



Sea kayak fitout and stowage

Peter Carter

There is no one right way to go sea kayaking. That has always been true, as shown by the variety of craft and equipment across the Arctic. Today we are spoiled for choice with so many designs from manufacturers across the world. But some general principles always apply, with two key characteristics: seaworthiness and reliability.

When it comes to boats, remember that all design is compromise, trying to balance competing features and characteristics. Design is also driven by constraints, in our case the nature of the sea, the limitations of materials, human muscle power, and so on. Sea kayaks are necessarily more complex than kayaks for other waters.

Keep in mind a comment by French aircraft designer Antoine de Saint-Exupéry, who wrote “A designer knows he has achieved perfection not when there is nothing left to add, but when there is nothing left to take away.” In other words, don’t make things more complex than they need to be. Minimalism. That said, there must be some redundancy in key systems.

There will never be a perfect sea kayak, paddle, PFD, or whatever. Don’t be in a rush: examine and try as many boats and other equipment before you buy anything.

Every time you take the boat out, check that everything is sound and working properly: structure, hatchcovers, footrest, rudder or fin, pump... Check things again before you put the boat away.

On deck

A boat will come from the manufacturer with a basic layout of deckline, toggles or handles and shock cords. Particularly on rotomoulded boats you will find it difficult to change that, but there will be some things to add.

My preference is for decklines of at least 8 mm, if not 10 mm, rope. The absolute minimum is 6 mm. The question is not strength but comfort and safety with cold wet hands. Following Tasmanian practice, I always have a metre or so of free end at the bow for dragging the boat through shallows, mooring, and so on. It’s tied back when not in use. I also have a transverse loop forward of the hatch as an extra grab handle and wavebreak.

There will be times when you need two hands for something other than paddling and will need to restrain the paddle. The minimalist paddle leash is around 2m of ski rope, with a loop in one end and the other fixed to the deck. Leave it stowed under the shock cords until you need it.

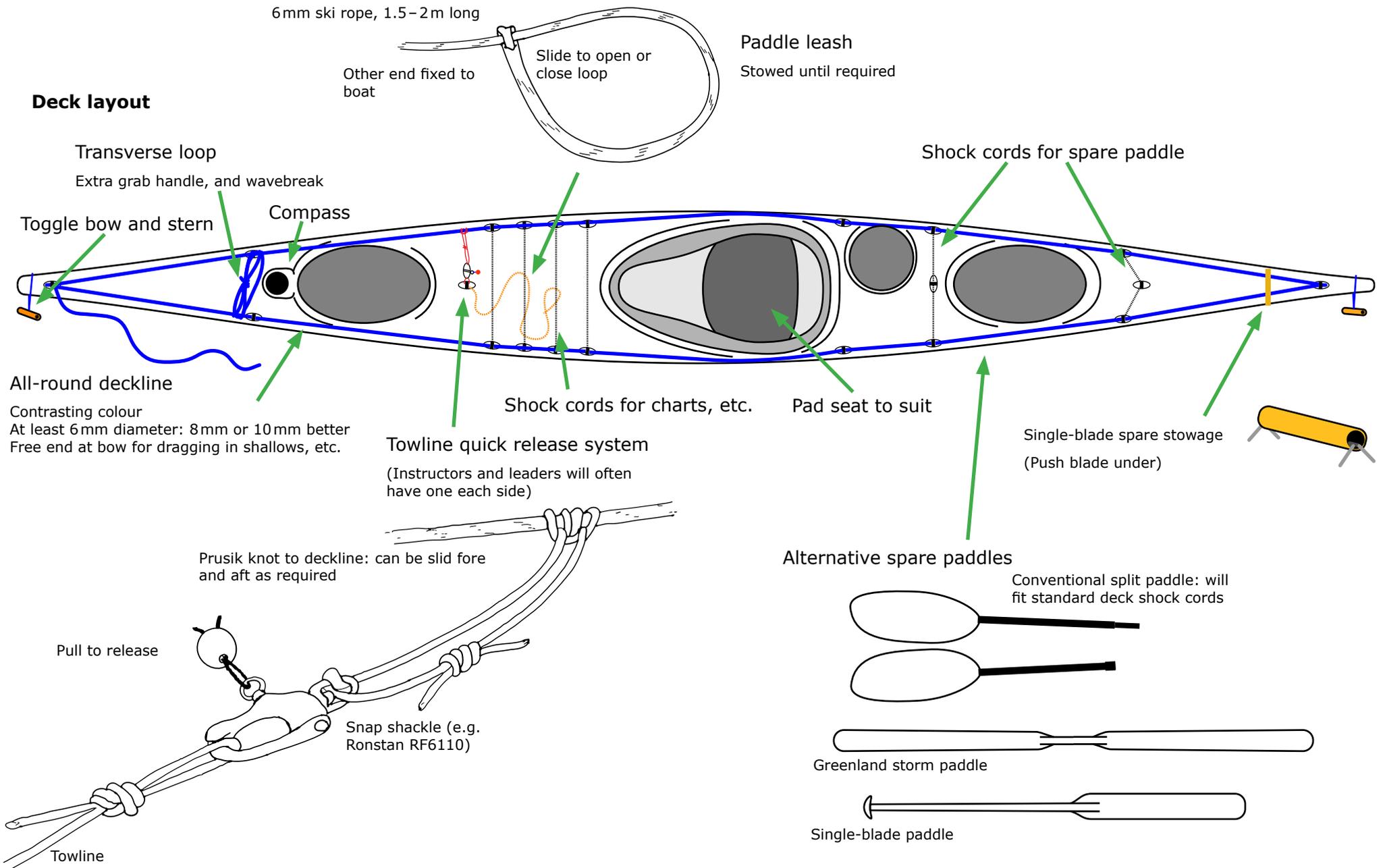
Also in front of you will be the chart, note slate and other small items. Resist the temptation to have a pile of gear on the foredeck: what doesn’t get in the way is liable to be washed off.

The aft deck is the usual place for the spare paddle and other contingency gear. The usual spare paddle is one similar to the main paddle. It needs no different technique, but must be assembled before it is much use. Most current boats are supplied with shock cords to carry split paddles.

Two alternatives come from the Arctic. One is the Greenland storm paddle, a short version of the Greenland paddle, and used with a sliding stroke. The other is a single blade paddle. Both can be used without having to be put together but do require fluency in the techniques and will need to be stowed differently. (My system uses a length of 20 mm conduit near the stern so that the paddle can be restowed from the cockpit.)

There are many towline systems, with the current favourite based on a snap shackle on a short loop attached to the deckline with a Prusik

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knot. No cleats, with their stress concentrations, are needed, and if you have more than one boat it can be transferred from one to the other.

The towline itself will be some 15 m long, with float and snaplink at each end. Three millimetre Nylon has some shock absorbency of its own. Most people carry the line in a small bag, often daisy chained for convenience.

In the cockpit

You need to be comfortable, for hours on end. Add some padding to the seat, and its sides, so that you are comfortable and cannot slide about on the seat.

You have a choice of two pump systems. I favour foot pumps for their almost 'fit and forget' reliability. They are normally mounted on the forward bulkhead with the outlet straight through the deck. That may not be possible with some boats but fitting in other positions, e.g. beneath the deck, might be done.

Electric pumps are generally fitted behind the seat, with the switch in some convenient location. It goes without saying that the switch and wiring must be waterproofed and checked, with the battery charge, regularly.

Carry a sponge as backup. A handheld manual pump is often carried in a group to deal with flooded compartments and the like but it must not be anyone's main pump.

In many boats there will be vacant space ahead of the footrest, space that can be occupied with a bag of gear, suitably restrained. Besides using the space for something useful, it will reduce the volume of water that can slosh in the cockpit. Long narrow bags can also be stowed along the sides of the cockpit. You need to be able to control the boat with the cockpit flooded, and to be able to remove the water while paddling.

In PFD pockets

Some things must be on your person: mobile phone, radio, PLB, camera, emergency card, knife, whistle... No more than necessary. Emergency gear might be carried in in a waist bag.

Safety equipment

As we must comply with boating regulations there are certain items we must carry, and they are listed in the *SA Recreational Boating Handbook*, page 47:

Variations from standard requirements

Certain types of boat are either partially or totally exempt from the safety equipment requirements adjacent.

Those vessels exempted from the above must instead carry the following.

- Canoes, kayaks, rowboats, or similar small, unpowered vessels – in protected or semiprotected waters must carry:
 - one PFD Type 1, 2 or 3 for each person on board (must be worn at all times, except when in a rowboat)
 - one suitable bailer, unless the hull is permanently enclosed
 - if the vessel is being operated at night, a waterproof and buoyant torch or lantern.

In current terminology, you will wear a PFD Level 50 or 50S. You do not want to wear a PFD Level 100. For the bailer, a sponge will meet the rules but you need better.

Go into unprotected waters, i.e. beyond 2 nautical miles, and you need more:

- Canoes, kayaks, rowboats, or similar small, unpowered vessels – in unprotected waters require:*
 - one approved PFD Type 1 or 2 with whistle attached, worn at all times
 - one suitable bailer, unless the hull is permanently enclosed
 - if the vessel is being operated at night, a waterproof and buoyant torch or lantern
 - one spare paddle
 - V distress sheet

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- one tow line at least 15 m in length and strong enough for the vessel to be towed in any conditions
- two hand-held red flares and two handheld orange smoke signals
- one fitted, liquid damped or magnetic compass
- one map or chart of the area of operation
- one litre of fresh water
- one EPIRB.

In other words, the same as other craft apart from extinguisher, anchor and radio. The 'liquid damped or magnetic compass' wording is curious, but note that the compass must be fitted to the deck, not in your pocket.

The rules say 'EPIRB' but the precedent for carrying a PLB has been set in other fields, so in my view a PLB in your PFD pocket meets the rules.

Flares and V-sheet need to be accessible, perhaps under the day hatch. I carry them in a bag on the aft deck close to the cockpit. Flares have a shelf life of three years and must then be replaced.

There is an important proviso:

- * A canoe, kayak, rowboat or similar small, unpowered vessel operating in unprotected waters is exempted from carrying flares, smoke signals, compass, EPIRB or chart of the area, if the vessel is:
 - with at least two other similar vessels, or a support vessel; and
 - at least one of the accompanying vessels is equipped with all listed equipment; and
 - the exempted vessel remains within 50 m of the fully-equipped vessel at all times.

In other words, it is the group that must have the complete set of equipment, not necessarily individual paddlers. You don't need to buy all these items when you are starting out.

Marine radio

The regulations do not require us to carry radio, however waterproof handheld marine VHF transceivers are now available for a reasonable price and many of us, particularly Instructors and group leaders, carry them. They provide communications to shore stations for safety and weather information and between groups on the water.

The current regulations require users to hold the Marine Radio Operator's VHF Certificate of Proficiency, although in practice many boaties do not. That situation may change in the next year, with VHF requirements becoming similar to those for Marine 27 MHz radio.

Below deck

The general rule is that heavy items go amidships, light items towards bow and stern. That means that water, fuel and heavy food items go in the aft compartment as close to the bulkhead as possible. Small heavy items might go into the day compartment.

Otherwise, what you put where is up to you. My preference is for tent, sleeping bag and mattress forward, and food, clothing and other items aft. Several smaller bags are easier to deal with than few large ones. Plastic jars are good for small items.

As always, any space without gear will be filled with buoyancy.

For most paddling, the boat must trim level. If you will be paddling all day into wind there is some sense in trimming slightly down by the bow, or slightly stern down if you'll be spending the day with following winds.

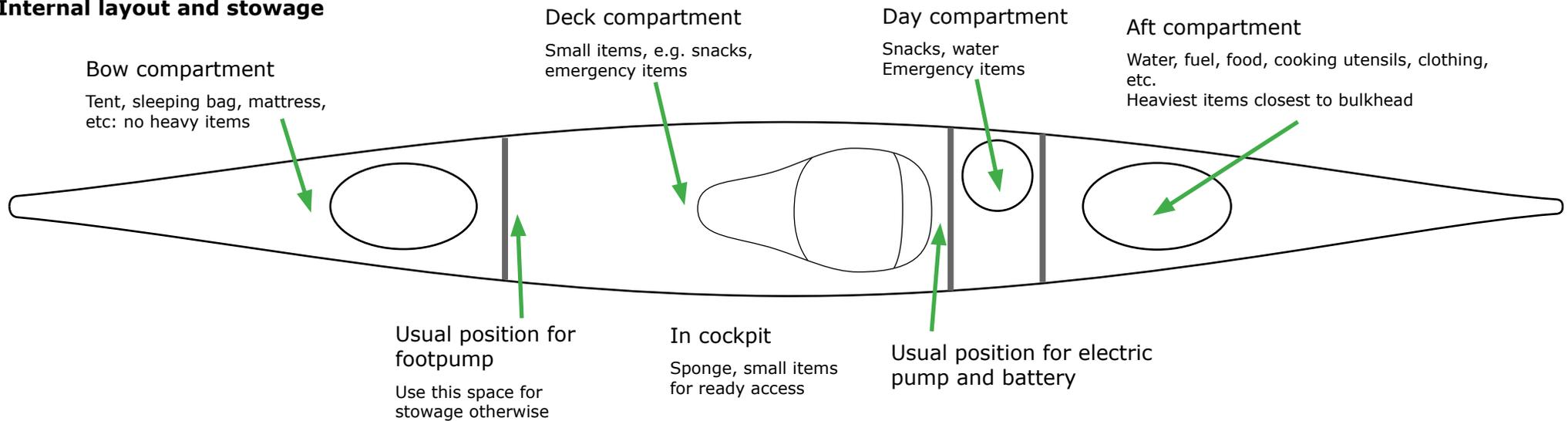
Food for a day trip is easy: prepare it at home. Overnight or weekends are not too hard but extended expeditions can be interesting. If you're carrying packaged foods leave as much of the packaging behind as possible: the less you carry in the less you'll have to carry out.

For cooking, you'll need some kind of stove, its fuel, and utensils. There's a wide range available.

Before an expedition, rehearse packing and using the stove, etc. so that you know how everything will fit and how things work.

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Internal layout and stowage



Other bits and pieces

I always have a couple of lengths of 8 mm shock cord with Tyga hooks at the ends. They have many potential uses besides holding boats on vehicles. Another item with many possible uses is a toggle rope, 2 m or so of 4 or 5 mm line, doubled, with a toggle and knots spaced along it.

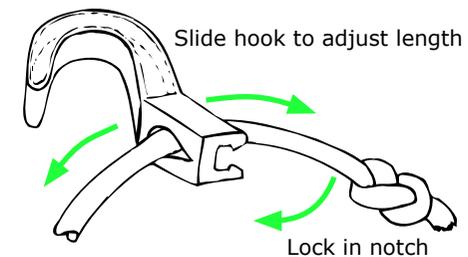
One more multi-use line begins as 2 m of 6 mm line, with a snaplink (e.g. RF-533) and float at each end.

Wherever ropes are involved you need to have a knife handy. Harness cutters are the safest and can be easily carried in a PFD pocket.

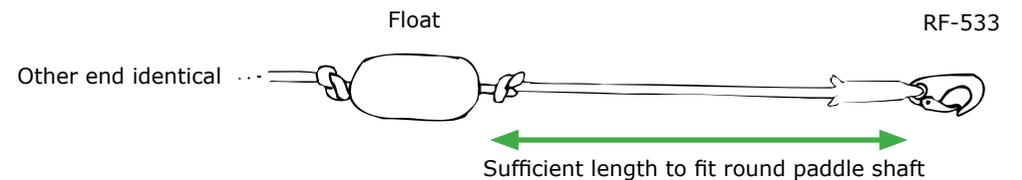
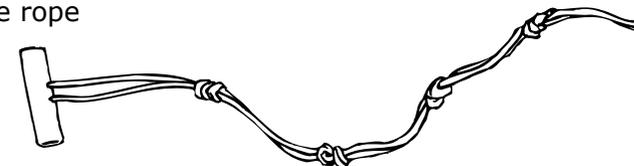
An expedition will carry tools and materials appropriate to the boats for maintenance and repairs beyond the inevitable roll of duct tape.

Tyga hook

Solcor J-Hook is alternative



Toggle rope



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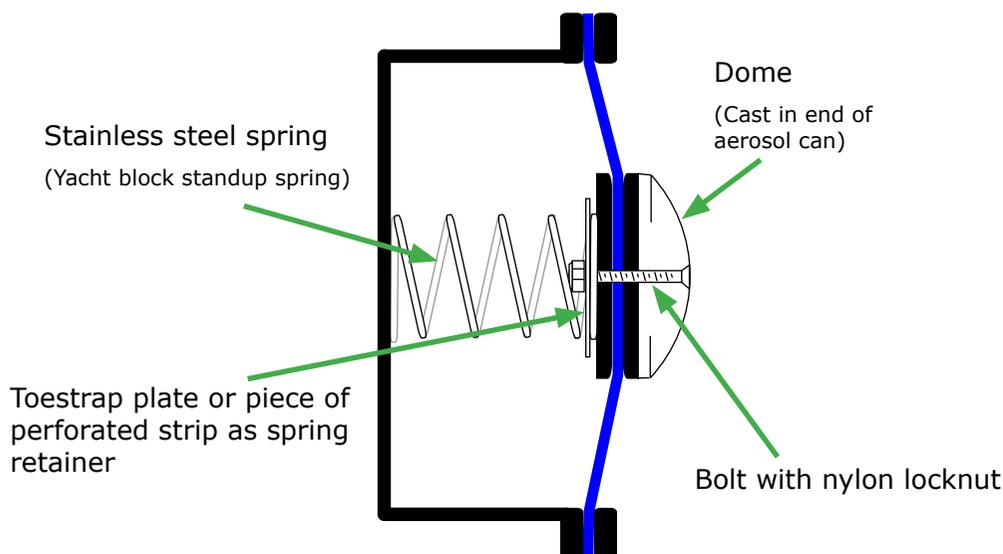
Converting pump to foot operation

The Economy Manual Bilge Pump (No 67546 in Whitworths catalogue) is the current best value. I prefer to remove the handle and its mounting lugs and put a spring inside, as shown in the diagram. Others leave the handle in place but cut it short and use a length of shock cord in place of the spring.

To mount in the cockpit I use two long bolts through the body of the pump rather than its normal lugs. There's a short inlet hose and I put the outlet through a short length of old GRP paddle shaft glassed to the deck, and sealed with silicone.

The diaphragms in these pumps perish rapidly. Spares can be bought but I substitute diaphragms cut from an old wetsuit.

Foot pump internals



Glossary

EPIRB: Emergency position indicating radio beacon. Transmits distress signal via satellite

GRP: Glass reinforced plastics (The generic term: 'Fibreglass' is a trade name)

nautical mile: The unit of distance at sea, equivalent to one minute of latitude and 1.852 km

PFD: Personal flotation device. (Level 50 and 50S PFDs are **not** 'lifejackets')

PLB: Personal locator beacon. A pocketable form of EPIRB

protected waters: Inland waters excluding Lakes Albert and Alexandrina

Prusik knot: A knot devised by a 1930s German climber that can be slid along a rope, but which locks in position under load

semi-protected waters: Waters offshore of a line 2 nautical miles seaward of the low water mark of the coast of the mainland or Kangaroo Island, or the banks of Lakes Albert and Alexandrina

unprotected waters: Waters inshore of a line 2 nautical miles seaward of the low water mark of the coast of the mainland or Kangaroo Island, or the banks of Lakes Albert and Alexandrina

VHF: Very high frequency. The marine band is 156.050 – 161.925 MHz

V-sheet: A fluorescent orange-red coloured sheet (1.8 x 1.2 m) with a large black V in the middle – a recognised distress signal

