



Transport for NSW

# Coastal bar safety



Crossing coastal bars is a common but dangerous part of boating. Even in apparently calm conditions, vessels can be swamped or damaged, which can result in the loss of life.

## What is a coastal bar?

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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.

When strong outflowing tidal currents are opposed to an incoming swell, the friction can force the waves to become steeper, higher and more likely to dump. The direction of the wind and swell also affect the way the waves break on the bar and can make conditions more dangerous.

## Preparing to go offshore

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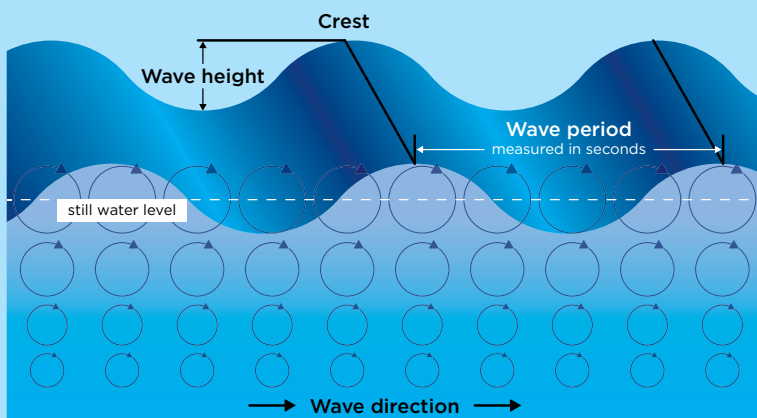
Before you head offshore, consider the following guidance to help ensure you cross a coastal bar safely:

- Check the weather before you leave home — don't go out if the weather is not suitable. Visit **[bom.gov.au/marine](http://bom.gov.au/marine)** to get information on tides, coastal weather and warnings. Check the forecasts for hazardous surf warnings or dangerous conditions for crossing bars.
- Talk to experienced locals about the bar you're intending to cross. Every bar is different and all bars can change quickly, depending on the conditions.
- Transport for NSW has web-cameras streaming live footage of coastal bars at many popular locations along the coast. Visit **[roads-maritime.transport.nsw.gov.au/web-cameras](http://roads-maritime.transport.nsw.gov.au/web-cameras)** to check conditions where you plan to go boating.
- If you are new to an area, observe the bar for at least 10 minutes from land first. Look for visible channels indicated by darker coloured water and lack of breaking waves.

- Observe how other vessels handle the bar and take note of the line and direction they follow when crossing. 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

## Wave period

Try and observe the wave period, which is the time between wave crests. A long period swell has a longer amount of time between waves (usually 10 seconds or more) and can be very powerful. This is particularly dangerous for bar crossings, because the bar may appear calm for a period of time, and then a large, powerful swell can appear unexpectedly. As the swell reaches the shallower part of the bar, large waves can form and break suddenly. Wave periods can also be erratic, depending on prevailing conditions, so always keep a lookout, both in front of and behind the boat.



- 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. You can also use the Marine Rescue NSW app or VHF radio to log on/log off at the start and end of your trip.
- Make sure you have the necessary safety equipment for open waters, including an approved lifejacket for each person on board. For a full list of safety equipment to be carried on NSW waters, visit [roads-maritime.transport.nsw.gov.au](https://roads-maritime.transport.nsw.gov.au) or call **13 12 36**.

# Planning your trip

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- It is most important that you, as skipper, have both the experience, judgment and confidence to cross coastal bars. If you are new to boating, go offshore with an experienced crew and gain your experience gradually.
- Consider whether your boat can handle the rough seas you might encounter offshore. Size, design, structure and buoyancy are some of the factors determining each vessel's suitability for open waters.
- 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 identify an alternative route and enough fuel to reach an alternative location.
- Ensure your vessel is in good order. The major causes of breakdown at sea are running out of fuel or contamination and mechanical or battery failure.

## Key tips

- Don't head out 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.
- Visit the Bureau of Meteorology website at **bom.gov.au** for wave forecasts, included in marine forecasts and on MetEye, wave period forecasts through the interactive weather charts and further information about coastal bar crossings in the marine section
- Avoid crossing bars while the tide is running out, or at low tide
- Check that your boat is operating correctly and make sure throttle and steering systems are in good working order
- Ensure your open waters safety equipment is on board, easily accessible and in good working order. Show everyone onboard where each piece of safety equipment is, and teach them how they are used in an emergency.
- Ensure everyone on board is wearing an appropriate lifejacket

# Starting your trip

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- 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 working. 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
- Check that the battery is secured in place
- Secure the anchor. Do not leave it sitting in a forward well where it could become a projectile or be catapulted overboard.
- Arrange passengers and equipment so the boat is balanced with weight distributed evenly
- When crossing a coastal bar, open waters requirements for lifejackets must 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 **[roads-maritime.transport.nsw.gov.au](https://roads-maritime.transport.nsw.gov.au)** or call **13 12 36** for full details.
- It is recommended that all on board remain outside the cabin, except the skipper 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

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When heading out, remember you will experience a clash of forces. The outgoing boat must meet the energy of the breaking sea. Minimising this clash of forces will better ensure the safety of your vessel and all those aboard.

The common technique for crossing a coastal bar is to:

- 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.

## Key tips

- Avoid hitting a wave face with the power on. The boat can become airborne or throw the crew into the windscreen, dashboard or floor.
- Stay calm and try not to panic. Once committed, keep going forward. You may be swamped if you try to turn around at the last moment.
- Avoid going through the waves at an angle. Try to take waves as close to right angles (bow on) or up to 10 degrees either side.



# Coming in

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Coming in over a coastal bar is usually easier. However, once you are travelling through 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 identified a 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 rising tide. If the tide is running out, it may affect your vessel's speed or make the entrance too shallow to pass. Maintain power and trim the nose of the boat up a little, adding power as needed.
- An outgoing tide may also create pressure waves at the entrance due to friction against the incoming swell. These steep peaks should be handled carefully as they can destabilise your craft, causing it to broach (turn side-on to the waves) and capsize. Handle pressure waves by accelerating gently as you come over the crest of each one.

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 ease
- Wait for change of tide
- Identify an alternative safe harbour.



**13 12 36**

**[roads-maritime.transport.nsw.gov.au](https://roads-maritime.transport.nsw.gov.au)**

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