–11	Small wavelets. Crests of glassy appearance, not breaking	Wind felt on exposed skin. Leaves rustle.
3	Gentle breeze	7–10	12–19	Large wavelets. Crests begin to break; scattered whitecaps	Leaves and smaller twigs in constant motion.
4	Moderate breeze	11–15	20–28	Small waves with breaking crests. Fairly frequent white horses.	Dust and loose paper raised. Small branches begin to move.
5	Fresh breeze	16–20	29–38	Moderate waves of some length. Many white horses. Small amounts of spray.	Branches of a moderate size move. Small trees begin to sway.
6	Strong breeze	21–26	39–49	Long waves begin to form. White foam crests are very frequent. Some airborne spray is present.	Large branches in motion. Whistling heard in overhead wires. Umbrella use becomes difficult. Empty plastic garbage cans tip over.
7	High wind, Moderate gale, Near gale	27–33	50–61	Sea heaps up. Some foam from breaking waves is blown into streaks along wind direction. Moderate amounts of airborne spray.	Whole trees in motion. Effort needed to walk against the wind. Swaying of skyscrapers may be felt, especially by people on upper floors.
8	Gale, Fresh gale	34–40	62–74	Moderately high waves with breaking crests forming spindrift. Well-marked streaks of foam are blown along wind direction. Considerable airborne spray.	Some twigs broken from trees. Cars veer on road. Progress on foot is seriously impeded.
9	Strong gale	41–47	75–88	High waves whose crests sometimes roll over. Dense foam is blown along wind direction. Large amounts of airborne spray may begin to reduce visibility.	Some branches break off trees, and some small trees blow over. Construction/temporary signs and barricades blow over. Damage to circus tents and canopies.
10	Storm, Whole gale	48–55	89–102	Very high waves with overhanging crests. Large patches of foam from wave crests give the sea a white appearance. Considerable tumbling of waves with heavy impact. Large amounts of airborne spray reduce visibility.	Trees are broken off or uprooted, saplings bent and deformed. Poorly attached asphalt shingles and shingles in poor condition peel off roofs.
11	Violent storm	56–63	103–117	Exceptionally high waves. Very large patches of foam, driven before the wind, cover much of the sea surface. Very large amounts of airborne spray severely reduce visibility.	Widespread vegetation damage. Many roofing surfaces are damaged; asphalt tiles that have curled up and/or fractured due to age may break away completely.
12	Hurricane	≥ 64	≥ 118	Huge waves. Sea is completely white with foam and spray. Air is filled with driving spray, greatly reducing visibility.	Very widespread damage to vegetation. Some windows may break; mobile homes and poorly constructed sheds and barns are damaged. Debris may be hurled about.

When reading the description under “sea conditions”, this refers to “open sea” with no land visible to windward. The long “fetch” is what creates the high seas. Such conditions are only seen inland on large bodies of water like the Great Lakes, Lakes Simcoe, Nipigon, Nipissing, Winnipeg & the St. Lawrence River east of Montreal.

In general, touring boats are comfortable at up to Force 3 on open water (2-3km of “fetch” to windward) & Force 4 or even higher on narrower waterways. Coastal boats may be rowable at Force 7, but the crew must be skilled, strong and determined! Coastal singles should not be rowed in high winds because the single crew member may not be able to make way & steer at the same time! We had one day with winds around Force 7 on Italy’s Lago Maggiore, but our Filippi coastal quads were untroubled by the conditions!

Force 5 is probably the strongest wind under which most touring rowers will feel comfortable.

Coastal Rowing – Salt Water Corrosion

Salt water is corrosive to many metals. It is particularly corrosive where two different metals meet. In salt water they form an electrolytic cell causing one of the metals to actually dissolve!

Some boat manufacturers ensure that all hardware on their craft are made of corrosion resistant grades of stainless steel or even titanium. Even if you believe this to be the case, it is prudent to wash down your boat with fresh water after rowing in salt water. Make sure that you use enough clean fresh water to flush away all the salt.

Lightning Storms

Lightning can kill. Do not take chances. Make for the nearest available landing site at the first sign of lightning. If no safe landing site is available, keep close to shore where trees may attract the lightning away from you (hopefully not the tree sheltering you!).

Even if the lightning is far away, take care. Lightning storms can rapidly generate strong winds. These winds may (on open water) create waves which can swamp boats.

Fog, Darkness

In the event of fog thick enough to obscure the shore and/or other boats, make for shore immediately! You should have been able to predict this by being alert to weather conditions, and rowed to safety before becoming fogbound. Similarly, as soon as it becomes too dark to see the shore, rowing must stop. In fact, the cox or boat captain should have been planning a landing long before dark!

If it is possible that dark might fall towards the end of a day's run, bring a flashlight; one for each boat. Of course, Coast Guard rules require all watercraft to display lights. For a small craft (eg: rowing boats), a single white light is acceptable. If you plan to row in the dark often, you should play it safe by displaying a bow light showing green to starboard and red to port, plus a white light to the stern.

Dams

Dams create several hazards. Where dams exist, water levels may change without notice. The dam operators have an agenda quite unrelated to rowing (or other water sports). They may spill or accumulate water changing a lake's level by 1-2 metres in just a few hours. (*Generally, they are not allowed to substantially alter water levels without consulting with or warning stakeholders, but you may not be on their speed-dial . . . !*)

Immediately above a dam, the water may appear smooth and calm, but there may also be an invisible current washing over the spillway (or over low weirs). The water above a dam is potentially dangerous. Canadian dams are generally marked with a line of small, highly visible buoys well upstream of any fast water.

Some wilderness areas may not be so well marked, or the buoys may be obscured by algae, but consult your chart. You should never row in wilderness areas (*or anywhere*) without a map or chart to guide you.

Avoid rapids; you are not as whitewater canoe! You cannot row fast enough for good steering control. You may not be able to row at all because of rocks. *Most of all, a touring boat is simply not as manoeuvrable as a canoe; there are no eyes in the bow, and simply no way to apply a canoe's very potent "bow rudder"!!* You risk smashing the boat, not to mention the possibility of injury or even drowning for the crew.

Below a dam there are often rapids and fast water. However, these are usually very easy to see and avoid.

Personal Preparation

There is a tendency, particularly among racing coaches and rowers, to belittle Tour Rowing. But make no mistake, rowing on a tour is hard work and demands physical fitness, particularly if you wish to enjoy the experience.

If you are physically fit, you will finish the day's rowing tired, perhaps with some aching muscles, but ready and eager to enjoy a beer with your crew! The next morning you should be pain-free and ready to go. If you have not prepared your body for a good workout, you may find yourself in considerable pain to the point of asking the tour organiser to excuse you from the next day's crew roster!

Touring doesn't only require aerobic fitness. You must also toughen up your hands. If you don't do this you may well finish the first day with seriously blistered hands. My wife has two "fixes" for this problem. She sometimes rows wearing gloves. (*I tried this, but clearly haven't found a suitable glove design. If I wear gloves, blisters still form, but in different places.*) My wife's second "fix" is to slip a pair of baby socks over the hand grips. Surprisingly, this works well, not only for me, but for several others who have borrowed her spare pair of baby socks . . .

If your typical rowing routine is 10 to 12 kilometres at least three times a week, and you have been doing this for at least one month, you should be ready for a tour requiring you to row 30-35 kilometres per day. This regime should also have toughened your hands sufficiently for you to enjoy a rowing tour.

It is worth mentioning that some tour organisers require every participant to sign a document rendering the tour blameless should you develop any medical conditions as a result of participation in the event. In other words, some tour organisers are subtly telling you that you need to be physically prepared to exert yourself!

Locks

Locks present a set of hazards to rowing boats for which racing cannot prepare you! A boat going through locks MUST ALWAYS have at least one experienced rower on board WHO HAS GONE THROUGH LOCKS BEFORE!

- The water level changes rapidly by 2 – 15 metres or even more!
- When a lock is filling, strong currents may be generated (there is usually no current when emptying)
- You must hold on to the lock wall or another boat while the dock is filling or emptying.
- You will probably have to ship oars on one side of the boat; *this makes it far less stable.*

Canadian locks often have rubber covered vertical cables extending from the top of the lock wall to the low water line. **To use a lock confidently, you must have a boathook, and should have a paddle. A combination “paddlehook”, is very popular in Europe.**

Row into the middle of the lock and then approach a wall. The bow person should be first to grab one of the cables. The coxie should have their boathook available. If the docking manoeuvre was performed well, the cox should be able to grab a cable with the boathook and pull the boat to the wall. Then manoeuvre the boat forward or back to leave room for other boats along the wall. *The cable spacing may require someone other than the bow person and/or the cox to hold on.*

When entering a lock in the upstream direction, two people must hold the boat (*Never tie the boat!*), one at the bow and one at the stern! Otherwise the current caused by filling the lock can sweep the boat away from the wall and cause damage.

Note that when travelling downstream there is seldom any current in the lock and one person can hold the boat. **However, it is always preferable (better, safer) for two people to hold the boat!**

In boats rigged for sculling, it may be possible to hold both bow and stern cables by hand, but a boathook makes this easier!

Sweep riggers have a broader span than sculling riggers. Moreover, sweep blades often cannot be angled parallel to the boat due to the backstay. The wall-side blades may have to be removed before the boat can approach the wall! Even if this is done, sweep boats can only hold one cable by hand; the other **must** be held with a boathook. ***It is usually safer & more comfortable for a sweep-rigged boat to transit a lock alongside another boat with each boat's blades lying on the other boat's gunwales.***

If the locks are fairly full, several boats may have to lie alongside each other rather than directly against the lock wall. The Rideau Canal's locks are long enough to accommodate 3 quads in their length, and it is possible to have 4 boats abreast, so 12 touring quads can transit a lock at one time.

- Always respect the power of the current filling the lock!
- Always take great care to hold the boats securely and thus avoid damage!
- ***Take special care not to catch the riggers or blades on ladders, or get them caught on cracks in the wall!***
- **Never, ever tie the boat to anything in the lock!**

NOTE – ALL COMMENTS (NEGATIVE OR POSITIVE) ARE WELCOME – DON'T BE SHY!!!

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