Coastal bar safety
A guide to crossing coastal bars
Crossing coastal bars is a common but dangerous part of boating. Each year boats are damaged and people killed or injured when bar crossings go wrong.

What is a bar?

The movement of sand along the coast and sediment from catchments creates bars at the coastal entrances to rivers and lakes. The dynamic forces of wave action and water movement constantly change the shape, depth and channels on the bar.

A strong outflowing tide provides more drag on an incoming swell and forces it to be steep faced, higher and more inclined to close out or dump. The tide and wind direction can also be a factor in setting up both waves on the bar and angling the swell at different directions onto the bar.
Preparation

The open sea demands respect and that means you have to take extra care. Before you head offshore, always follow these guidelines:

- Check the weather before you leave home — don’t go out if the weather is not suitable
- Get local knowledge about the bar you’re intending to cross. Every bar is different and all bars can change quickly, depending on the conditions.

Consider the following:
- Roads and Maritime has web-cameras streaming live footage of the coastal bars at many popular locations along the coast. Visit [rms.nsw.gov.au/maritime](http://rms.nsw.gov.au/maritime) to check conditions where you plan to go boating
- Talk to experienced locals or check with a Boating Safety Officer, Boating Education Officer, volunteer rescue organisation or marina operator about the bar concerned
- If you are new to an area, observe the bar for at least 10 minutes from land first. Pick visible channels indicated by darker coloured water and lack of breaking waves
- Watch how other vessels handle the bar. Take note of the line they follow in and out, where they wait and watch, where they move off to cross the bar. If you can, cross the bar with other experienced boaters before trying it yourself
- Take careful note of any navigation aids that may help, particularly leads or sector lights that mark the channel
- Tell someone where you are going, how many people are on board, when you are expected back and who to contact if you are not back at the nominated time. Leave a photograph and a description of your boat behind, in case a search and rescue effort is required
Tips

• Don’t go regardless of the conditions just because you have planned the day in advance — if in doubt, don’t go out
• An incoming tide is always safer. If possible, time your day at sea to coincide with a rising tide both leaving and entering the port
• Avoid crossing bars on an ebb or run out tide
• Check that your boat is operating correctly and make sure throttle and steering systems are in good working order. Check that the battery is secured in place
• Ensure your open (ocean) waters safety equipment is in good shape and accessible. Brief all on board regarding its location and function
• Ensure everyone onboard is wearing an appropriate lifejacket.

• Make sure you have the necessary safety equipment, including an appropriate lifejacket for each person on board. For a full list of safety equipment to be carried on NSW waters, please visit rms.nsw.gov.au/maritime or call 13 12 36

• Ensure your vessel is in good order. The major causes of breakdown at sea are fuel shortage or contamination and mechanical or battery failure
• Consider whether your boat can handle the rough seas you might encounter offshore. The design of some boats cannot meet the challenge
• Be aware of alternative ports or safe anchorages before heading out. If you are crossing a bar to go offshore it might not be possible to cross when you return, so always have a ‘Plan B’ and enough fuel to reach an alternative location
• Combining alcohol and boating is dangerous. Always keep within the law and stick to the below permissible concentration of alcohol limits:
  - 0.00 for all vessel operators under 18 years
  - Less than 0.02 for commercial vessel operators over 18 years
  - Less than 0.05 for recreational vessel operators over 18 years.
• Finally, it is most important that you, as skipper, have both the experience and the temperament to handle the situation. If you are new to boating, go offshore with an experienced crew and gain your experience gradually.

Coastal bar safety

- Make sure you have the necessary safety equipment, including an appropriate lifejacket for each person on board. For a full list of safety equipment to be carried on NSW waters, please visit rms.nsw.gov.au/maritime or call 13 12 36
- Ensure your vessel is in good order. The major causes of breakdown at sea are fuel shortage or contamination and mechanical or battery failure
- Consider whether your boat can handle the rough seas you might encounter offshore. The design of some boats cannot meet the challenge
- Be aware of alternative ports or safe anchorages before heading out. If you are crossing a bar to go offshore it might not be possible to cross when you return, so always have a ‘Plan B’ and enough fuel to reach an alternative location
- Combining alcohol and boating is dangerous. Always keep within the law and stick to the below permissible concentration of alcohol limits:
  - 0.00 for all vessel operators under 18 years
  - Less than 0.02 for commercial vessel operators over 18 years
  - Less than 0.05 for recreational vessel operators over 18 years.
- Finally, it is most important that you, as skipper, have both the experience and the temperament to handle the situation. If you are new to boating, go offshore with an experienced crew and gain your experience gradually.
When on the water

• Warm up the engine and check that everything is running smoothly. Do not attempt the crossing if the motor is misfiring or not responding quickly.

• Check the steering system and bilge pump are functioning. Make sure any drains or scuppers are clear.

• Close all hatches and ensure that all loose items are stowed away in lockers or tied down to prevent movement.

• Secure the anchor. Do not leave it sitting in a forward well where it could become a missile or be catapulted overboard.

• Arrange passengers and equipment so the boat is balanced with weight evenly distributed.

• When crossing a coastal bar, open (ocean) waters requirements for lifejackets should be followed. Each person must wear a Level 100 or greater lifejacket on most vessels. When using a personal watercraft (PWC), paddle craft or some other categories of vessels, a Level 50S or greater is suitable. Visit [rms.nsw.gov.au/lifejackets](http://rms.nsw.gov.au/lifejackets) or call 13 12 36 for full details.

• It is recommended that all on board remain outside the cabin, except the master if it is necessary to drive the boat from inside the cabin.

• With the bar in sight, idle around and check the conditions. Decide whether or not to proceed.
**Going out**

When heading out, remember you will experience a clash of forces. The outgoing boat must meet the energy of the breaking sea. Minimising these clashes makes things safer for you and the boat.

The main technique is:

- Idle towards the breaking waves, watching carefully for any lulls. If a flat period occurs, apply the throttle and run through

- If the waves just keep rolling in, motor to the surf zone and gently accelerate over the first piece of water, then apply more power and run to the next wave. Time this carefully, don’t go too fast or you may get airborne on the next wave and lose control of your vessel

- Back off the power just before contact with swell. As you come through or over the breaker, accelerate again and repeat the process until well clear of the break zone

- Head for the lowest part of the wave (the saddle). This is the last part of the wave to break.

**Don’t**

- Hit a wave face with the power on. The boat can become airborne or throw the crew into the windscreen, dashboard or floor

- Lose your nerve. Once committed, keep going forward. You may be swamped if you try to turn around at the last moment

- Go through the waves at an angle. Try to take waves as close to head on as possible or up to 10 degrees either side.
Coming in

Coming in over the bar is usually easier. However, once you are mixed up in the white water, the noise and boisterous seas can be a challenge.

- When entering move towards the breaking area and pick the line of least activity. Stay with the leads or channel markers if the breakers obscure your vision
- Watch for breakers that may form behind you (to seaward)
- Once you have the general direction, choose a set of waves suitable for your entry and position the boat on the back of a swell. The vessel should travel at the same speed as the waves. The aim is to travel in on the back of a swell, staying ahead of waves breaking behind the vessel. Don’t run down the face of the wave as this may cause you to lose control of the vessel and can result in a capsize
- It is best to come in on a run-in tide. If the tide is running out, it may affect your vessel’s speed as you approach the actual entrance. Maintain power and trim the nose of the boat up a little, adding power as needed
- An outgoing tide may also create pressure waves near the mouth of the system. These steep peaks should be handled carefully as they can destabilise the craft, causing it to yaw or broach and capsize. Handle pressure waves by accelerating gently as you come over each wave.

If your vessel is not capable of keeping up with the incoming swells then you will need to let the swells run under your vessel. It may be necessary to slow your vessel or use a sea anchor in order to maintain steerage.

If conditions become dangerous and a crossing cannot be safely attempted, consider these alternatives:
- Wait for conditions to abate
- Wait for change of tide
- Seek alternate safe harbour.