Competent Crew Training Manual

ISSUE 4

Sooke Classical Boating Society, Sooke, BC – July 2024

Revision history

Issue	Date	Change summary
—	April 1992	Manual creation
—	September 2007	DO NOT DISTRIBUTE
3	February 10, 2009	Extensive review and content/format updates throughout; outing record, performance objectives, appendixes and index added
DRAFT 4.2	September 18, 2009	Revision following pilot Competent Crew course. Topics rearranged to align with course order. Foresail mate/tacking/ gybing/reefing/towing procedures added. Sailing circle replaced; detailed boat diagram and chart-symbols appendix deleted. *Safe Boating Guide* information (buoys, rules of road) added and references converted to hyperlinks. Outing checklist added. Numerous small revisions.
DRAFT 4.3	September 20, 2009	Incorporated Training Officer's review feedback.
DRAFT 4.4	March 29, 2010	Incorporated Boats Master's review feedback. Clarified towing instructions. Updated EMCSS Incident Report.
DRAFT 4.5	October 12, 2017	• Replaced Logo • Updated contact information • Provided changes to 8.2 5. A. • Deleted 6.5 Reporting Critical Incidents and related references (Appendix A) • Changed Appendix B to A and Appendix C to B • Deleted: Performance Objective 7. Describe when and how to submit an EMCSS Longboat Incident Report • 4.1 minor change to reflect that the long boats were built by Edward Milne Community School and local volunteers
DRAFT 4.6	July 1, 2024	• Deleted: For suggestions or changes, please contact the society, **250 642 3770.** • Updated footer • Changed date on cover page

This manual was written by Bob Dunbar and other members of the EMCSS Maritime Committee.

It is now owned by the Sooke Classical Boating Society.

We sincerely hope you will have many enjoyable hours out on the boats. In fact, we hope your crewing experiences eventually lead you to become a successful Coxswain.

For more information, go to: http://sookelongboats.ca

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1 Longboat Competent Crew training — Outing record

Trainee name _____

Outing date	Duration (hours)	Concepts covered	Trainer signature

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Outing date	Duration (hours)	Concepts covered	Trainer signature

2 Longboat Competent Crew certification — Performance objectives

Trainee name _____

Performance objective	Section	Date/Initial	Date/Initial	Date/Initial
• Describe the basic history and construction of the longboats	4			
• Demonstrate 5 basic knots: Rolling hitch	5			
Clove hitch				
Round turn & 2 half hitches				
Bowline				
Figure 8				
• Demonstrate use of a heaving line	5.2			
• Describe/demonstrate safety procedures required by law for recreational boating	6			
• Describe/demonstrate usage of personal/group safety equipment required by law for recreational boating	6.1, 6.2, 6.4.2			
• Describe/demonstrate proper stowage of boat safety equipment	6.1, 8			
• Identify all parts of the longboat and oars	7			
• Describe/identify longboat positions and responsibilities	8			
• Describe/demonstrate all oar actions as commanded by the Coxswain, including proper rowing technique	9.2			
• Identify the lines required to moor the longboat and demonstrate methods of securing the lines	10			
• Correctly use nautical terms to indicate directions	11			

Performance objective	Section	Date/Initial	Date/Initial	Date/Initial
• Identify parts of standing rigging	12.1			
• Identify parts of running rigging	12.2			
• Identify the parts of a sail	12.3			
• Identify the points of sail	13.1			
• Perform the following: Hoist fore, main and mizzen sail	13			
Belay halyards of fore, main and mizzen sail				
Dip fore, main and mizzen sail				
Cleat fore, main and mizzen sail				
Secure tack lines of fore, main and mizzen sail				
Reef sail	13.3.3			
• Demonstrate the ability to perform at the helm under various points of sail	13.3			
• Demonstrate the ability to perform the role of Foresail Mate	13.4			
• Demonstrate anchoring and kedging techniques	14.1, 14.2 14.3			
• Demonstrate how to secure the longboat when it is being towed alongside or when the towing vessel is ahead	15			
• Demonstrate the CREW OVERBOARD recovery manoeuvre (under Coxswain direction)	16			
• Describe rules of the road and navigation lights for power/sailing vessels	17			
• Identify/describe lateral, cardinal and special buoys and their functions	18			
• Describe and access available resources for weather information	19			

Performance objective	Section	Date/Initial	Date/Initial	Date/Initial
• Gather and interpret tidal data: rise, ebb, range	20			

3 Introduction to Competent Crew training

3.1 Competent Crew program goal

On completion of 20 hours of training (10 sessions), Competent Crew trainees will be capable of assuming any crew position under oar and sail with a qualified Coxswain.

3.2 Prerequisites for Competent Crew training

None

3.3 Course topics

Some of the Competent Crew training topics have a theory component as well as applied practice. Instructors may vary the learning site, on shore and/or on the longboat.

3.4 Cooperative learning

- The operation of the boats requires the close direction and cooperation of crew members.
- The operation of the boats requires skills that can be taught locally.
- Competence with \ basic crew skills prepares trainees for advanced seamanship skills.
- Successful completion of the Competent Crew Certificate leads to the opportunity for training as a Harbour Coxswain.
- Successful completion of the Harbour Coxswain Certificate leads to the opportunity for training as a Coastal Coxswain (training requirements for Coastal Coxswain not yet promulgated).

4 Introduction to the longboats

Performance objective — Competent Crew trainees will be able to describe the basic history and construction of the longboats.

4.1 History

Longboats were used 200 years ago by Spanish and British explorers who charted the British Columbia coast, including the west coast of Vancouver Island. Manual Quimper, a Peruvian-born Spanish explorer and naval officer, explored and charted the Sooke Harbour and Basin, and his crew may have used such longboats. However, the longboats, which were built by the Edward Milne Community School and local volunteers are longer than the traditional boats so that two can accommodate a school class.

The stability of longboats is well-known. Captain Bligh of the British Admiralty sailed a 23-foot cutter of similar design 4,000 nautical miles across the Pacific Ocean under extremely stressful conditions.

4.2 Construction

In 1989, after a year of successful fundraising — including a $10,000 donation from Phoebe Dunbar's family and generous funds from the Sooke Festival of History Society — the EMCS Society hired Greg Foster, master shipwright from Whaler Bay, Galiano Island, and shipwright son-in-law Sean Luttmer, to design and oversee the building of the Edward Milne Community School longboats. Eight adults and many EMCS students, with teacher Jim Bailey, worked with Greg and Sean to build the two 8.23-m (27-ft) longboats at the woodworking shop in the old EMCS (demolished in 1996). Except for the mahogany and oak found on the boats, all the woods — cedar, yew, fir — are from Vancouver Island's west coast.

One longboat is named the *T'Sou-ke*, which means stickleback fish, the name of Sooke's first peoples — the proud T'Sou-ke Native Indians. The other longboat is the *Doña Rosa*, inspired by Manuel Quimper's naming of Sooke's Secretary Island, likely after the Viceroy of Mexico's wife. The boats were launched in April 1990 at Sooke River flats, where hundreds of citizens and students came to celebrate the day. The boats were rowed down the windy Sooke River with cedar boughs draped over their bows, arriving at their homeport of Sooke Marine Industries with much fanfare. The longboats played an important role in the June 23, 1990 bicentennial celebrations in Sooke.

5 Basic knots and heaving line

5.1 Basic knots

Performance objective — Competent Crew trainees will be able to demonstrate five basic knots: round turn and two half hitches, bowline, clove hitch, figure eight, rolling hitch.

Table 5-1 lists and describes the knots used on the longboats. See Figure 5-1 for photos of each knot and section 5.1.1 for knot-tying resources.

5.1.1 Knot-tying resources

- Animated knots by Grog: Grog's Boating Knots Index. http://www.animatedknots.com/indexboating.php?LogoImage=LogoGrog.jpg&Website=www.animatedknots.com
- "How to Tie Sailing Knots". Go Sailing Edmonton. http://www.gosailing.info/Sailing%20%20Knots.htm

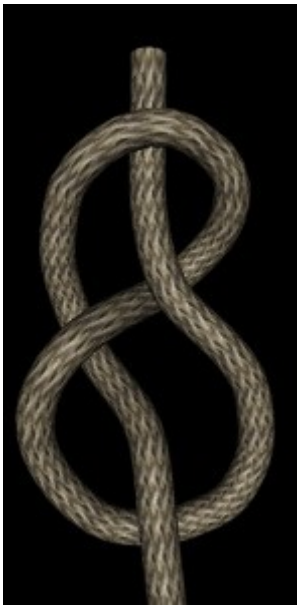
Table 5-1. Basic knots

Knot	Description/purpose
Round turn and two half hitches	An ideal knot for attaching a mooring line to a dock post or ring.
Bowline	Makes a reasonably secure loop in the end of a piece of rope. The bowline has many uses – for example, to fasten a mooring line to a ring or post. Under load, it does not slip or bind. With no load, a bowline can be easily untied. Its principal shortcoming is that it cannot be tied or untied when there is a load on the standing end. A bowline should therefore be avoided when, for example, a mooring line may have to be released under load. Two bowlines can be linked together to join two ropes. The bitter end of the anchor rode is tied to the stem bolt ring with a bowline.
Clove hitch	A general knot for securing a line around an object — for example, tying a fender to the riser — to prevent slipping. When used as a traditional hitch that is loading only one end, the clove hitch is liable to slip. It requires a load in each direction to be effective. A clove hitch should not be relied on with rope that is thin or slippery because it can work itself loose, especially under a swinging or rotating load. However, for this reason, the knot is useful in situations where the length of the running end needs to be adjustable. It can also jam and become difficult to untie in some situations.
Figure eight	A quick and convenient stopper knot to prevent a line sliding out of sight – for example, up inside the mast. Its virtue is that, even after it has been jammed tightly against a block, it does not bind and can be easily undone. This virtue is occasionally a vice: the figure of eight can fall undone and then must be retied. A figure eight knot is tied at the end of the mizzen sheet after the end has been run through the mizzen sheet block.
Rolling hitch	A knot used to attach a rope to a rod, pole, mast, or other rope. A simple friction hitch, it is used for lengthwise pull along an object rather than at right angles. The rolling hitch is designed to resist lengthwise movement for only a single direction of pull and can be used in the longboats to attach a block to a mast to aid in COB (crew overboard) recovery, before hauling the person onboard (see section 16.1, step 16).

Figure 5-1. Basic knots

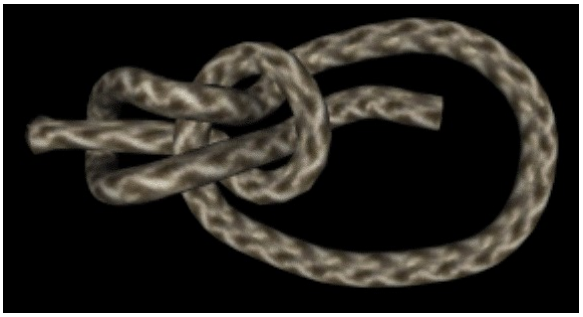
Round turn and two half hitches

Figure eight

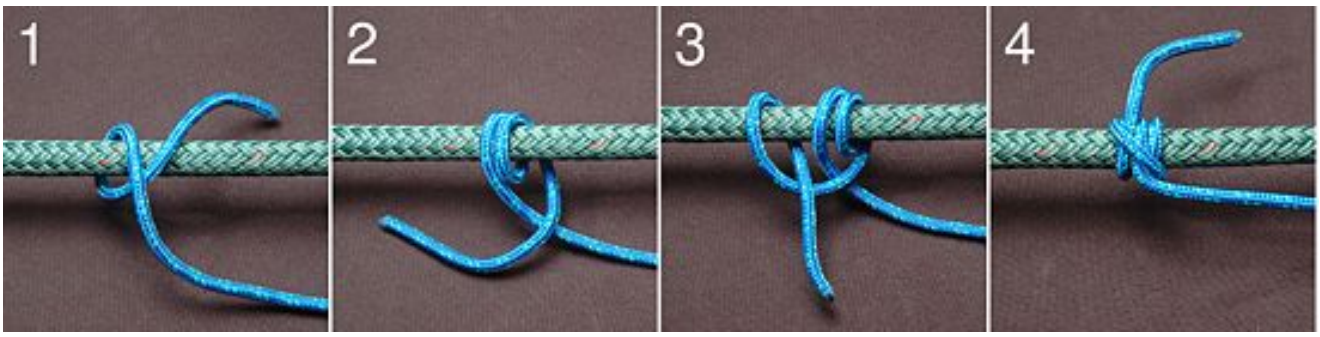


Clove hitch

Bowline



Rolling hitch



5.2 Heaving line

Figure 6-1 shows a photo of a heaving line. To prepare a heaving line for throwing:

1. Lay out the line.
2. Starting with the ball end, make eight small coils in your throwing hand.
3. Coil the remainder of the line in large coils in your non-throwing hand.
4. Make sure the bitter end of the line is secure around your non-throwing hand.

Throwing techniques must be practiced to be mastered.

6 Safety

Refer to *Safe Boating Guide*:
http://www.tc.gc.ca/marinesafety/tp/tp511/onthewater.htm#rules_of_the_road_and_safety_on_the_water

http://www.tc.gc.ca/marinesafety/tp/tp511/equipment.htm#minimum_safety_equipment_requirements

Performance objective — Competent Crew trainees will be able to describe/demonstrate usage of personal/group boat safety equipment.

Performance objective — Competent Crew trainees will be able to describe/demonstrate safety procedures required by law for recreational boating.

Performance objective — Competent Crew trainees will be able to demonstrate use of a heaving line.

Safety is a primary concern and practice in recreational boating. The Coxswain is responsible for the safety of the crew and the boat, but you and your boat mates have individual responsibility to yourselves and each other.

See section 22, “Appendix A — Longboat outing checklist” for a list of safety, navigation and distress equipment that must be onboard for longboat outings.

6.1 Safety/distress/navigation equipment

Lifejackets/PFDs are to be worn at all times when you are on the boat floats (docks) and in the boats. The buddy system will be used to ensure that, when a trainee or staff temporarily removes his/her lifejacket/PFD, he/she is carefully watched until he/she has replaced the lifejacket/PFD.

The following safety equipment is required by Transport Canada for sailing vessels over 6 m (19 ft. 8 in.) and up to 9 m (29 ft. 6 in.) long:

Table 6-1. Transport Canada — Minimum safety equipment requirements

Personal lifesaving appliances	Vessel safety equipment	Visual signals	Navigation equipment
1. One lifejacket or PFD for each person on board (see Figure 6-1) 2. One buoyant heaving line at least 15 m (49'3") long (see Figure 6-1) 3. One approved life ring, 610 mm or 762 mm outside diameter, with a 15-m buoyant line attached (see Figure 6-1) 4. One reboarding device, such as a boat ladder	5. One bailer or manual bilge pump (our longboats each have at least two bailing buckets on board, as well as a bilge pump) 6. One anchor and at least 15 m (50 ft)[1] of cable, rope or chain in any combination. The bitter end of the rode is secured to the stern sheet platform with a bowline knot.	7. One watertight flashlight 8. Six of each type of distress flare: A, B or C (only required if the boat will be more than 1.852 km [one nautical mile] offshore; see Table 6-2)	9. One sound-signalling device or appliance, such as a horn or whistle 10. One magnetic compass 11. Navigation lights, to be used according to the *Safe Boating Guide*

In addition to the equipment listed in Table 6-1, the Coxswain ensures that the following items are onboard:

- Blue boat bag (plus wooden boat box if more storage is required); see section 6.1.1 for contents
- Cell phone if in Sooke Basin (in other harbours, the Coxswain must also have a VHF radio, with required licence; not required in Canadian waters), stored in a waterproof bag
- One spare life jacket/PFD

[1] Our longboats have 30-m rodes.

6.1.1 Boat bag contents

The boat box/bag contains the visual-signal and navigation equipment listed in Table 6-1, along with several other items:

- First aid kit
- Watertight flashlight
- Distress flares (see section 6.2.1)
- Sound-signalling device
- Compass
- Harbour chart
- Tide table

Figure 6-1. Selected safety equipment

PFD

Life ring

Buoyant heaving line

6.2 Calling for help

Use distress flares and/or communications with cell phone, VHF radio or sound-signalling device.

6.2.1 Distress flares

Use the appropriate distress flare to signal that you need help, as described in Table 6-2.

Table 6-2. Distress flares

Type A: Rocket parachute flare	
• Creates a single red star • Reaches a height of 300 m (984') and comes down slowly with a parachute • Is easily seen from the ground or air • Burns for at least 40 seconds	
Type B: Multi-star flare	
• Creates two or more red stars • Reaches a height of 100 m (328'1") and each burns for four or five seconds • Is easily seen from the ground or air Some Type B flares project only one star at a time. When using the single star type, two flares must be fired within 15 seconds of each other. This means that you will need double the number of cartridges to meet the requirements.	
Type C: Hand-held flare	
• Is a red flame torch you hold in your hand • Provides limited visibility from the ground • Is best used to help air searchers locate you • Burns for at least one minute When lighting the flare, hold it clear of the boat and downwind. Don't look directly at the flare while it is burning.	
Type D: Smoke signal (buoyant or hand-held)	
• Creates a dense orange smoke for three minutes • Is to be used only in daylight • Can be packaged for pleasure craft with three flares that last one minute each Position your smoke signal downwind and follow the directions carefully.	

6.2.2 Calling for help with cell phone or VHF radio

Use one of the following messages to call for help on a marine VHF radio:

- **Mayday, Mayday, Mayday** — Immediate danger for persons or boat (for example, boat taking on water; in danger of sinking or capsizing)
- **Pan-Pan, Pan-Pan, Pan-Pan** — Urgent message concerning safety of person or ship (for example, motor quit and unable to get back to shore)

Give the following information:

- Vessel name
- Position of vessel
- Nature of emergency/problem and type of assistance needed
- Description of vessel and number of people on board

Repeat the message until you receive an answer.

6.2.3 Communicating with a sound-signalling device

Use the following signals to communicate with another vessel within range. The duration of a short blast is one second. The duration of a long blast is three to five seconds.

- **One long blast** — Vessel sounding a long blast is indicating that they are preparing to get under way. For example, the *Coho* ferry sounds one long blast just before leaving the jetty.
- **One short blast** — Vessel sounding one short blast is indicating that they are altering course to starboard.
- **Two short blasts** — Vessel sounding two short blasts is indicating that they are altering course to port.
- **Three short blasts** — Used by power-driven vessels to indicate that they are using astern propulsion (not necessarily going backward because they may be using astern propulsion to quickly slow down their forward speed).
- **Five short blasts** — Vessel sounding five short blasts is indicating to another vessel that the other vessel's movements are not understood. (For example, a power driven vessel is cutting too close across the bow of a sailing vessel.)

6.3 Appropriate clothing

Appropriate clothing, considering the weather conditions, is very important as temperature changes are rapid on the water. Wool sweaters, lined windbreakers and toques are required for adequate protection against hypothermia. Soft-soled shoes are recommended for grip and protection of the boats.

6.4 If you fall overboard

For the complete CREW OVERBOARD (COB) procedure, see section 15.

When a person falls overboard, there is a natural tendency to gasp for breath as a result of the shock. Hyperventilation is the main cause of death in the water. Review the following points:

- Your lifejacket will keep you afloat.
- Attempt to hold your breath until your head is above the water.
- Remember that you are floating and that the boat will return in a few minutes.
- Hold yourself in a fetal position — this is critical to reduce body-heat loss. Do not attempt to swim as this increases heat loss.
- The boat crew will attempt to maintain verbal contact with you.
- An orange life ring will be thrown to you from the boat. Hold onto the ring.
- When the boat returns to you, a buoyant heaving line will be thrown. Grasp the line, and it will bring you to the boat side and crew will help you onboard.

6.4.1 Crew overboard first-aid procedure

1. Remove wet clothing from the rescued person.
2. Wrap the person in a warm blanket with two other people for body heat.
3. Reassess airway, breathing and pulse frequently.

6.4.2 Crew overboard safety equipment

- One orange life ring, with a 15-m buoyant line attached, located in the stern
- One 15-m buoyant heaving line, located in the stern
- First aid kit, including space blanket
- VHF radio (requires licence)
- Cell phone

7 Parts of the longboat and oars

Performance objective — Competent Crew trainees will be able to identify all parts of the longboat and oars, as listed below and shown in Figure 7-1 to Figure 7-3.

Longboat part	Description
Backboard	Vertical back rest in the helmsman's position
Belaying pins	Two short wooden vertical pins for hanging safety lines
Bilge	Area of the boat beneath the floor boards
Bow	Rounded fore (front) end of the boat
Cleats	Small wedges of wood bolted to the three masts and two locations on the riser; serve as devices on which to fasten various lines and sheets
Floor boards	Wooden boards running fore and aft and attached to the deck beams; also called the deck
Floor hatches	Wooden, removable floor boards that allow access to the bilge
Frames	Shaped timbers that serve as the boat's skeleton and to which the boat's planking is fastened
Gudgeon	Bronze metal socket, attached to the transom, in which a rudder pintle sits
Gunwale	Shaped timber that extends around the top edge of the boat's hull
Horse	Round steel band against the transom, along which the mizzen block rides
Hull	Body of the boat
Inwale	Shaped timber that extends horizontally around the underside of the gunwale
Keel	Lowest longitudinal timber of a boat on which the whole framework is built up
Main mast gate	The brass and wood fitting attached to the second bows thwart; locks the main mast in its position
Masts	The three long poles set upright in the boat: fore mast, main mast and mizzen mast
Oar	Used as a lever to propel the boat. 3 m (9.84 ft) long; approximate weight 7 kg (15.5 lb). There are normally 10 oars stored in each longboat. Four oars marked with tape have shortened looms to facilitate easier oar movement for crew rowing adjacent to the masts. See Figure 7-3 for names of parts of an oar.
Pintle	Pin on the rudder that sits in a gudgeon
Quarterdeck grate	Wooden grid on which the helmsman stands

Longboat part	Description
Riser	Narrow longitudinal board under the inwale on both sides of the boat; reaches from the bow stem to the transom; stiffens the frames and supports the thwarts
Rudder	Broad flat piece or framework of wood attached vertically to the stern post of the boat
Rigging and sails	See section 12 for descriptions and illustrations of standing rigging, running rigging, and parts of a lug sail.
Stem	The curved upright timber at the bow of the vessel
Stem bolt	A ringbolt fastened through the stem, used for securing the anchor rode and float lines
Stern	External rear part of the boat's hull
Stern post	Upright beam rising from the after end of the keel and supporting the rudder
Stern sheet	Internal rear portion of the boat
Sternson	Knee-shaped timber fitted into the angle formed by the junction of sternpost and keelson to secure the joint
Thole pins	Vertical pegs set in the gunwales, against which the oars press as the fulcrum of their action
Thwarts	The seats across the boat, including the side thwarts
Tiller	Horizontal bar attached to the rudder head for steering the boat
Transom	Cross beams bolted at the stern of the boat; determine the breadth of the stern

Figure 7-1. Parts of the longboat and lines — Photo I

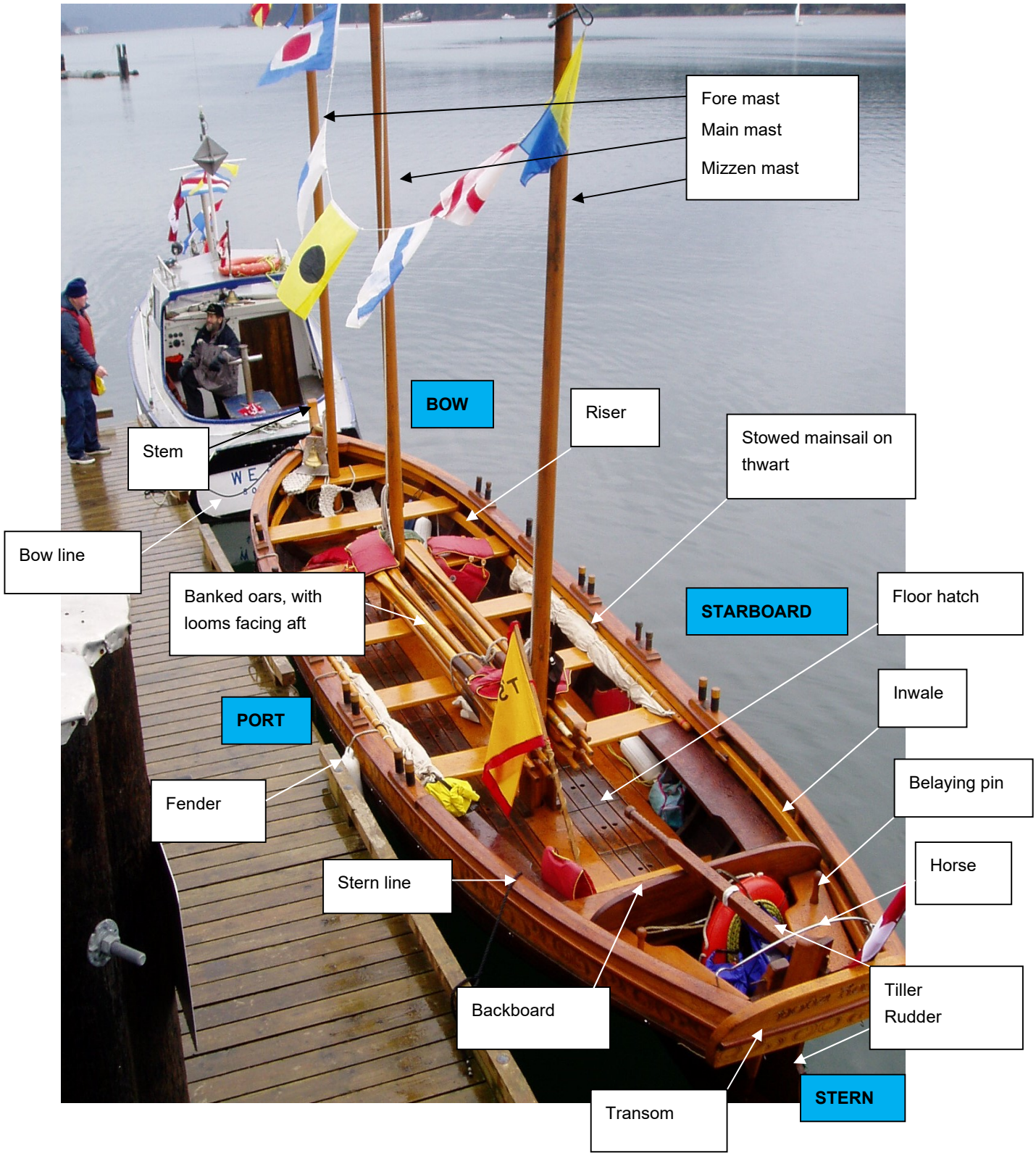


Figure 7-2. Parts of the longboat — Photo II

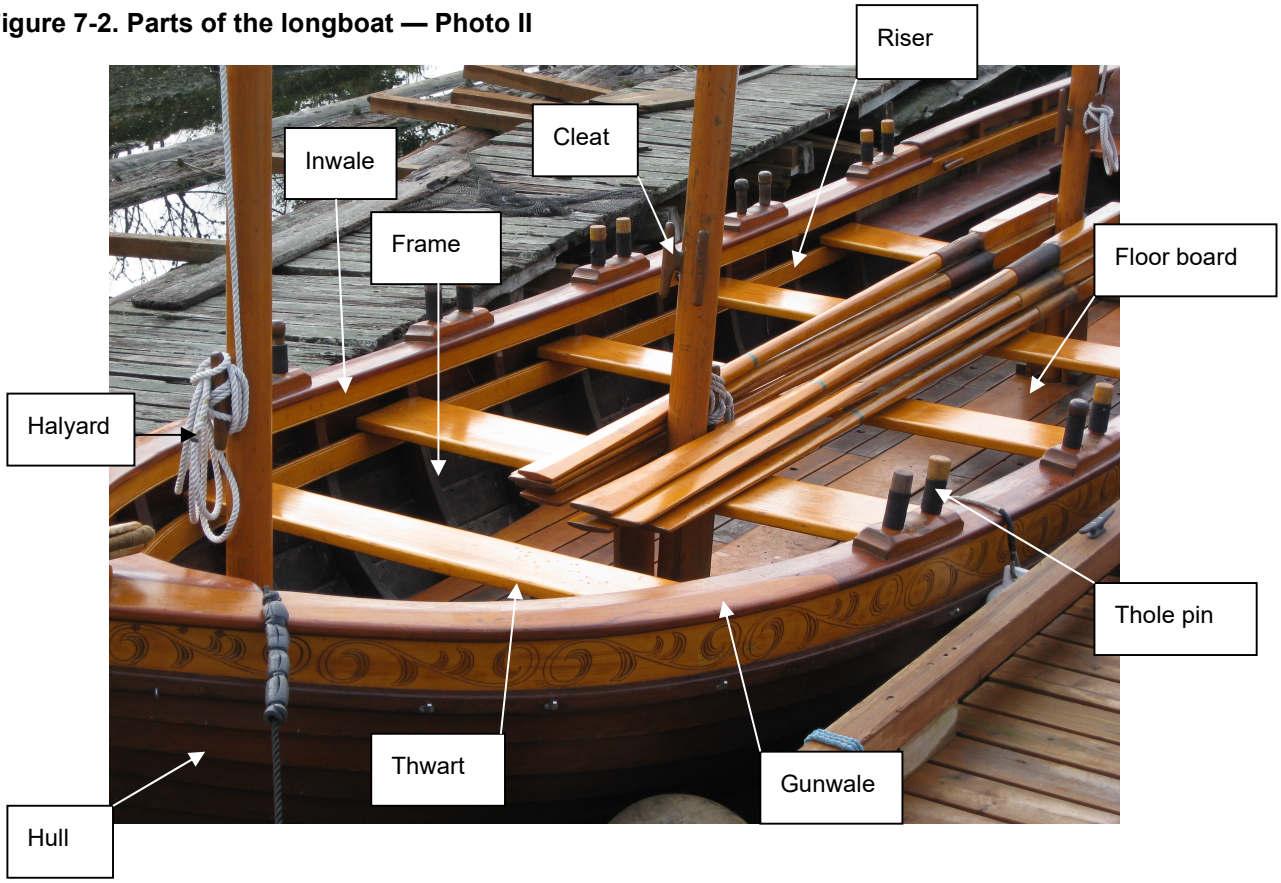


Figure 7-3. Parts of an oar

8 Preparing for and completing an outing

The Coxswain may assign a crew member to ensure that the Longboat Outing Checklist posted in the boat shed (laminated version in boat bag) is complete. See Appendix A — Longboat outing checklist.

8.1 Preparing for an outing

Locate the Longboat Outing Checklist and complete the following.

1. Carry equipment from the boat shed to the float: life ring, heaving line, tiller, blue boat bag, spare life jacket/PFD, extra lines as needed for kedging and COB recovery.
2. At the Coxswain's discretion, carry one or more sails from the boat shed to the float.
3. Check the boat-bag contents (see section 6.1.1).
4. Remove the boat cover; store it on the float or hang it to dry on the railing of the ramp to the float.
5. Remove the three wooden/foam cover supports and place them out of the way on the float.
6. Store the spare life jacket/PFD, heaving line and boat bag in stern sheet.
7. Install the tiller in the rudder; place the holding pin in the hole on the tiller aft of the rudder.
8. Put the thole pins in the gunwales.
9. Check the location of the two bailing buckets in the bilge.
10. Check that the water level in the bilge is not above the lead ballast.
11. Pump/bail the bilge if necessary until the water level is below the top of the lead ballast.
12. Release the oars from the second-stroke thwart.
13. Store the sails next to the gunwales, "stripes to the stern".
    - Foresail has one stripe
    - Main sail has two stripes
    - Mizzen sail has three stripes

8.2 Completing an outing

Locate the Longboat Outing Checklist and complete the following.

1. Remove the thole pins.
2. Remove the tiller.
3. Lash the oars to the second-stroke thwart.
4. Replace the cover and three cover supports.
5. **A. If sails are dry:**

   Fold and lash each sail.

   i. Bring the tack cringle corner to the peak.
   ii. Fold the sail toward the lug so that the clew cringle meets the throat.
   iii. Lay the sheet along the lug.
   iv. Bring the tack cringle of the sail to the peak.
   v. Lay the tack line along the lug.
   vi. Fold and then roll the sail toward the lug and lash with the provided lines.

   B. If sails are wet:

   The Coxswain will find an appropriate space to hang the sails to dry, such as the upper loft in the No. 1 ways shed.

   Fold and stow sails in the boat shed when dry.
6. Return equipment, including the tiller, to the boat shed.

9 Longboat positions and oar actions

9.1 Longboat positions

Performance objective — Competent Crew trainees will be able to describe/identify longboat positions and responsibilities.

There are ten rowing positions on the longboats. Some of these positions have particular duties when leaving and returning to the float, as described in Table 9-1.

Table 9-1. Longboat rowing positions and responsibilities

Position	Location and responsibilities
Bows — port and starboard	Seated on the second thwart from the front of the boat. Untie the lines and cast off. Safely guard the longboat through narrow areas and fend off collisions. Use the boat hook as directed by the Coxswain.
Second Bows	Seated directly behind Bows.
Midships	Seated directly behind Second Bows.
Second Stroke	Seated directly behind Midships.
Stroke	Lead Stroke sits on the starboard side and sets the rowing pace by example and often by verbal commands. Port Stroke matches the rowing pace of the Lead Stroke.
Helmsman	Person who has been given the responsibility of steering the boat under oars or sail, at the discretion of the Coxswain.
Coxswain	The person certified to be in charge of the crew and longboat.

9.2 Oar actions

Performance objective — Competent Crew trainees will be able to describe/demonstrate all oar actions as commanded by the Coxswain, including proper rowing technique.

When the longboat is alongside the float, all oars should be stowed with blades forward, looms aft.

Table 9-2 lists and describes the actions resulting from oar commands.

Table 9-2. Oar commands

Command*	Action
1. Toss your oars[1]	Crew members raise the oars vertical and hold them between the knees, with blades fore and aft.
2. Ship your oars	Crew members place the oars between the thole pins, with the blades "feathered" (i.e., parallel to the water).
3. Prepare to give way[2]	Crew members tilt the blades at the correct angle and lean toward the stern, ready to start pulling.
4. Give way together[2]	Crew members start pulling, following the stroke oar.
5. Bows (on departure)	After leaving the float and clear of any danger, the two bow crew members ship their oars and commence pulling.
6. Oars[2]	Crew members take one more stroke (giving way or backwatering), then stop pulling and feather their oars.
7. Rest on your oars	Crew members slide their oars across to the opposite side of the boat for a rest.
8. Hold water[2]	Crew members put their blades close to vertical and dig in, holding water.
9. Back water[2]	Crew members row "backward".
10. Way enough	Crew members take one more stroke, stop pulling, and immediately toss and boat their oars.
11. Boat your oars[1]	Crew members place the oars on the thwarts, with the grips toward the stern.
12. Bows (on return)	Bow crew members take one more stroke, then toss and boat their oars.

[1] The “toss/boat oars” commands require each crew member in turn to call “oar coming up”/”oar coming down” to alert the rest of the crew to the hazard of raising/lowering oars.

[2] The Coxswain may issue commands to propel or stop the boat for both sides, just port, or just starboard crew members.

10 Mooring lines and fenders

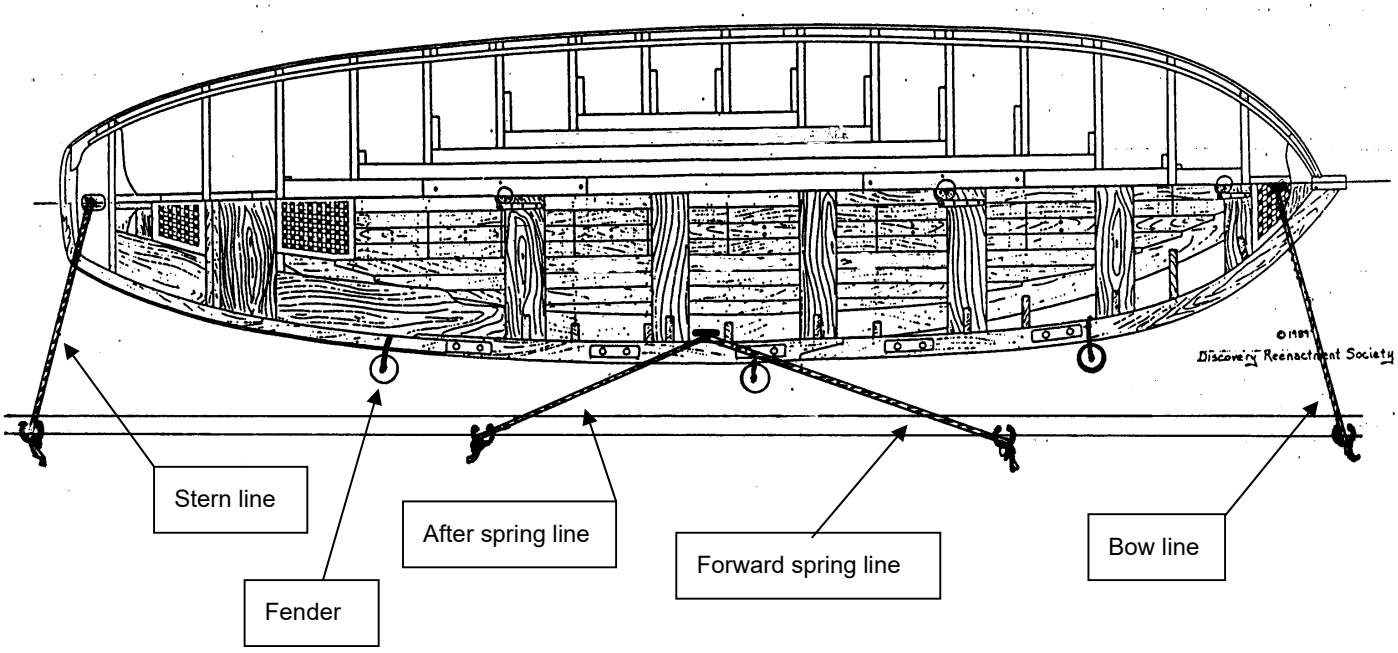
Performance objective — Competent Crew trainees will be able to identify the lines required to moor the longboat and demonstrate methods of securing the lines.

Table 10-1 describes the longboat mooring lines, shown in Figure 10-1. Mooring lines are held fast with a round turn and two half hitches or by cleating: at least three figure-eight turns around the cleat, ending with a locking hitch.

Table 10-1. Longboat mooring lines

Mooring line	Description
Bow line	This line is secured to the bow stem, leads over the gunwale, and is tied to the float at an optimal angle of 45 degrees off the bow (not as shown in Figure 10-1; our mooring situation is not ideal because the float is cramped for space).
Stern line	This line is secured to the stern post and leads under the transom to the float, at an optimal angle of 45 degrees off the stern if possible (not as shown in Figure 10-1; our mooring situation is not ideal because the float is cramped for space).
After spring line	This line is secured to the riser or spring cleat and leads over the gunwale and aft to a cleat or ring on the float, at an approximate angle of 20 degrees from the cleat position.
Forward spring line	When needed, this line is secured to the riser or spring cleat and leads over the gunwale and forward to a cleat or ring on the float, at an approximate angle of 20 degrees from the cleat position.
Fenders	Fenders are placed between the boats and/or between the boat and the float to prevent chuffing. A fender is secured by a short lanyard tied around the boat's riser.

Figure 10-1. Longboat mooring lines



11 Nautical terms

Performance objective — Competent Crew trainees will be able to correctly use nautical terms that indicate direction.

Coxswains will use nautical terms that indicate direction, as listed in Table 11-1.

Table 11-1. Nautical terms

Term	Meaning
Ahead	Forward of the boat
Astern	Behind the boat
Abeam	At a right angle to the centre of the boat
Midships	The centre of the boat
Port quarter	Left side of the stern
Starboard quarter	Right side of the stern
Port bow	Left side of the bow
Starboard bow	Right side of the bow

12 Longboat rigging and sails

Performance objective — Competent Crew trainees will be able to identify the parts of standing and running rigging.

Figure 12-1 shows the longboat standing and running rigging.

12.1 Standing rigging

Foremast The foremast is stepped in the bow section of the boat and is identifiable when unstepped because it has only one forward cleat.

Main mast The main mast is the largest mast, located partially in the second-bows thwart. A brass and wooden locking gate secures the mast to the thwart. Two cleats are located on the forward side of the mast for the halyard (line), and a tack cleat is located on the aft side of the mast, just above the thwart level.

Mizzen mast The mizzen mast is the after mast, stepped through the stroke thwart. It has three cleats attached. The two forward cleats are for securing the halyard, and the after cleat is for the tack line.

Each mast has a fairlead: a hole cut through the top of each mast, in which a sheave (grooved pulley) is fitted to accommodate the halyard.

12.2 Running rigging

Halyard Each mast has a halyard that runs through the fairlead and is attached to the traveller. The lug of each sail has a wire strop (metal doughnut wrapped in leather), which is attached to the traveller's hook. The halyard serves to raise and lower the lug by the traveller and holds the sail in the appropriate position for sailing.

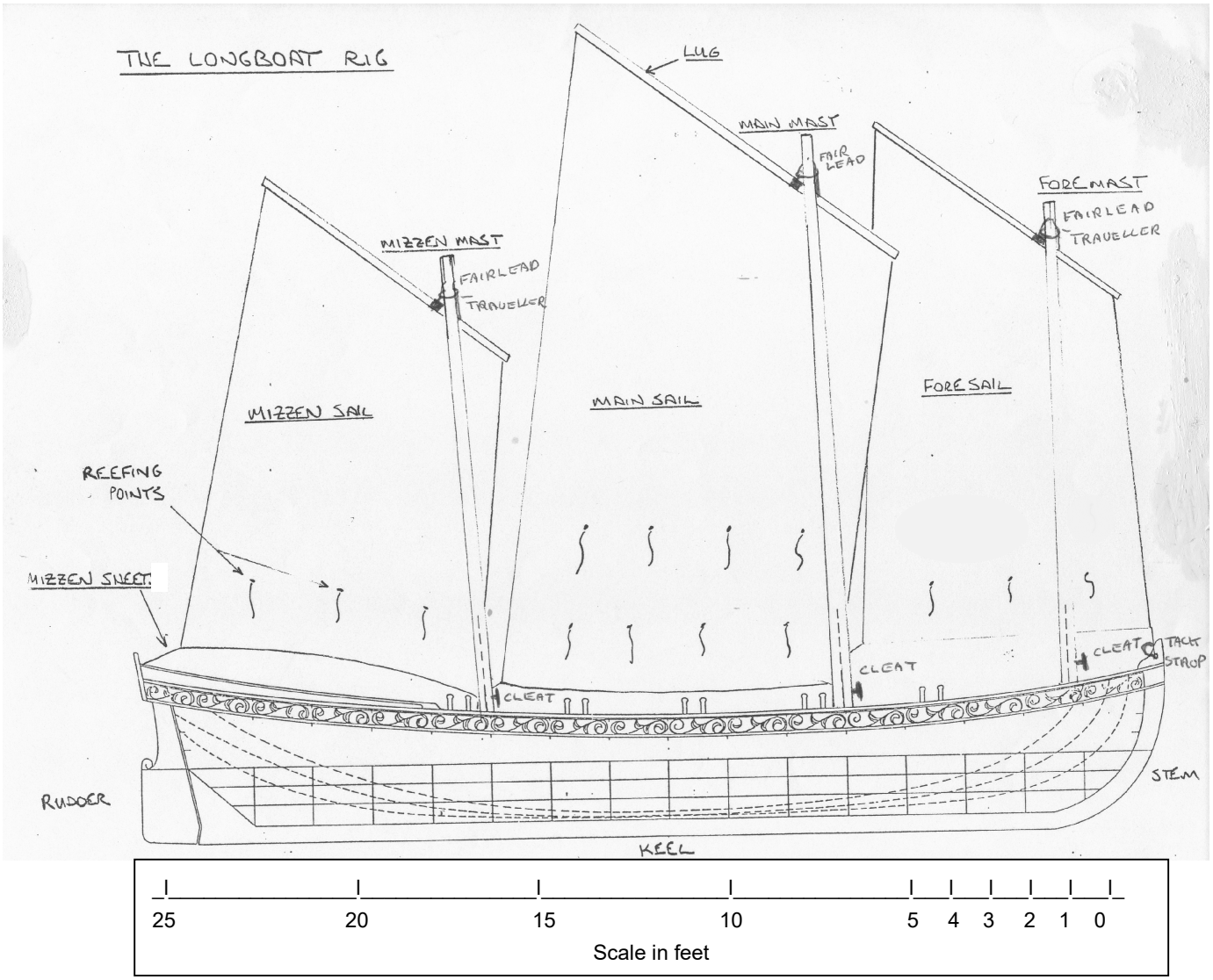
Mast traveller The traveller (one on each mast) is a steel band sewn in leather. The metal hook on the band holds the lug strop and keeps the lug close to the mast while sailing.

Sails The three sails — fore, main and mizzen — are designated according to the mast positions. The sails are lashed to a wooden spar called a lug. Lugs give shape and support for the sails.

When the sails are placed in the boat, the taped ends of the sails point aft, "stripes to the stern". When detached from the mast, each sail can be identified by tape on the lug:

- One stripe: foresail
- Two stripes: main sail
- Three stripes: mizzen sail

Figure 12-1. Longboat standing and running rigging



12.3 Parts of a sail

Performance objective — Competent Crew trainees will be able to identify parts of a lug sail.

Sheets The line attached to the clew cringle of each sail, designed to control the amount of sail needed for the wind condition.

Tack The line attached to the tack cringle of each sail. The tack line secures the forward or luff edge of the sail. This is to maximize the sail's effectiveness.

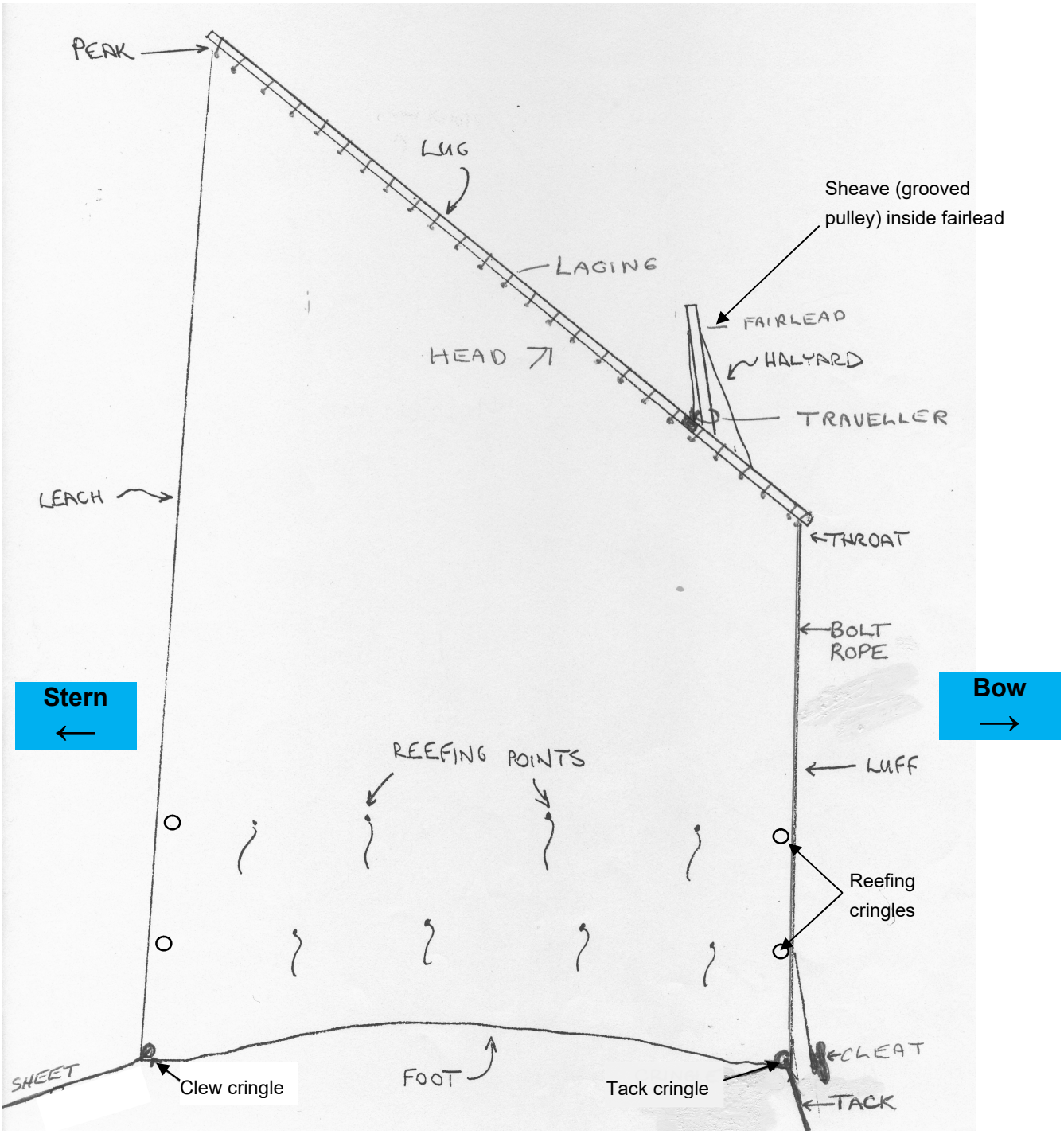
The sheet and tack are secured to the sail with a bowline knot through each cringle. Reefing points are used to reduce the sail area during high winds. There are two sets of reefing points on the main sail and one set on each of the fore and mizzen sails. Reefing of sails is normally done before the sail is raised but may be done under sail at the Coxswain's discretion.

Table 12-1 lists and describes the parts of a lug sail with bow to the wind, as shown in Figure 12-2.

Table 12-1. Parts of a lug sail

Sail part	Description
Lug sail	Quadrilateral-shaped canvas, held in place lashed onto a lug (wooden spar)
Head	Upper edge of the sail
Foot	Lower edge of the sail
Luff	Forward or leading edge of the sail
Leach	After edge of the sail
Peak	Highest corner of the sail, where the leach and head edges meet on the lug
Throat	Forward upper corner of the sail, where the luff edge meets with the head
Tack	Lower forward corner, where the luff and foot edges of the sail meet
Clew	After corner of the sail, where the leach and foot edges meet
Reefing points	Tie lines placed horizontally on the sail; used to reduce sail area by tying around the foot edge of the sail

Figure 12-2. Parts of a lug sail (mainsail shown)



13 Sailing

13.1 Points of sail

Performance objective — Competent Crew trainees will be able to identify the points of sail.

Performance objective — Competent Crew trainees will be able to demonstrate the ability to perform at the helm while under various points of sail.

Performance objective — Competent Crew trainees will be able to perform the following:

- Hoist fore, main and mizzen sail
- Belay halyards of fore, main and mizzen sail
- Dip fore, main and mizzen sail
- Cleat fore, main and mizzen sail
- Secure tack lines of fore, main and mizzen sail
- Reef sail while underway

If the wind comes over the port side, the boat is on a **port tack**, which means the lug sails are on the starboard side of the masts. Conversely, if the wind comes over the starboard side, the boat is on a **starboard tack** and the lug sails are on the port side of the masts, as shown in Figure 13-1.

Figure 13-1. Starboard tack and port tack

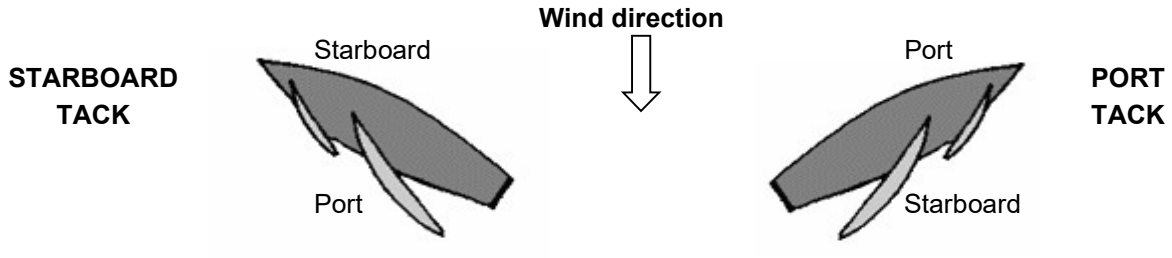
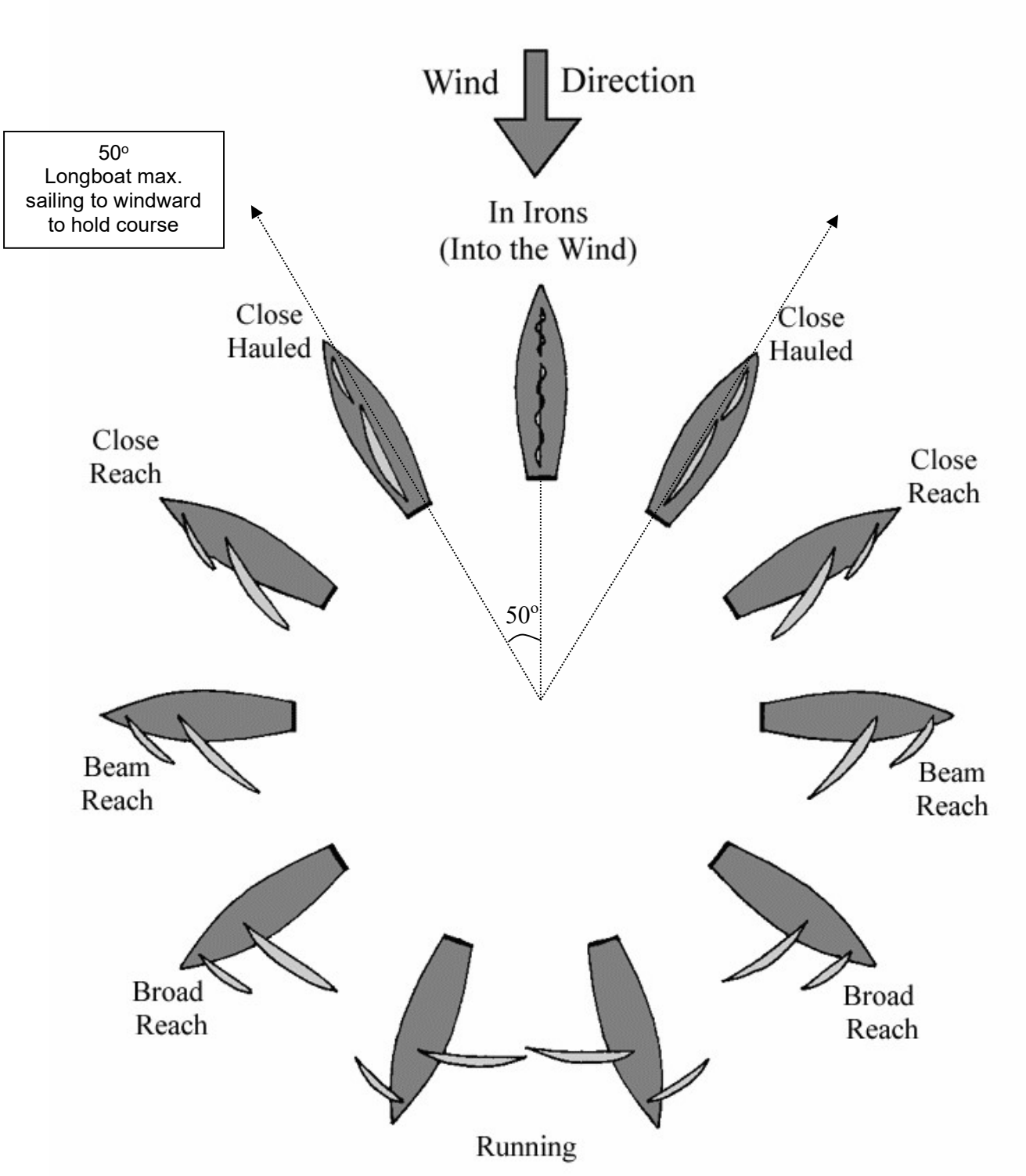


Table 13-1 lists and defines sailing terms, which are illustrated in Figure 13-2 “The sailing circle”.

Table 13-1. Sailing terms

Term	Definition
Tacking	The boat is sailing upwind, making a series of course changes or tacks that serve to work the boat in a zigzag pattern toward her destination.
Close-hauled	The sails are hauled in close to the centre line of the boat while sailing into the wind. For longboats, this is 50 degrees off the wind to hold the required course.
Close reach	The boat is sailing more off the wind than close-hauled, but not on a beam reach.
Beam reach	The boat is sailing with the wind coming directly over the beam, 90 degrees from centre.
Broad reach	The boat is sailing with the wind coming over either stern quarter.
Running	The boat is sailing directly before the following wind, within 10 degrees either side of the stern.
Gybing	Opposite to tacking. The stern of the boat is brought through the wind to change course.

Figure 13-2. The sailing circle



13.2 Raising sails

Before raising any sail, ensure:

- Sail lashings are untied
- Lug is positioned on the correct side of the mast
- Traveller is hooked up
- Tack is secured in place

For safety, the Coxswain decides whether to appoint a tailing crew position (to monitor the lug tail).

Announce "**Sail coming up**" to alert crew to take care around the lug.

The tail of the lug must be held clear of crew's heads.

13.3 Tacking, gybing and reefing procedures

13.3.1 Tacking procedure

1. The Coxswain orders "**Prepare to tack"**.

   This order alerts the crew that the Coxswain will alter the course of the boat with the bow going through the wind.

2. The Foresail Mate responds "**Ready about"**.

   This response indicates to the Coxswain that the crew is prepared to alter course.

3. The Coxswain orders "**Helms a lee"**.

   This order indicates to the crew that the boat is altering toward (into) the wind.

   The Coxswain orders "**Ease the sheets**".

4. The Foresail Mate becomes responsible for ensuring that the foresail operates efficiently to keep the foresail drawing through the wind.

13.3.2 Gybing procedure

1. The Coxswain orders "**Prepare to gybe"**.

   This order alerts the crew that the Coxswain will alter the course of the boat with the stern going through the wind.

   The crew eases the sheets out.

2. The Coxswain orders "**Gybe ho"**.

   When the wind is directly behind the stern, the crew brings the sails to the centre of the boat.

3. The Coxswain orders "**Dip your lugs"**.
4. The Foresail Mate becomes responsible for ensuring that the foresail operates efficiently.

13.3.3 Reefing procedure

Reefing of sails is ordered by the Coxswain when s/he has judged that the winds are too strong to safely operate under full sail. The foresail and mizzen have a single reefing point and the mainsail has two reefing points. The Coxswain orders which sails are to be reefed and whether the mainsail is to be reefed to the first or second reefing point. The sails can be reefed underway by an experienced crew, but it is safest to reef the sails alongside the float.

The procedure for reefing sails while underway is constant for all sails.

1. Lower the sail so that the upper reefing cringle can be easily reached without standing on a thwart.
2. Secure the halyard.
3. Shift the tack line to the next higher reefing cringle.
4. Undo the sheet from the clew cringle and pass the sheet through the next higher reefing cringle.
5. Crinkle the sail and, using the reefing lines that are secured to the sail, secure the foot of the sail.
6. Raise the sail.

   The Coxswain decides on the height for the lug.
7. Tighten the tack.
8. Sheet in the sail.

13.4 Foresail Mate

Performance objective — Competent Crew trainees will be able to demonstrate the ability to perform the role of Foresail Mate.

The Coxswain delegates the role of Foresail Mate, who is responsible for the safe and effective operation of the foresail.

13.4.1 Briefing foresail crew

The Foresail Mate assigns crew responsibilities and directs the following operations:

- When tacking:
  - Coxswain or Foresail Mate orders **"Ease the sheets"** with careful control.
  - The Foresail Mate monitors the sail chord.
  - **"Back the foresail"**.

  The most common tacking errors involve backing the foresail too early or slackening the sheet prematurely before backing.
- When tacking and gybing:
  - Untie the tack line.
  - The Coxswain orders **"Dip the lug"**.
  - Set the tack line.
  - **"Set the fore"** to reset the foresail.

13.4.2 Monitoring the foresail during a tack

When the Coxswain calls **"Helms a lee"**, the Foresail Mate ensures that the foresail continues to power the boat for as long as possible before ordering **"Ease the sheets"** and **"Back the foresail"**. Giving these orders too soon slows down the boat and reduces the ability of the boat to get through the wind during the tack.

As the boat gets closer to the wind during a tack, the Foresail Mate orders the foresail to be sheeted in until such time as the sail is luffing and no longer powering the boat.

14 Anchoring

Performance objective — Competent Crew trainees will be able to demonstrate anchoring and kedging techniques.

The **SOOKE HARBOUR AND BASIN CHART** (full-size version stored in the boat shed) shows the positive anchoring sites and the danger of underlying rocks along the shore. Chart 1 provides a legend interpretation for dangers of rocks, reefs, underwater obstacles and cables. See section 23 "Appendix B — Sooke Harbour chart (excerpt)".

Anchoring must take into account existing weather conditions, the type of bottom and tidal fluctuation. Generally, the best anchorage is in the lee of the land with a sandy bottom.

It is important with both bow and stern anchoring to have an extra anchor rode ready for use if needed.

Follow the applicable procedure in:

- Section 14.1 "Anchoring under oars"
- Section 14.2 "Anchoring under sail"
- Section 14.3 "Stern anchoring (kedging)"

14.1 Anchoring under oars

1. The Coxswain prepares the crew with the intention to anchor.
2. The Coxswain orders Bows to look out for rocks.
3. The Coxswain examines the proposed site, taking into account wind conditions, as shown in Figure 14-1.

   A cross-bearing of two diagonal sites is recommended if the situation is risky.
4. The Coxswain selects two crew members to position the anchor mat, prepare the anchor and chain, and flake out the anchor rode over the thwart to prevent fouling.

   Ensure that the end of the anchor rope forming the rode is secured around the forward mast before allowing the anchor chain and rope to be paid out.
5. The Coxswain manoeuvres the boat to the appropriate site under oars.
6. The Coxswain ensures one crew member is ready to ease the anchor and chain over the gunwale, on top of the anchor mat.

7. The other crew member clears the anchor rode (line) so that the line can run free if needed.

   Be sure the bitter end is secure before the operation begins.

8. The Coxswain estimates the scope needed.

   The ideal amount of rode required is a 7:1 ratio of water depth to length of rode, including the estimated tide fluctuation. The ideal scope of a 7:1 ratio is not needed for shallow water with little rise or fall of the tide. For a lunch break, a 5:1 ratio may be adequate.

   Our longboats have 30-m rodes and typically anchor in 10 to 15 ft of water.

9. The Coxswain orders the crew to row the boat astern after the anchor and chain are on the bottom.

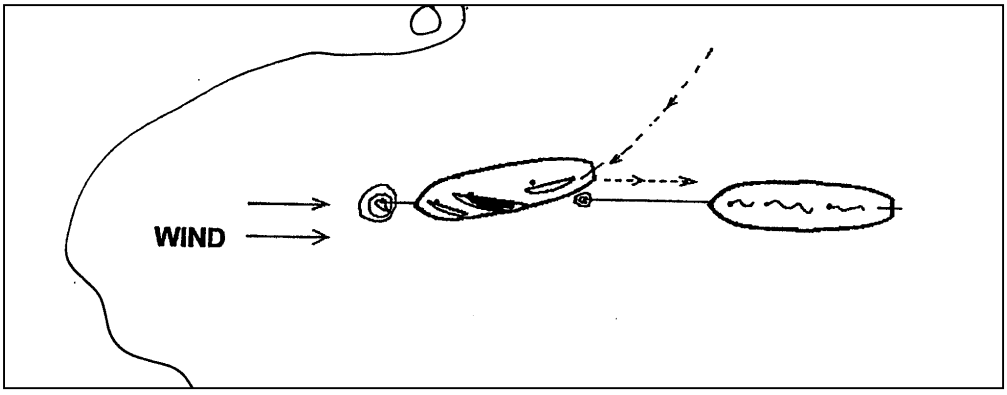
10. When enough line is paid out, the Coxswain ensures that the bight is secured around the thwart.

11. The Coxswain has the crew grip the rode to "feel" that the anchor is holding. If the anchor drags, pay out more rode and try again.

12. The Coxswain orders the crew to haul the rode tight, testing for security.

This procedure may need to be repeated until the Coxswain feels that the boat is securely anchored.

Figure 14-1. Anchoring position



14.2 Anchoring under sail

1. The Coxswain checks the chart for a suitable holding bottom.

2. The Coxswain selects the spot where the anchor is to be lowered.

3. The Coxswain assigns a lookout for rocks or other underwater obstacles (cables, pipelines) throughout the anchoring process.

4. The foresail crew readies the anchor and anchor mat.

   Check that the rode is made fast to the anchor, that the bitter end of the rode is secured, and that the rode (chain and rope) can be run out free.

5. At the Coxswain's command, the foresail crew lowers the foresail.
6. The Coxswain orders the mainsail to be lowered before reaching the planned anchorage.
7. The Coxswain heads the boat into the wind until the boat stops at the spot where the anchor is to be lowered.
8. The foresail crew lowers (does not throw) the anchor, using the anchor mat, over the gunwale until they can feel that the anchor is on the ocean floor.

   Use of the anchor mat reduces damage to the gunwale.
9. The Coxswain backs the mizzen so the boat will start to sail backward, and at the same time the foresail crew lets out the predetermined amount of line, as per scope described in section 14.1 "Anchoring under oars", step 8.
10. When sufficient scope is paid out, snub (stop paying out) the rode and belay (tie off).
11. The Coxswain orders crew to lower the mizzen sail.
12. The Coxswain assigns a crew member to establish range(s) to check drift and drag.

14.3 Stern anchoring (kedging)

Most of the longboat anchoring in harbours is from the stern. In this situation the anchor and rode are moved aft, secured, and let out over a mat on the gunwale on either port or starboard stern quarter. A crew member or the Coxswain may execute this operation. Stern anchoring usually allows the boat to be brought in close to shore or beached and the bow secured to an object ashore with a bowline knot.

Stern anchoring provides the means to haul the boat off the beach; this action is called kedging. Kedging is necessary if there any wind is sheering over the stern, pushing the boat broadside onto the beach.

The Coxswain should attempt to have the stern 45 degrees to the wind and should check to ensure the rudder is not caught on any rocks. If necessary, the Coxswain may secure the rudder to a thwart with a lanyard, remove the rudder pintles from the gudgeon, and have crew assist with lifting the rudder into the boat.

15 Longboat towing

Performance objective — Competent Crew trainees will be able to demonstrate how to secure the longboat when it is being towed alongside or when the towing vessel is ahead.

In safe waters, one method of towing the longboat is towing alongside, but is also safe to tow from the bow with the towing vessel ahead.

15.1 Towing alongside (only in safe waters)

The Coxswain never exceeds 5 knots of speed under calm conditions and less if there is wind, sea or swell.

1. Ensure that there are a minimum of three fenders on the towing side, with one large fender forward of the towing boat.

2. Ensure that the towing vessel is positioned aft of midships on the longboat (never forward of midships as there is little ability to control the vessel's course from this position).

3. Secure the towing vessel to the longboat fore and midships using spring lines. Secure the aft line toward the stern of the towing boat.

4. Alert crew not to place their hands on the gunwale or between the towing vessel and the longboat.

15.2 Towing vessel ahead of the longboat

This is the preferred method for being towed in open seas. The towing vessel should always provide the tow line. The towing vessel should be at least 30 m from the longboat while under tow and up to 100 m in rough seas or high winds. The danger of this towing method is that a lot of pressure can be applied to the forward section of the longboat by wave action, speed or a short tow rope. When using this method, a crew member must closely monitor the tow line at all times and be ready to cut or untie the line at short notice. The Coxswain never exceeds 5 knots of speed under calm conditions and less if there is wind, sea or swell.

1. Bring the tow line into the longboat from the forward starboard or port side of the bow.

   Use anchor mats to protect the gunwale from chafing.

2. Bring the tow line over the gunwale, then down under the thwart, around the mast a full turn, then over the opposite gunwale, and secure with a bowline knot with a 2-ft tail.

   This allows for a quick emergency release.

3. Signals must be prearranged for longboat/towing vessel cooperation. For example:

   - **Secure; begin to tow.**
   - **Reduce speed.**
   - **Shorten/lengthen the tow line.**
   - **Stop towing.**
   - **I am releasing the tow line.**

16 Crew overboard (COB)

Performance objective — Competent Crew trainees will be able to demonstrate the CREW OVERBOARD recovery manoeuvre (under Coxswain direction).

This procedure is applicable under calm (millpond) weather conditions. Under moderate to strong winds, crew will not have the oar power to manoeuvre the boat. Sail power is then more appropriate. In conditions of strong winds/strong tides, the Coxswain will direct crew to follow the "Alternative COB procedure for strong winds/strong tides — Triangle recovery method under sail", as described in the Coxswain training manual.

16.1 COB procedure — Calm conditions (wind less than 15 knots)

1. Any crew member who witnesses a person (COB) overboard loudly shouts "**CREW OVERBOARD — CREW OVERBOARD**".
2. The Coxswain immediately appoints a crew member as spotter to sight the COB and point to his/her location in the water.
3. If the Coxswain has gone overboard, the First Stroke crew member immediately assumes the Coxswain position unless a different emergency Coxswain has already been appointed.
4. If the COB is within reach, the Coxswain or designated crew member throws the life ring or other buoyant objects to the COB and shouts "Are you OK?".

   It is essential to maintain verbal contact with the COB.
5. If under sail, the Coxswain orders:
   a. "**Let fly the sheets**"
   b. "**Lower all sails**"
   c. "**Toss and ship oars**"
6. The Coxswain ensures that the spotter continually reports the COB's position in the water, using the clock method to make reports. (e.g., "COB in the water one o'clock 50 meters; COB in the water two o'clock 30 meters").
7. The Coxswain decides the quickest and safest means of recovery. If under oar, the Coxswain may only have to order "**Hold water/Backwater**" to effect a safe recovery.
8. If the decision is to go around 180 degrees, the Coxswain decides which side of the boat to make the recovery on and gives the appropriate oar commands to turn the boat around.

   Note: One recovery position is to have the COB on the leeward side. This benefits the recovery: in the event that the Coxswain comes in a little wide on the COB, the wind will push the boat toward the COB. It is paramount that the Coxswain ensures that he/she does not make the course so tight to the COB as to run them over or have the COB end up going down the windward side of the boat.

   The alternative is for recovery on the windward side.

   Note: If visual contact with the COB is lost, send a MAYDAY over VHF channel 16 "International Call & Distress" and also call 911. Flares and sound signals are another option to get attention.
9. After the Coxswain has turned the boat around, he/she announces to the crew on which side of the boat the recovery will occur.

10. The Coxswain or designated crew member prepares the floating heaving line, which may be used to assist in bringing the COB closer to the boat.
11. When the COB is approximately 15 meters ahead of the boat, the Coxswain orders everyone **except stroke oar** positions: "**Oars; Toss your oars; boat your oars**".
12. The Coxswain uses the stroke oar positions to get the COB alongside and orders "**Hold water/Backwater**" as necessary to maintain position alongside the person.
13. The Coxswain orders the recovery side to remove the thole pins and prepare for recovery.
14. When the COB is alongside, the Coxswain orders crew members to shift position to the recovery side to bring the boat's gunwale close to the water line.
15. The two crew members in the midships and second stroke positions on the recovery side (with other assistance as required) turn the COB so that his/her front is facing the boat.

    Note: Never recover a person from the water with his/her back to the boat because this may cause back injury.
16. The two crew members secure a safety line around the COB's chest, with the hauling end through a block, which is secured to the mast with a rolling hitch.

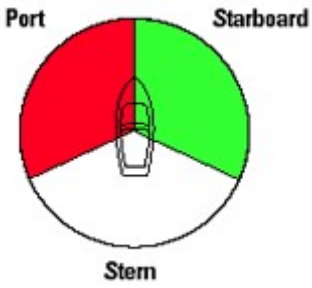
    The hauling line is an assist to the lifting crew.
17. The two crew members haul the COB onboard in stages.
18. When the person is onboard, crew members place him/her on the bottom of the boat and administer first aid as required.
19. The Coxswain determines if outside assistance is required to get the person medical attention.

17 Rules of the road for sailing and power vessels

Performance objective — Competent Crew trainees will be able to describe the rules of the road and navigation lights for power and sailing vessels, as prescribed in the *Safe Boating Guide* and Transport Canada Collision Regulations.

- Rules of the road: *Safe Boating Guide*: http://www.tc.gc.ca/marinesafety/tp/tp511/onthewater.htm#rules_of_the_road_and_safety_on_the_water
- Navigation lights: *Safe Boating Guide*: http://www.tc.gc.ca/marinesafety/tp/tp511/equipment.htm#navigation_equipment

Power vessels must give way to sailboats and rowing boats except in particular situations. The following information is copied from the *Safe Boating Guide.*

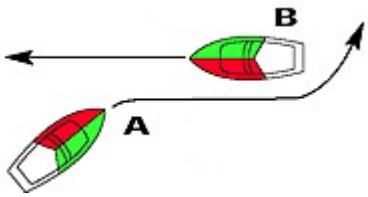


Port: If a power-driven vessel approaches within this sector, maintain your course and speed with caution.

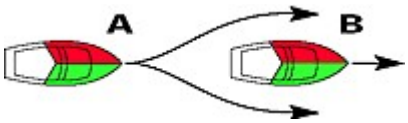
Starboard: If any vessel approaches within this sector, keep out of its way. (Note: This rule may not always apply if one or both vessels are sail boats.)

Stern: If any vessel approaches this sector, maintain your course and speed with caution.

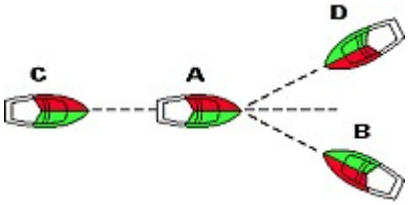
A blows one blast and alters course to starboard.
B blows one blast and alters course to starboard.



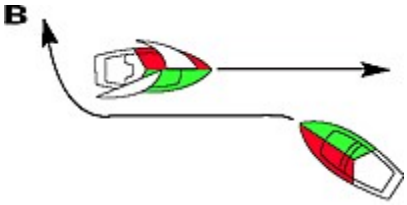
A keeps clear of and must avoid crossing ahead of **B**.



Any vessel overtaking another must keep clear.



A keeps clear of **B**
B keeps clear of **D**
C keeps clear of **A** and **B**
D keeps clear of **A** and **C**



A power-driven vessel keeps clear of a sailing vessel.

18 Canadian buoyage system

Performance objective — Competent Crew trainees will be able to identify and describe the lateral, cardinal and special buoys and range markers and their functions.

Resources:

- Section 23, "Appendix B — Sooke Harbour chart (excerpt)"
- Sooke Harbour Chart
- *Safe Boating Guide*: http://www.tc.gc.ca/marinesafety/tp/tp511/reference-material.htm#lateral_buoys_and_standard_daybeacons

The following information is copied from the *Safe Boating Guide.*

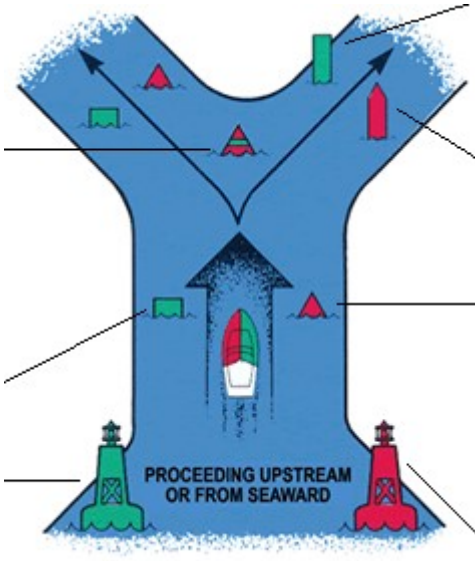
18.1 Lateral buoys and standard daybeacons

LATERAL BUOYS

Bifurcation (red and green bands) You may pass this buoy on either side when moving upstream.
The colour of the top band shows which is the main or preferred channel.
For example: keep this buoy on your starboard (right) side.

Port (green can) Keep this buoy on your port (left) side when going upstream.

Port (green pillar) Keep this buoy on your port (left) side when going upstream.



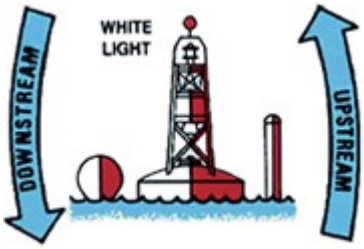
Port (green spar)
Keep this buoy on your port (left) side when going upstream.

Starboard (red spar)
Keep this buoy on your starboard (right) side when going upstream.

Starboard (red conical)
Keep this buoy on your starboard (right) side when going upstream.

Starboard (red pillar)
Keep this buoy on your starboard (right) side when going upstream

FAIRWAY



This buoy marks safe water at landfalls, channel entrances or channel centres. While it may be passed on either side, it should be kept to the port (left) side when going in either direction.

ISOLATED DANGER

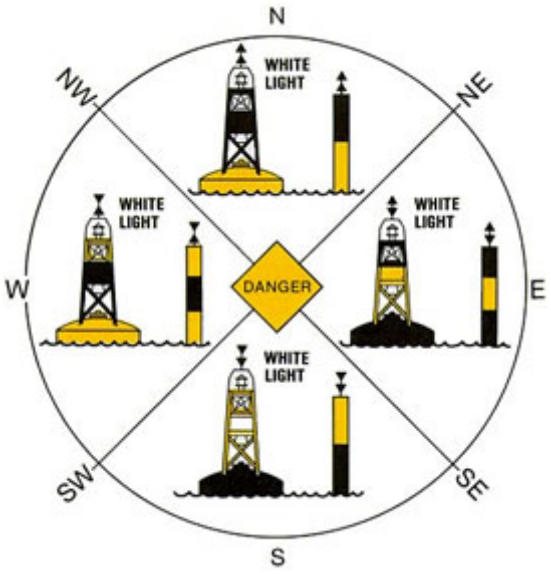
This buoy marks an isolated danger, such as a small shoal or a wreck, that has navigable water all around it. Consult the chart to learn the size, depth, etc. of the danger.

STANDARD DAYBEACONS

	**Port Hand** When going upstream, keep a port hand daybeacon on your port (left) side.
	**Starboard Hand** When proceeding upstream, must be kept on the vessel's starboard (right) side.
	**Junction (Preferred channel to right)** This daybeacon marks a point where the channel divides and may be passed on either side. If you want to take the channel to your right, keep this daybeacon on your port (left) side.
	**Junction (Preferred channel to left)** This daybeacon marks a point where the channel divides and may be passed on either side. If you want to take the channel to your left, keep this daybeacon on your starboard (right) side.

18.2 Cardinal buoys

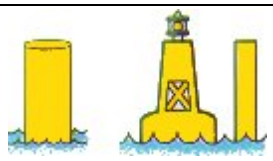
Topmarks



18.3 Special buoys

Description

- Shapes have no special meaning
- May be lettered — no numbers
- Cautionary, scientific and anchorage buoys may display a yellow "X" topmark
- Yellow lights — flash characters (if equipped)
- Retroreflective material of the same colour as required markings; white buoys will display yellow material

	**Cautionary** A cautionary buoy marks dangers such as firing ranges, underwater pipelines, race courses, seaplane bases and areas where no through channel exists.
	**Anchorage** An anchorage buoy marks the outer limits of designated anchorage areas. Consult the chart for water depth.
	**Mooring** A mooring buoy is used for mooring or securing vessels. Be aware that when you see one, a vessel may be secured to it.
	**Information** An information buoy displays information such as locality, marina, campsite, etc. inside the orange **square**.

	**Hazard** A hazard buoy marks random hazards such as shoals and rocks. Information is illustrated inside the orange **diamond**.
	**Control** Obey the speed limits, wash restrictions, etc. illustrated inside the orange **circle**.
	**Keep-out** A keep-out buoy marks areas your vessel may not enter.
	**Scientific (ODAS)** An ocean data acquisition system buoy collects weather and other scientific data.
	**Diving** A diving buoy marks an area where scuba or other such diving activity **is in progress**. It is not normally charted.
	**Swimming** A swimming buoy marks the outer limits of swimming areas. It may not be charted.

18.4 Range marks

A range consists of two or more fixed navigation marks situated some distance apart at different elevations (sometimes lit). The marks provide a leading line for navigators. When both marks are in line, the observer is on the recommended track. (See the chart for the portion of channel serviced by the range.)

There are two sets of range marks in the channel at the entrance to the Sooke harbour (see Appendix B — Sooke Harbour chart (excerpt)").

19 Weather

Performance objective — Competent Crew trainees will be able to describe and access resources for weather information.

Weather information is available from:

- Marine radio channel 21, Band 39 (WXL)
- Regular AM/FM radio weather forecasts
- Canadian Coast Guard — Marine Weather, Victoria area: 250-363-6880
- Regional newspaper
- Environment Canada
    - http://www.weatheroffice.gc.ca/canada_e.html
    - Marine weather: 1-900-565-6565 (fee applies)

20 Tide/current information

Performance objective — Competent Crew trainees will be able to gather and interpret tidal data: rise, ebb, range.

Interpretation of tide and current information is important because tidal flows create difficulties on entering and leaving the protected harbour area.

Resources:

- Canadian Tide and Current Tables Zone 9 pamphlet, updated to the current year
- Fisheries and Oceans Canada web site — Tides, Currents and Water Levels, Zone 9 for Sooke Harbour and Sooke Basin: http://www.tides.gc.ca
- Regional newspaper (for local waters)

21 Resources

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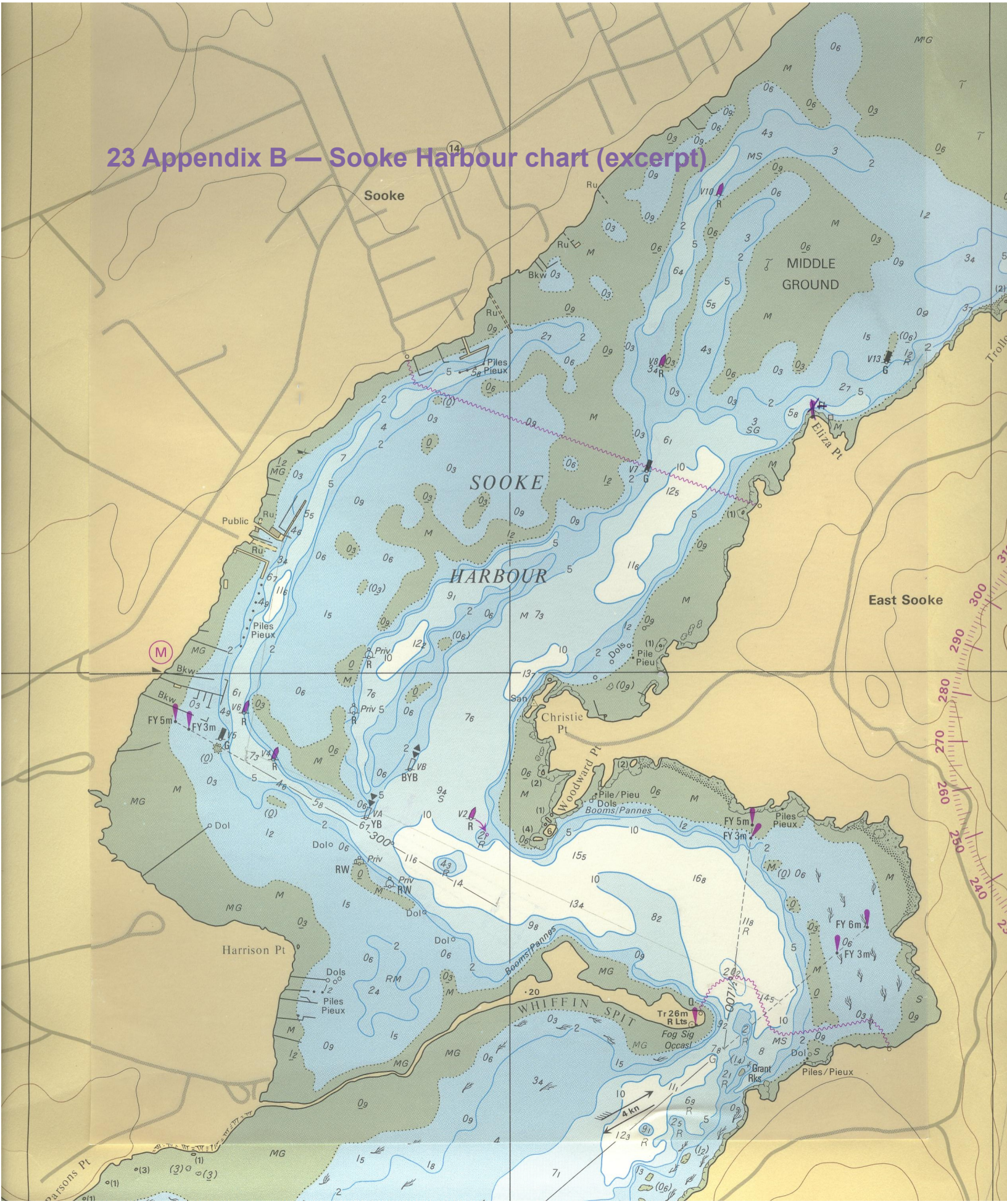
22 Appendix A — Longboat outing checklist

Preparing for an outing	
	1. [Coxswain] Ensure log book is completed with weather/tide information and crew list.
	2. Check boat bag contents: • First aid kit • Watertight flashlight • Distress flares • Sound-signalling device • Compass • Harbour chart • Tide table • Cell phone (VHF radio if outside Sooke Basin)
	3. Carry equipment from the boat shed to the float: • Life ring • Heaving line • Tiller • Blue boat bag • Spare life jacket/PFD
	4. At the Coxswain's discretion, carry one or more sails from the boat shed to the float.
	5. Remove the boat cover; store it on the float or hang it to dry on the railing of the ramp to the float.
	6. Remove the three wooden/foam cover supports and place them out of the way on the float.
	7. Store the spare life jacket/PFD, heaving line and boat bag in stern sheet.
	8. Install the tiller in the rudder; place the holding pin in the hole on the tiller aft of the rudder.
	9. Put the thole pins in the gunwales.
	10. Check the location of the two bailing buckets in the bilge.
	11. Check that the water level in the bilge is not above the lead ballast.
	12. Pump/bail the bilge if necessary until the water level is below the top of the lead ballast.
	13. Untie the oars from the second-stroke thwart.
	14. Store the sails next to the gunwales, "stripes to the stern". • Foresail has one stripe • Main sail has two stripes • Mizzen sail has three stripes
Completing an outing	
	1. Remove the thole pins from the gunwale holes and let dangle.
	2. Remove the tiller.
	3. Lash the oars to the second-stroke thwart.
	4. Replace the cover and three cover supports.
	5. **A.** If sails are dry: Fold and lash each sail. i. Bring the tack cringle corner to the peak. ii. Bring the clew cringle to the throat. iii. Lay the sheet and tack line along the lug. iv. Fold the bunt of the sail several times toward the lug. v. Roll the sail to the lug and lash securely. **B.** If sails are wet, Coxswain will find a place to hang (loft of No. 1 ways shed)
	6. Return equipment, including the tiller, to the boat shed.
	7. [Coxswain]: Ensure log book is completed with outing description.

23 Appendix B — Sooke Harbour chart (excerpt)



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