COASTAL SAFETY FACT SHEETS

2026



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Surf Life Saving Australia
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For beach safety information visit: **beachsafe.org.au**



FACT SHEETS

BEACH SAFETY

BEACH SAFETY - FLAGS & SIGNS

The beach is a dynamic, ever-changing environment. Although it can be fun, it can also be unpredictable and dangerous to people who are unaware of the hazards that can be present at times. That's why trained lifeguards who understand the beach use a system of flags and signs to advise the people who visit with the important things they need to know.

The most important flags on the beach are the RED and YELLOW flags. These show the supervised area of the beach and that a lifesaving service is operating. If there are no red and yellow flags, check with the lifeguards and if unsure don't go in the water.

Safety signs are put in place to warn you about the permanent and occasional hazards that are present in the environment. Some of these signs are permanent for long term hazards. However, others are put into place each day by the lifeguards to show you the hazards present on that day in a specific location: such as rip currents which can change locations on different days.

BEACH FLAGS



RED & YELLOW FLAGS
Swim between the flags



BLACK & WHITE FLAG
Surfcraft riding area boundary



RED FLAG
No swimming

YELLOW FLAG
Caution required. Potential hazards.



RED & WHITE FLAG
Evacuate the water

WARNING SIGNS

Use a yellow background, and include simple images to communicate what you should be aware of. It's important to always observe and abide by the safety signs.



WARNING



SWIMMING NOT ADVISED

LARGE WAVES



MARINE STINGERS

REGULATORY SIGNS

Regulatory signs advise you about prohibited or permissible activities at the beach. These are red circles, with diagonal lines across a black symbol. There may be penalties imposed if you disregard these signs. A green circle means an activity is permissible.









INFORMATION SIGNS

Provide information about features or activities which may be present on the beach.



SAFETY SIGNS

Indicate the safety provisions or provide safety advice such as emergency beacons, public rescue equipment or first aid.



BEACH SAFETY – SURF LIFE SAVING TOP TIPS

Millions of people visit Australia's beautiful beaches every year to enjoy the environment and participate in different activities. Although Australian beaches may look amazing, they can be unpredictable and dangerous to anyone.

Here you will find some very helpful advice from our Lifeguards and Surf lifesavers on beach safety, to ensure you enjoy your visit to the beach and stay safe!

SWIM BETWEEN THE RED AND YELLOW FLAGS



When you see red and yellow flags on a beach, it indicates that there is currently a lifesaving service operating on that beach. The lifeguards have chosen a section of the beach that's best for swimming and they'll closely supervise this area.

READ THE SAFETY SIGNS



Before you go on to the beach be sure to read the safety signs. This will ensure you're aware of any warnings or dangers on the beach. You can also find other helpful information to make your day at the beach more enjoyable. You might also find single signs placed on the beach to highlight specific warnings.

ASK A LIFEGUARD FOR SAFETY ADVICE



Lifeguards are highly trained and very knowledgeable about beach safety and conditions. When you arrive at the beach look for the lifeguards. Feel free to ask them about the day's conditions, as well any additional beach safety advice they might have for that specific beach – because every beach is different.

SWIM WITH A FRIEND



Not only is swimming with a friend (or family member) a fun way to enjoy the beach, it is also very sensible. While you're swimming together you can keep an eye out for each other, and if further assistance is required, one person could call or go for help. If everyone swimming together knows their own limits it's a good idea to share this with those around you so you can all stay within everyone's comfortable limits.

IF YOU NEED HELP, STAY CALM AND ATTRACT ATTENTION



Even the most careful people can find themselves out of their limits in the water. If you are not feeling comfortable in the water and you require a lifeguard's assistance to get back to shore, stay calm, raise your arm in the air and wave it from side to side. This will attract the attention of a lifeguard who will be able to come to your assistance. You should conserve your energy by floating on your back and staying calm. This will ensure you have the energy to remain afloat until further aid arrives.

Beach Safety for Visitors to Australian Beaches



Swim between the red and yellow flags

一定要在紅黃旗之間游泳。
保持在红黄旗之间的区域游泳。
常に赤と黄色の旗の間で泳ぐ
항상 붉은색과 노란색의 깃발 사이에서만 수영하십시오
हमेशा लाल और पीले झंडों के बीच तैरें
Sentiasa berenang antara bendera merah dan kuning.
قم بالسباحة دائماً بين الأ علام الحمراء والصفراء

Read the safety signs



閱讀安全標示。
阅读安全标记。
安全標示を読む
안전 표지판을 읽으십시오
सुरक्षा-चिह्नों को पढ़ें
Bacalah tanda keselamatan.
إقرأ علامات السلامة

Ask a lifeguard for safety advice



向救生員求助。
向救生员求助。
ライフガードに助けを求める
인명구조대원에게 도움을 요청하십시오.
जीवन-रक्षक से सहायता माँगें
Minta pertolongan daripada penyelamat kelemasan.
اطلب المساعدة من حارس الانقاذ

Swim with a friend



切勿單獨游泳。
不要独自游泳。
一人では泳がない
혼자 수영하지 마십시오.
अकेले न तैरें
Jangan berenang berseorangan.
لا تسبح بمفردك

If you need help, stay calm and attract attention



如遇到麻煩要呼叫及高舉手臂求助。
如果遇到麻烦，就大声呼救，并把手臂举过头挥舞。
トラブルが起きたら助けを呼び頭上で手を振る
위험에 처하면, 소리쳐 도움을 구하고 머리 위로 팔을 흔드십시오.
यदि आप परेशानी में हों, तो आवाज़ दें और अपने सिर के ऊपर अपना हाथ घुमाएं
Jika menghadapi kesusahan, jerit untuk pertolongan dan lambaikan lengan di atas kepala anda.
إذا كنت تواجه مشكلة، قم بالنداء بصوت عالٍ للحصول على مساعدة والتلويح بذراعك فوق رأسك.

Traditional Chinese • Simplified Chinese • Japanese • Korean • Hindi • Malay • Arabic

www.beachsafe.org.au

TOURISM AUSTRALIA
Australian Government

BEACH SAFETY – RIP CURRENTS

Rip currents are one of the greatest, and most common, hazards on Australian beaches. On average, rip currents are responsible for at least 22 drowning deaths in Australia each year. In addition, lifeguards and surf lifesavers perform countless rescues each and every year to assist swimmers who have been caught in rip currents.

There are many myths about the ocean, but rips are the number one hazard on Australian beaches. Avoid rips by swimming at a patrolled beach between the red and yellow flags.

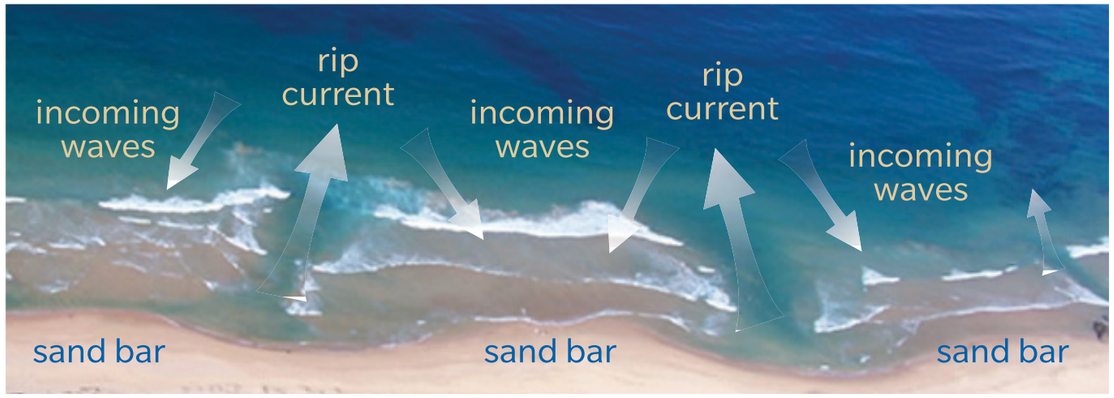
We're drawing the line on rips to make you stop and think before getting in the water.
STOP Assess the conditions before you enter the water. **LOOK** for rip currents and other dangers. **STAY ALIVE**

HOW TO SPOT A RIP CURRENT

The key signs to look for are:

- Deeper and/or darker water
- Fewer breaking waves
- Sandy coloured water extending beyond the surf zone
- Debris or seaweed moving offshore
- Significant water movement

Sometimes it can be easier to look for where the waves are breaking consistently, and then look to each side where they don't break consistently. Those areas are rip currents.



HOW TO SURVIVE A RIP CURRENT

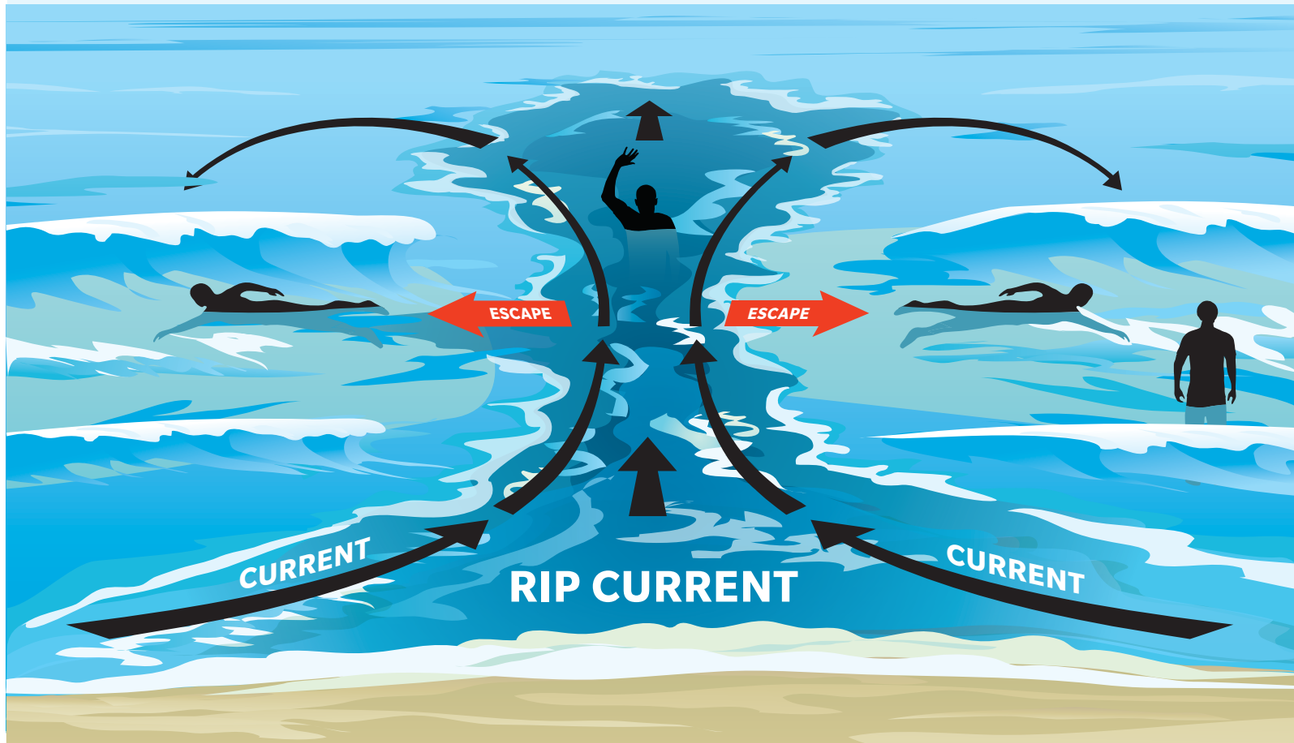
If you're caught in a rip current, stay calm, conserve your energy and consider these options:

- Stay calm
- Seek help. Raise your arm and call out. You may be rescued
- Float with the current. It may return you to a shallow sandbank
- Swim parallel to the beach or towards the breaking waves. You may escape the rip current

YOU CAN SURVIVE A

RIP CURRENT

BY KNOWING YOUR OPTIONS



AVOID RIP CURRENTS
SWIM BETWEEN THE RED AND YELLOW FLAGS

If you're caught in a rip current, stay calm, conserve your energy and consider these options:

Seek help. Raise your arm and call out. You may be rescued.

Float with the current. It may return you to a shallow sandbank.

Swim parallel to the beach or towards the breaking waves. You may escape the rip current.

Reassess the situation If what you're doing isn't working, try one of the other options until you return to shore or you're rescued.

Visit **beachsafe.org.au** or download the app to find out what you don't know about rips.

BEACH SAFETY - WAVES

Waves are one of the most enjoyable features of the ocean. You can ride them, jump over them, dive under them, simply watch them gently roll in, or gasp as they crash and roar during a big swell.

Different conditions affect waves and it's important to understand how the waves work, what types of waves may be present when you visit, and how you can deal with them to reduce the potential for injury.

HOW DO WAVES FORM?

Wind Strength: The stronger the wind, the bigger the swell.

Wind Direction: The wind needs to push the waves towards the beach for there to be surf. Sometimes beaches are also protected by headlands or reefs, which stop waves from reaching the beach.

Wind Duration or Fetch: The distance the wind has been blown over the ocean. The bigger the fetch, the bigger and cleaner the surf will be.

Waves will form into a regular pattern of larger and smaller waves. The larger waves in the pattern are called sets and the smaller waves referred to as the lull. The time between each wave crest is called the wave period and is measured in seconds. All of this information can help lifeguards determine the conditions at the beach on any given day.

THE BREAKING WAVE

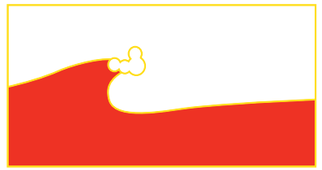
When the swell reaches shallow water it pushes itself upward until the slope of the crest cannot support itself. This is when it will break. There are three types of breaking waves each with their own key characteristics. On any beach, there will commonly be a combination of these three types of waves.

TYPES OF WAVES

Plunging or dumping waves create a hollow tube when they break. Surfers call this the 'barrel' or 'tube.' Plunging waves are particularly dangerous as they can pick people up and 'dump' them onto shallow sandbanks or reefs with great force.

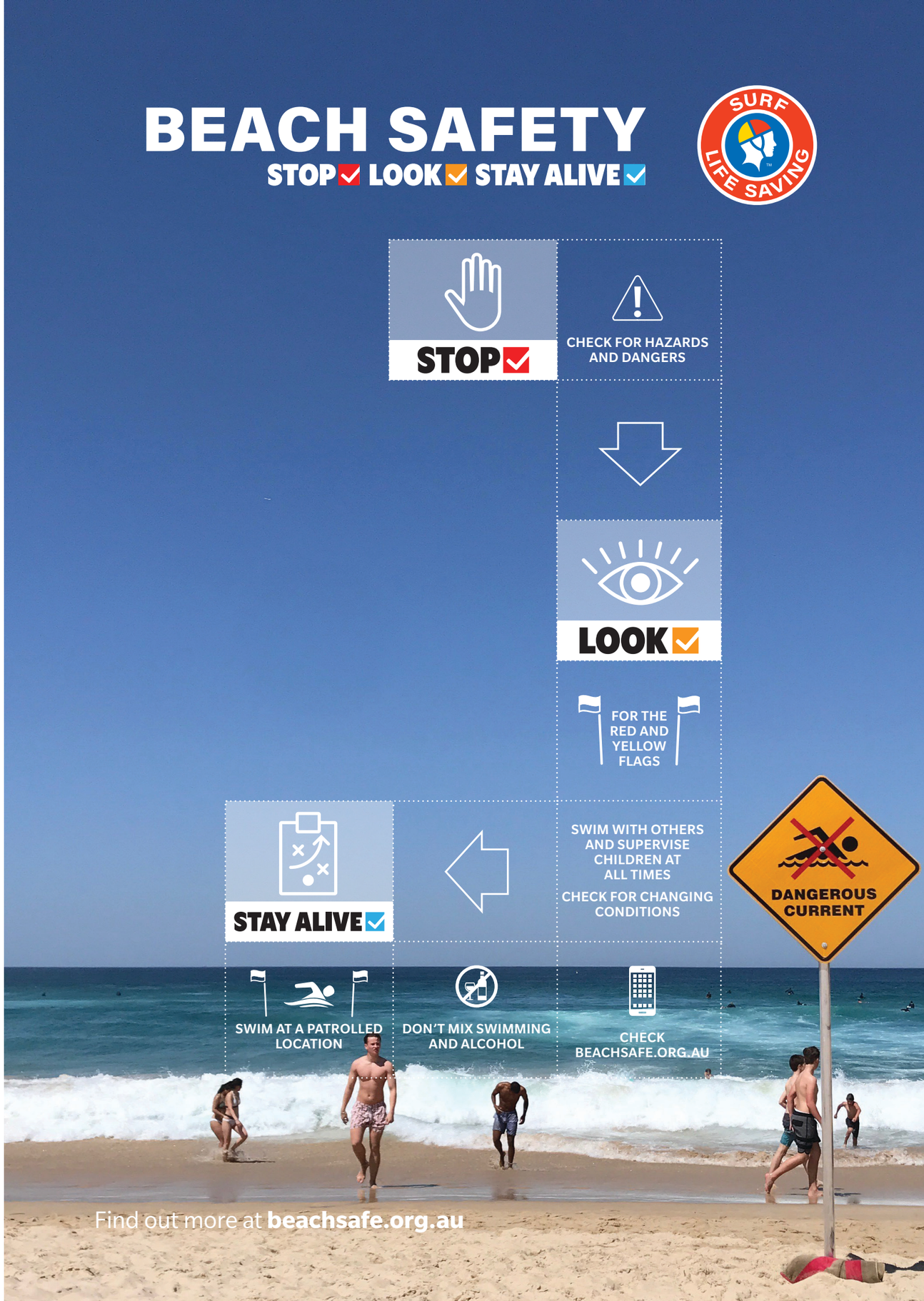


Spilling or rolling waves are found where there are generally flat shorelines. These are generally safer types of waves. They occur when the crest breaks onto the wave face itself.



Surging waves may never actually break as they approach the water's edge since the water is very deep. They are commonly seen around rock platforms and beaches with steep shorelines. They are dangerous because they can appear suddenly and knock people over before dragging them back into deeper water.





BEACH SAFETY - SUN SAFETY

The Australian summer is synonymous with long, hot and sunny days. This means there is an increased exposure to the heat and potentially-dangerous UV rays. To enjoy the beach it is important that you follow a number of simple steps when it comes to sun safety.

SLIP ON PROTECTIVE CLOTHING

Slip on protective clothing that covers as much of your body as possible. If you're swimming, a Lycra long sleeve shirt can protect you from the sun.



SLOP ON SUNSCREEN

Slop on sunscreen that is SPF30 or higher. Apply to your skin at least 20 mins before leaving the house. Ensure it's water-resistant and reapply every 2 hours.



SLAP ON A HAT

Slap on a hat, ideally a wide brimmed hat that covers your face, nose, neck and ears.



SEEK SHADE

Seek shade! This can be under a sun tent, a tree or other cover from the sun. If there is no shade, take breaks from the sun and avoid spending too much time in the sun during the highest UV rated times of the day.



SLIDE ON SUNGLASSES

Slide on some sunglasses that meet the Australian standards.



BEACH SAFETY - ALCOHOL & DRUGS

Some people might like to consume a few drinks while enjoying their day at the beach, but it's important to understand that swimming while under the influence of alcohol and/or drugs is a recipe for disaster. Alcohol and drugs not only impair your judgement, but also significantly slow your reflexes – a dangerous, and potentially deadly combination when it comes to the surf.

Alcohol and drugs contributed to 503 unintentional deaths between 2004-2020, 68% were due to drowning (n=344), with alcohol and drugs detected in one in five coastal drowning deaths. Males are over-represented in Australian alcohol and drug-related coastal drowning deaths (85%), while men aged between 25-39 years highlighted at particularly high-risk[1].

THE AFFECTS OF ALCOHOL & DRUGS

Alcohol and drugs can affect people in different ways. Consuming alcohol and drugs can lead to:

Impaired judgement
- Prompting you to take unnecessary risks, while overrating your ability in the surf
- Adversely impacting your ability to identify and manage dangerous situations

Lack of coordination and reaction time
- It may affect your sense of sight, sound and touch
- It may take you longer to react due to a decrease in brain response and ability to process information

Inability to control temperature
- Overheating may result, due to dehydration and unawareness of sun exposure
- Hypothermia could also result depending on conditions



"ALCOHOL AND DRUG USE IN AUSTRALIA IS WIDESPREAD AND SWIMMING AFTER CONSUMING ALCOHOL IS THE SECOND MOST COMMON HARMFUL RISK AFTER DRINK DRIVING[2]"

KEY DEMOGRAPHICS

85%
MALE

MALES AGED **25-39**

ACTIVITY



28%
SWIMMING/WADING

94%

OF ALCOHOL RELATED COASTAL DEATHS WERE ABOVE THE LEGAL LIMIT

1. Cooney N, Daw S, Strasiotto L, Ellis A & Lawes J (2020) Coastal Safety Brief: Alcohol and Drugs. Surf Life Saving Australia: Sydney.
2. Australian Institute of Health and Welfare 2017. National Drug Strategy Household Survey 2016: detailed findings. Drug Statistics series no. 31. Cat. no. PHE 214. Canberra: AIHW.

Resuscitation Chart

D — Danger



Check for **Danger** to yourself, the patient and bystanders.

R — Response



Check for **Response** by talk and touch.

S — Send



Send for help by calling **Triple Zero (000)**.

A — Airway



Open **Airway** and ensure it is clear.
If not, roll patient onto their side and clear the airway.

B — Breathing



Check **Breathing**.
If patient is not breathing or their breathing is not normal, commence CPR.

C — CPR (30:2)



Start **CPR**
Give 30 chest compressions followed by 2 rescue breaths.
If unwilling or unable to perform rescue breaths continue chest compressions.

D — Defibrillation



Attach an **Automated External Defibrillator** (AED) as soon as it is available and follow its prompts.

Continue CPR until:

- The patient responds or begins breathing normally
- It is impossible to continue (e.g. exhaustion)
- The risk of danger returns
- A health care professional arrives and takes over CPR
- A health care professional directs that CPR be ceased

To get involved and learn to save a life, contact Surf Life Saving in your state.

This information is not a substitute for first aid training. Surf Life Saving recommends that everyone be trained in first aid.



STOP. LOOK. STAY ALIVE.
ROCK FISHING

Rock fishing is arguably one of the most dangerous sports and hobbies in Australia. Every year a disproportionate number of people drown while rock fishing. Rock fishing is undertaken in a number of locations with small and large rock formations.

While rock fishing can be a dangerous activity, there are a number of key safety tips you can follow to ensure you stay safe and remember your day on the rocks for all the right reasons. This also applies if you are collecting abalone, oysters or other creatures off the rocks.

In response to the high numbers of drowning deaths, a coronial inquest (2015) recommended mandatory and enforced lifejacket usage which led to compulsory lifejacket usage being trialled within high risk local government areas in NSW, WA and Victoria. In NSW, the Rock Fishing Safety Act 2016 was passed to support this recommendation and legislates it is compulsory for anyone participating in rock fishing within a declared area, including children, to wear an appropriate lifejacket.

MINIMISING YOUR RISK

Before you go rock fishing it's important that you **STOP. LOOK. STAY ALIVE.**

STOP

Observe first, fish later.

- Think before you go fishing.
- If conditions look beyond your experience level, don't fish.
- Never fish alone where possible.

LOOK

- Check the weather, swell, wind, tides and wave height before heading out.
- Watch for surging waves, rogue sets and slippery surfaces, especially around exposed rock platforms, headlands and coastal washes.
- Plan where you are fishing and let someone know your expected return time

STAY ALIVE

- Fish within your skill level and choose safe, accessible locations. Start on calmer days with lower swell.
- Wear appropriate safety gear such as a life jacket (PFD) and non-slip footwear or cleats.
- Stay well back from the edge and always keep an eye on the ocean. Never turn your back on the sea.

WHAT TO DO IN AN EMERGENCY

- Dial 000 on your mobile or go and get help
- Do NOT jump in if someone is washed into the water
- If possible use a rope or something that floats to throw to the person
- If you are swept into the water don't panic. Stay calm and swim away from the rocks
- If there is an angel ring nearby, know how to use it



STOP. LOOK. STAY ALIVE.
BOATING SAFETY

Boating is an extremely popular activity in and around Australian coastal waterways. There are 3.2 million coastal boaters in Australia, of which 900,000 are frequent participants. An estimated 18% of Australians go boating each year, with the majority from Queensland, Tasmania, and New South Wales.

Recreational boating is consistently the second highest coastal drowning activity nationally (following swimming & wading). Between 2004-20, seven in ten (70%) coastal boating drowning deaths were known not to be wearing a lifejacket[1]. Lifejackets clearly positively impact the outcome of boating incidents yet are rarely worn as recommended. Currently, legislation is state-based and varies according to each state.

Whether you're fishing, cruising or heading offshore, conditions on the water can change quickly. Boaters should plan ahead and make safety the priority.

MINIMISING YOUR RISK

Before you go boating it's important that you **STOP. LOOK. STAY ALIVE.**

STOP

- Think before you go.
- If conditions look unsafe or beyond your experience level, don't head out.
- Avoid alcohol and never overload your vessel.

LOOK

- Check the weather, swell, tides and marine conditions before launching.
- Make sure your vessel and safety equipment are in good working order.
- Log your trip and let someone know your plans and expected return time.

STAY ALIVE

- Always wear a lifejacket.
- Stay with your vessel if you get into trouble.
- Carry communication equipment such as a radio, EPIRB or waterproof phone.

WHAT TO DO IN AN EMERGENCY

- Dial 000 on your mobile or put out a call out on channel 16 over your radio
- Activate the EPIRB (if required)
- If you're not in immediate danger report any incident to your State police
- Stay calm and move away from any danger
- Ensure everyone is wearing a lifejacket
- For more information check the Maritime/Transport service in your State

1. Lawes J, Ledger J, Cooper B, & Daw S (2021) Coastal Safety Brief: Lifejackets. Surf Life Saving Australia: Sydney.



STOP. LOOK. STAY ALIVE.
WATERCRAFT

Watercraft activities include surfboards, body boards, kayaks, surf skis, stand up paddleboards, wind surfers and kite surfers. Approximately 1.9 million of the Australian adult population participate in surfing and 2.6 million participate in other watercraft activities.

Several programs have been run by Surf Life Saving (SLS) and other water safety partners in recent years to address the prevalence of watercraft and surfing incidents. For example, Paddle Safe, an education campaign in Tasmania, promotes safe paddling for aquatic users, supervisors, teachers and the general community. In Queensland, there has been a program for surfers to learn resuscitation and essential lifesaving skills; Surfers Saving Lives aims to reduce drowning deaths in blackspot locations and increase safety across the surfing community. Furthermore, Surf Life Saving Australia has partnered with the UNSW Sydney to research rescues performed by bystanders, where 28% of surfers say they have performed a rescue while participating in the activity.

Whether you're using a surf ski, kayak, stand-up paddleboard or other paddle craft, conditions can change quickly. Beginner paddlers should take a cautious approach and build experience gradually.

MINIMISING YOUR RISK

Before you go padding it's important that you **STOP. LOOK. STAY ALIVE.**

STOP

- Think before you paddle.
- If conditions look beyond your experience level, don't go out.
- Never paddle alone where possible.

LOOK

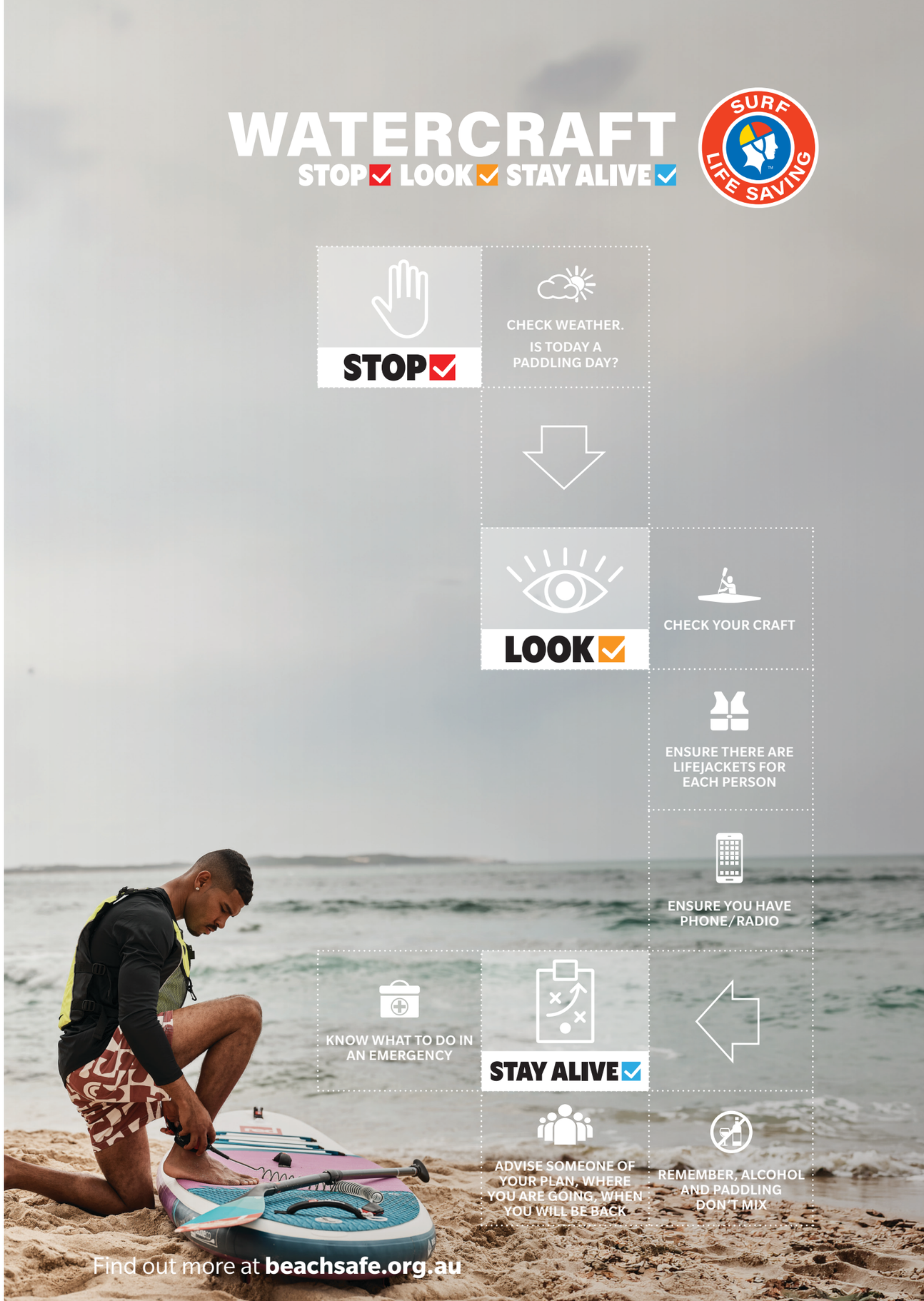
- Check the weather, swell, wind, tides and currents before heading out.
- Watch for rip currents, offshore winds and changing conditions, especially near headlands, river mouths and exposed beaches.
- Plan where you are paddling and let someone know your expected return time.

STAY ALIVE

- Paddle within your skill level and start in calm, protected conditions.
- Use a leg leash where appropriate so you stay connected to your craft.
- Remember your craft can provide flotation and is easier for rescuers to spot in an emergency.

WHAT TO DO IN AN EMERGENCY

- Dial 000 on your mobile or signal for help
- Stay near your craft if possible
- Stay calm and move away from any danger



STOP. LOOK. STAY ALIVE.
BYSTANDER RESCUE

MINIMISING YOUR RISK

Before performing a bystander rescue, it's important that you **STOP. LOOK. STAY ALIVE.**

STOP

- Think before you act.
- If the situation looks beyond your ability or puts you at risk, don't enter the water.
- Where possible seek assistance in performing the rescue. Get help immediately.

LOOK

- Assess the scene for dangers such as waves, currents, rocks or hazards before attempting a rescue.
- Look for safer rescue options. Reach, throw or signal for help before going in.
- Call for emergency assistance and alert others nearby as quickly as possible.

STAY ALIVE

- Avoid entering the water unless absolutely necessary. Your safety comes first.
- Use flotation (such as a life jacket, rescue tube, or any buoyant object) to keep both you and the person afloat.
- Reassure the person in trouble and keep a safe distance if needed. An untrained person may panic and put you at risk.

WHAT TO DO IN AN EMERGENCY

If you find yourself in a situation where you may be a bystander rescuer, don't rush in.
Take a moment to **STOP, LOOK.** and **STAY ALIVE**
Depending on the situation you could:

- Call for help (000)
- Seek assistance from others, such as surfers
- Avoid a contact rescue where possible – try a 'non-contact' rescue if you can and throw them something that floats or give them calm instructions how to get back to safety
- If you must enter the water, always take a flotation device with you (e.g. boogie board, angel ring, esky lid)





FACT SHEETS

MARINE CREATURES

MARINE CREATURES
BLUE-RINGED OCTOPUS

HAPALOCHLAENA SP.



WHAT DO THEY LOOK LIKE?

Blue-ringed octopuses are very small, growing to a maximum size of 20 centimetres when its tentacles are stretched out and weighing only 100 grams. Like all octopuses, it has a soft sack-like body and eight arms covered with suckers. Its beak or mouth is the only hard part of its body, so it is able to squeeze through very tiny spaces. A blue-ringed octopus is usually a light-brown or dark yellow colour but rapidly changes colour when agitated. Its body becomes bright yellow and iridescent blue rings or bars appear as a warning to predators.

WHERE DO THEY LIVE?

They live in rock pools, tide pools and shallow reefs all around Australia.

WHY ARE THEY DANGEROUS?

They are one of the world's most venomous animals. Despite its small size, the blue-ringed octopus carries enough venom to kill 26 adult humans within minutes. The venom is in their saliva and enters your system when they bite you. Their bite can result in paralysis and respiratory depression - stopping you from breathing.

Their bite is usually small but painless. Commonly the first signs you have been bitten will be numbness of the lips and tongue.

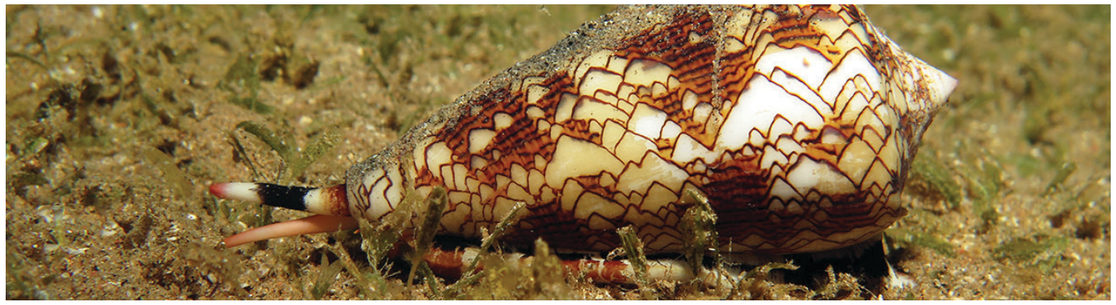
HOW TO AVOID THEM?

When exploring rock pools, look but don't touch. The blue-ringed octopus is so small and well camouflaged that they are difficult to see as their rings only show when threatened. Don't touch any small octopuses, they might be a blue-ringed octopus and by the time you see the tell-tale rings, it's too late!

WHAT TO DO IF YOU GET HURT

Call 000 immediately. Apply a pressure immobilisation bandage to the bite site, if you're not sure how to do this ask your patient to remain as still as possible. If the patient stops breathing commence CPR and continue until medical assistance arrives and is able to take over. Remember the venom causes paralysis and respiratory depression. The patient may survive if you can keep their heart beating until the poison wears off and they can start breathing on their own again. This can take between 2-13 hours.

MARINE CREATURES
CONE SHELLS
CONUS SP.



WHAT DO THEY LOOK LIKE?

The shells of the cone shell are shaped like an ice-cream cone, brightly coloured and intricately patterned. Inside the shell, is a snail. Parts of the snail that appear outside the shell are its foot used for movement, a siphon which draws in water for them to breathe and a tooth or snout used for hunting and defence.

WHERE DO THEY LIVE?

In shallow water, sand flats and reefs all around Australia.

WHY ARE THEY DANGEROUS?

Cone shells have harpoon-like darts which can deliver paralysing venom via their tooth. This venom can cause nausea, weakness, numbness, tingling and affect your movement, vision, hearing and speech. It also stops your lungs working, which can lead to death.

HOW TO AVOID THEM?

Do not pick up any cone-shaped shells, even if they are washed up on shore. There is no safe way to pick up a cone shell as their tooth can reach all parts of the shell.

WHAT TO DO IF YOU GET HURT

Call 000 to get urgent medical assistance. Apply a pressure immobilisation bandage to the bite site, if you're not sure how to do this ask your patient to remain as still as possible. If your patient stops breathing provide CPR.

MARINE CREATURES
COMMON LIONFISH
PTEROIS SP.



WHAT DO THEY LOOK LIKE?

The lionfish is covered with a stripy pattern which can be red, brown, orange, yellow, black or white. They have long feathery fins which hide their large poisonous spines.

WHERE DO THEY LIVE?

Lionfish usually live on coral reefs, in caves or crevices and especially in shallow waters. They are found all around Australia.

WHY ARE THEY DANGEROUS?

Lionfish have 13 sharp and venomous spines that can produce painful puncture wounds. Their venom causes intense pain and in the worst cases gives you a headache, vomiting, stomach pains and can stop your arms, legs, lungs and heart working properly.

HOW TO AVOID THEM?

If you don't touch, scare or tease a lionfish, it is unlikely to injure you. Lionfish can be aggressive, so if you see one stay a safe distance away from it.

WHAT TO DO IF YOU GET HURT

Put the area, most often a hand or foot, into hot water (as hot as the rescuer can stand with their elbow) and then seek medical assistance.

MARINE CREATURES
SALTWATER CROCODILE

CROCODYLUS POROSUS



WHAT DO THEY LOOK LIKE?

Saltwater (or estuarine) crocodiles have short limbs and a heavy muscular body covered with rough scales. They grow all their lives and an adult male can grow up to 5.5 metres. Crocodiles can hold their breath underwater for more than an hour, keeping very still waiting for prey. But don't be fooled — crocodiles can swim up to 32 kilometers per hour, powered by their long powerful tail. They can also run short distances on land as fast as 17.6 kilometers per hour and can certainly catch you! Crocodiles also store fat in their tails, so they can survive for up to two years without eating if necessary.

WHERE DO THEY LIVE?

Saltwater crocodiles live in rivers and freshwater swamps across the north of Australia — northern Western Australia and Queensland and all of the Northern Territory. They like to travel and can be found up to 100km inland and sometimes visit beaches in these areas.

HOW TO AVOID THEM?

Always obey crocodile warning signs and never enter the water where crocodiles might live, even if there is no warning sign. Always stand a few metres back from the waters edge and stay well away from slide marks on the bank. Never dangle your arms and legs over the side of a boat. If you see a crocodile (even a small one), don't go near it, annoy it, touch it, poke it or feed it, you might become a crocodile snack.

WHY ARE THEY DANGEROUS?

Their big teeth! Crocodiles are carnivores and eat whatever they can catch in the water or along the banks including fish, turtles, frogs, birds and pigs. Crocodiles don't chew their food, they either tear off large pieces or swallow their prey whole. Some species can eat up to half their body weight in one meal. As you can imagine, if a crocodile bites a person it results in massive damage and severe bleeding.

WHAT TO DO IF YOU GET HURT

Get the person out of the water as soon as possible, but first make sure it's safe before entering the water. Call 000 immediately and apply pressure to the wound to control the bleeding while you wait for the ambulance.

To learn how to be Crocwise, visit the Department of Environment and Science website. Report all crocodile sightings on 1300 130 372 even if you've reported the animal before.



MARINE CREATURES
SEA SNAKES

HYDROPHIINAE



WHAT DO THEY LOOK LIKE?

Sea snakes look like their land-based relatives, but they have developed some adaptations to their marine life. The most obvious is a flattened, paddle-shaped tail which they use for swimming. Internally, they have a right lung almost as long as their bodies which allows them to spend long periods underwater, but eventually they have to surface for air. Sea snake species come in many different colour combinations including black and yellow, grey, pale brown and black and white.

WHERE DO THEY LIVE?

Sea snakes live close to shore in warm tropical waters. Some prefer to live on reefs, while others like mud flats. Some even swim up rivers and can be found up to 160km inland.

WHY ARE THEY DANGEROUS?

Sea snakes have a highly toxic and fast-acting venom, which they use to catch the fish they eat before they can get away. If they bite humans, they might not feel it as the bite is painless. The venom can make you feel nauseous and dizzy, give you a headache, make you vomit, make your muscles hurt and in severe cases, affect the breathing muscles.

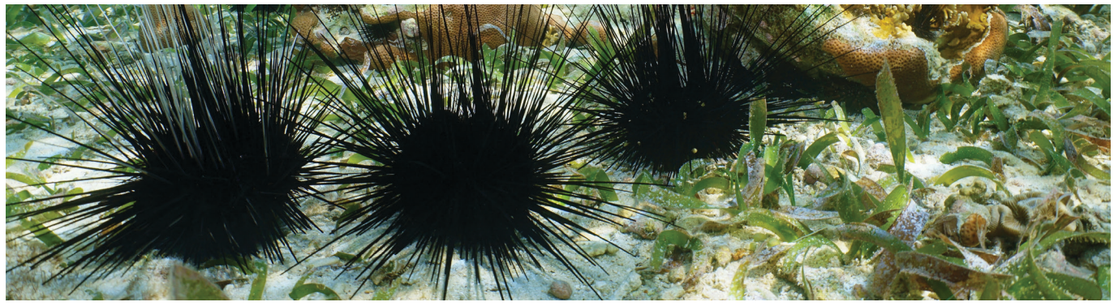
HOW TO AVOID THEM?

Sea snakes are curious and are attracted to any sign of motion in the water. They may approach a diver or swimmer, but they are shy and usually keep their distance. If you see one, keep calm and move away slowly. Do not touch them! The most common bites happen when fishermen catch them in their nets. Be careful when handling nets, especially at night, and wearing long leather gloves is recommended.

WHAT TO DO IF YOU GET HURT

Treatment is the same as for all venomous snake bites. Call 000 immediately. Apply a pressure immobilisation bandage to the bite site, if you're not sure how to do this ask your patient to remain as still as possible. An antivenom is available.

MARINE CREATURES
SEA URCHIN
ECHINOIDEA



WHAT DO THEY LOOK LIKE?

Sea urchins are typically spiny, globular animals that can vary in colour including purple, red, pink and black. They range in size from 3cm to 10cm, and have a rigid, usually spherical body, bearing moveable spines.

WHERE DO THEY LIVE?

They are widely distributed across all the oceans, all climates from tropical to polar environments, and inhabit marine benthic (sea bed) habitats from rocky shores to hadal zone depths.

HOW TO AVOID THEM?

Sea urchin stings may be avoided. Whenever exiting the ocean, look carefully around you, particularly in rocky areas, intertidal pools, near coral and reef zones, and wet sand. And don't pick them up!

WHY ARE THEY DANGEROUS?

A sea urchin puncture wound is always painful and will damage and hurt the skin's tissue. After being punctured, the injured area will swell and become inflamed. Part of the spines may remain in the skin and cause irritation.

WHAT TO DO IF YOU GET HURT

Place the affected area in hot water to relieve the pain (as hot as the patient can stand). Refer the patient to a doctor if the spines cannot be removed. They may also need a tetanus booster.

MARINE CREATURES
SHARKS
SELACHIMORPHA



WHAT DO THEY LOOK LIKE?

Sharks come is a wide variety of shapes and sizes, but there are some things they all have in common. The skeleton of a shark is very different from that of other fish. It is made from rubbery cartilage, a tissue lighter and more flexible than bone. Like other fish, sharks breathe by extracting oxygen from seawater as it passes over their gills which are in a row behind its head. Their skin is tough and scratchy, covered in tiny toothlike scales. All sharks have multiple rows of teeth along the edges of their upper and lower jaws which are constantly replaced throughout the sharks life. Some sharks can lose 30,000 teeth in a lifetime.

WHERE DO THEY LIVE?

Sharks live in all depths of water, all over Australia. They are not only found in the ocean but also in rivers and canals.

WHY ARE THEY DANGEROUS?

If a shark bites you, it does a lot of damage and causes you to lose a lot of blood.

HOW TO AVOID THEM?

Shark bites are very rare and if you follow our safety tips, the risk is even less. The safest part of the beach is the area between the red and yellow flags where trained lifesaving personnel keep a sharp lookout for sharks. If they spot a shark, they will sound a siren or ring a bell, put up the red and white flag and tell you to leave the water immediately. Always follow their instructions quickly.

If lifeguards or surf lifesavers have seen a shark in the area, they will put up safety signs and flags. Always look out for these and obey their warnings. Don't swim after dusk, at night or before dawn when sharks are most active. Never swim alone. Never swim while bleeding or with your pets. Sharks are curious and have an excellent sense of smell and will come from far and wide to investigate these smells.

There are other places that aren't good for swimming if you are trying to avoid sharks. Don't swim in murky waters, estuary mouths, canals, near schools of fish or where fish are being cleaned. Do not swim near or interfere with equipment relating to shark management and risk mitigation programs.

Many patrolled beaches along the coast have nets suspended in the sea just beyond the surf line. Their job is to capture very large and possibly dangerous sharks that try to reach beaches. You may see a line of paired white marker buoys (that mark the nets) or a yellow triangle marker buoy (that indicate an acoustic listening station) — stay away from them.

WHAT TO DO IF A SHARK BITE OCCURS

Get the person out of the water when it is safe to do so and call 000. Apply pressure to stop the bleeding and provide CPR if necessary.



MARINE CREATURES
STINGRAYS
BATOIDEA



WHAT DO THEY LOOK LIKE?

They come in a variety of shapes and sizes, but all stingrays have a triangular flat shape body with a tapering tail that is armed with one or more spines. The stingray's colours commonly reflect the sea floor's shading, camouflaging it from predators. Their eyes peer out from the top of their body, while their mouth, nostrils, and gill slits are underneath.

WHERE DO THEY LIVE?

In very shallow waters all over Australia.

HOW TO AVOID THEM?

Shuffle your feet — this tells them you are coming and gives them time to swim away. Always wear thick-soled shoes when walking through shallow water.

WHY ARE THEY DANGEROUS?

Most stingrays have barbs on their tails that they use for defence. These barbs are venomous. When humans get stabbed, the wound bleeds, swells and is very painful. The venom can cause nausea, vomiting, muscle cramps, diarrhoea, sweating and convulsions.

WHAT TO DO IF YOU GET HURT

Call 000. Put the affected area in hot water (as hot as the patient can stand) and get medical assistance. If the barb is still stuck, don't remove it.

MARINE CREATURES
STONEFISH
SYNANCEIA SP.



WHAT DO THEY LOOK LIKE?

As the name suggests, the stonefish looks like a rock. It is a greenish brown colour and has bumpy skin which helps it camouflage itself among rocks on reefs. It has 13 grooved spines on its back and is 30 centimetres long.

WHERE DO THEY LIVE?

Its main habitat is on coral reefs, around dull coloured plants near rocks, or they can be found sleeping in the mud or sand. They are found all around the Australian coastline.

HOW TO AVOID THEM?

Wear thick-soled shoes and shuffle your feet when walking in the shallows. Don't pick up rocks on reefs — they might not really be a rock!

WHY ARE THEY DANGEROUS?

Its back is lined with spines that release a venomous toxin which makes it the most dangerous fish in the world. Its venom causes very severe pain and swelling and can kill your tissues, stop your arms and legs working properly and put your body into shock. Always seek medical attention quickly as the sting is very serious and in rare cases, has been fatal.

WHAT TO DO IF YOU GET HURT

Call 000. Place the affected area in hot water (as hot as the patient can stand with their elbow) to relieve the pain and seek urgent medical attention.

MARINE CREATURES GLOSSARY

Adaptations — changes made to make an animal better suited to a particular environment or task.

Agitated — excited, annoyed or disturbed.

Antivenom — a medicine that can undo the effects of venom.

Barb — a triangular point shaped like an arrowhead.

Camouflage — camouflage is how animals blend in with their environment to help them hide from predators or prey.

Carnivore — an animal that eats only meat.

Convulsions — muscle spasms or contractions that you cannot control.

Crevice — a crack in a rock.

Iridescent — very brightly coloured and shiny.

Nausea — a sick feeling in your stomach.

Numbness — when a part of your body loses feeling.

Paralysis — a medical condition that stops you being able to move.

Pressure immobilisation bandaging — a first aid technique where you wrap the whole arm or leg (wherever the bite is) firmly in a bandage. This can slow down the spread of venom throughout the body.

Predators — animals that hunt other animals for food.

Puncture — to make a hole by piercing or poking with something sharp.

Prey — an animal that gets eaten by a predator.

Reflex — an involuntary or automatic response.

Saliva — is the medical term for spit.

Shock — a life-threatening medical condition where not enough blood reaches all the parts of your body and they can't work properly.

Species — a group of animals that look and act in similar ways.

Tapering — becoming gradually narrower or thinner at one end.

Toxin — a poison produced by an animal.

Venomous — describes an animal that is able to inflict a poisoned bite, sting, or wound.



FACT SHEETS

MARINE STINGERS

MARINE STINGERS
BLUBBER
CATOSTYLUS MOSAICUS

COMMON NAME

Blubber

DISTRIBUTION

The Australian species is found in Queensland, Victoria and New South Wales and into South East Asia.

SIZE AND APPEARANCE

Mushroom-shaped bell 5-30cm in diameter. They are a creamy white brown colour (blue if found further north). No tentacles but eight 'fronds' or 'frills' hang underneath. The sting causes minor skin irritation.

FIRST AID

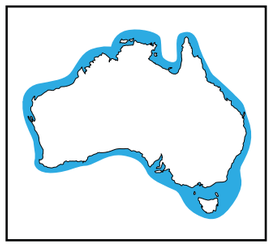
- Remove casualty from water if safe to do so
- DRSABCD
- Wash area with sea water (not freshwater)
- Keep casualty at rest and reassure
- Do not allow rubbing of the sting area
- Place the person's stung area in hot water (as hot as the patient can stand for 20 minutes
- If local pain is unrelieved by heat or if hot water is not available, apply a cold pack or ice in a bag
- Send for medical aid if symptoms persist or covers a sensitive area (e.g the eyes) and seek assistance from lifesavers/lifeguards

DID YOU KNOW?

- Blubbers are in the scyphozoan jellyfish Order called Rhizostomae; other rhizostomes have been demonstrated to use a sun compass to navigate migration pathways.
- Australia is home to many different species of blubbers — most are larger, colourful and give only minor stings.
- Blubbers are often home to a lot of strange marine life including crabs, brittle stars, barnacles, fish and crustaceans .



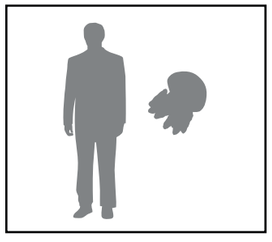
Catostylus mosaicus



Distribution in Australian waters



Catostylus sting



Size relative to human

MARINE STINGERS
BLUEBOTTLE
PHYSALIA SPP.

COMMON NAMES

Bluebottle, Portuguese man-o-war, Pacific man-o-war
Species found in Australia: *Physalia utriculus, Physalia megalista, Physalia minuta*

DISTRIBUTION

Bluebottles are found in most tropical and subtropical oceans worldwide. They can be found Australia-wide, but at different times of the year. On the east coast of Australia, bluebottles are predominantly present during the warmer months, while on the west coast of Australia they arrive more often during cooler months of the year.

SIZE AND APPEARANCE

Air-filled sac up to 15cm in length, usually with a single, long, blue main fishing tentacle hanging underneath. This may contract to a few centimetres or extend to cover over 10 metres in length. Some may have numerous main fishing tentacles and can cause painful stinging.

FIRST AID

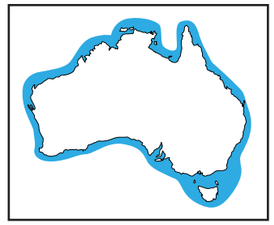
- Do not allow rubbing of the sting area.
- Adherent blue tentacles may be seen after a sting and are distinctive for Physalia. Remove any adhering tentacles.
- Rinse the area well with sea water (not freshwater).
- Place the stung area in hot water - no hotter than the rescuer can comfortably tolerate for 20 minutes.
- If the pain is unrelieved by heat, or if hot water is not available, apply cold packs or ice in a dry plastic bag.
- Send for medical aid if symptoms persist.

DID YOU KNOW?

Bluebottles are marine hydrozoans from the Cnidarian order Siphonophorae. They are not true jellyfish but are actually colonial hydrozoans made up of four main types of specialised and highly modified individual polyps (a.k.a. zooids). Each polyp is dependent on the others and they perform different functions to ensure the survival of the colony. Bluebottle morphology can be either left or right handed, depending on which side the tentacles (dactylozooids) are compared to the float (pneumatophore).



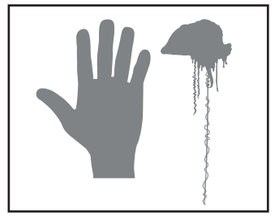
Physalia megalista



Distribution in Australian waters



Physalia sting



Size relative to human



Left handed/right handed

MARINE STINGERS
BOX JELLYFISH
CHIRONEX FLECKERI

COMMON NAMES

Box jellyfish, sea wasp

DISTRIBUTION

Shallow, tropical Australian waters north of Agnes Water, Queensland, all Northern Territory waters and Western Australia south to Exmouth. Stings from *Chironex* have been recorded predominantly in coastal areas.

SIZE AND APPEARANCE

A large but almost transparent jellyfish with a box-shaped bell up to 38cm in diameter. Up to 17 ribbon-like tentacles arise from each of the four corners. These may contract to about 10cm or may extend up to 3m.

FIRST AID

Its sting causes immediate severe burning pain and whip-like marks, often with tentacles remaining on the stung area. Severe stings may cause the person to stop breathing and suffer cardiac arrest.

- Remove casualty from water if safe to do so
- DRSABCD
- If person has more than one localised single sting or looks/feels unwell, dial triple zero (000) and seek assistance from a lifesaver/lifeguard if available
- Assess person and commence CPR immediately if required
- If possible, treat the sting by pouring vinegar for at least 30 seconds and then pick off the tentacles and apply a heat pack or immerse in hot water.
- If vinegar is not available, pick off tentacles carefully and rinse well with sea water. Apply a heat pack or immerse in hot water and to slow the venom processes for analgesia

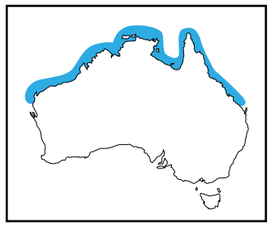
- Anti venom is available for *Chironex fleckeri* and other multi-tentacled box jellyfish stings at hospitals and ambulance stations in tropical coastal areas
- Patients who initially appear stable but experience severe symptoms in the following 30 minutes may need urgent medical care. Monitor the casualty and seek lifesaver/lifeguard assistance if available

DID YOU KNOW?

- *Chironex fleckeri* is widely regarded as the world's most venomous animal
- There have been recorded fatalities due to box jellyfish stings in Australian waters. A box jellyfish can kill an adult human in 2-3 minutes with only 2-3m of tentacles.
- *Chironex fleckeri* become deadly when the bell reaches 8-10cm in size, however all sizes can still inflict significant painful stings.



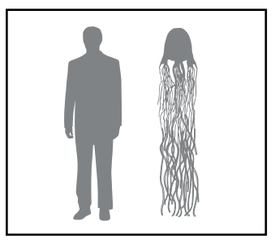
Chironex fleckeri



Distribution in Australian waters



Severe *Chironex* sting



Size relative to human

MARINE STINGERS
IRUKANDJI
CARUKIA BARNESI

COMMON NAME

Irukandji

DISTRIBUTION

Tropical Australian waters north of southern Fraser Island (Queensland), Northern Territory waters and Western Australia south to Exmouth.

SIZE AND APPEARANCE

Small transparent box jellyfish with a single tentacle at each corner

FIRST AID

Irukandji jellyfish cause an initial minor skin sting followed 5-40 minutes later by severe generalised muscular pain, headache, vomiting and sweating. The sting from some species can cause very high blood pressure or have effects on the heart which may be life threatening. These symptoms are sometimes referred to as Irukandji Syndrome.

Because the symptoms of Irukandji Syndrome may take time to appear, all tropical jellyfish stings should be doused with vinegar. The casualty should remain out of the water, in a safe location and monitored for 45 minutes.

- Remove person from water if safe to do so
- DRSABCD
- Call for help - dial triple zero (000) for an ambulance
- Treat the sting - douse the area liberally with vinegar for at least 30 seconds
- Monitor the casualty and seek surf lifesaver/lifeguard assistance if available

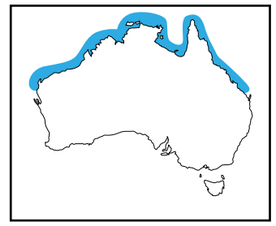
DID YOU KNOW?

The *Carukia barnesi* is a type of box jellyfish and is the most common species associated with the Irukandji syndrome. Irukandji jellyfish also include *Carukia shinju*, *Carybdea xaymacana*, *Malo maxima*, *Malo kingi*, *Alatina mordens*, *Gerongia rifkinae*, and *Morbakka fenneri*. Irukandji stings are occasionally reported in subtropical and temperate regions of the world, including Moreton Bay and Fraser Island.

Irukandji jellyfish are a subset of the carybdeid jellyfish.



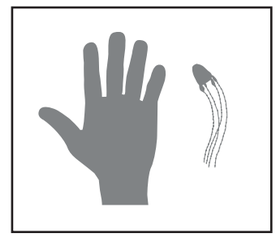
Carukia barnesi



Distribution in Australian waters



Irukandji sting showing localised sweating



Size relative to human

MARINE STINGERS
JIMBLE
CARYBDEA RASTONI

COMMON NAME

Jimble

DISTRIBUTION

Australia-wide. Most common in South Australia, Western Australia and southern New South Wales.

SIZE AND APPEARANCE

Transparent bell 1.5-3cm in diameter. Four tentacles, one in each corner, 5-15cm long.

FIRST AID

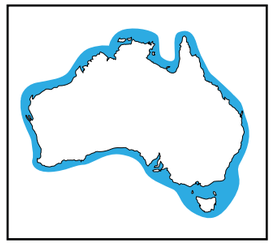
- Remove person from water if safe to do so
- DRSABCD
- Remove any adhering tentacles
- Wash area with sea water (not freshwater)
- Place person's stung area in hot water (as hot as the person can stand) for 20 minutes
- If local pain is unrelieved by heat or if hot water is not available, apply a cold pack or ice in a bag
- If pain persists or is generalised, or if the stung area is large or involves sensitive areas (e.g. the eyes), dial triple zero (000) and seek assistance from lifesavers/lifeguards if available

DID YOU KNOW?

- *Carybdea* sp. often swarm in dense congregations in the waters off Sydney, Adelaide and Perth and may form large schools at the surface or swim over a sandy bottom.
- High risk months are during spring and summer.



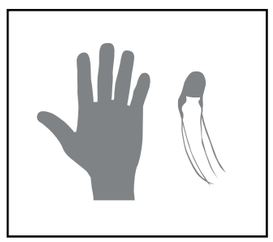
Carybdea rastoni



Distribution in Australian waters



Carybdea sting



Size relative to human

MARINE STINGERS
LITTLE MAUVE STINGER
PELAGIA NOCTILUCA

DISTRIBUTION

Common in Australian waters. Occasionally large swarms invade the Sydney region.

COMMON NAME

Little Mauve Stinger

SIZE AND APPEARANCE

A small mushroom-shaped body from 2-6cm in diameter. Unlike most jellyfish, the bell is covered with numerous wart like lumps containing nematocysts (stinging capsules). The bell is usually pink or mauve with 8 pale brown tentacles 10-30cm in length.

FIRST AID

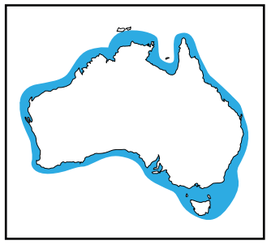
- Remove any adhering tentacles.
- Wash area with seawater (not freshwater)
- Place person's stung area in hot water no hotter than the rescuer can comfortably tolerate for 20 minutes.
- If pain is unrelieved by heat or if hot water is not available apply a cold pack or ice in a dry plastic bag.
- Send for medical assistance if symptoms persist.

DID YOU KNOW?

- It is currently unclear whether the Australian Pelagia is the same species as the Mediterranean species.
- The Pelagia can glow if stimulated at night.



Pelagia noctiluca



Distribution in Australian waters



Pelagia sting



Size relative to human

MARINE STINGERS
MORBAKKA
MORBAKKA FENNERI

COMMON NAME

Fire Jelly, Moreton Bay Stinger

DISTRIBUTION

Tropical Australian waters, all Queensland and northern New South Wales coasts, often an open water jellyfish. Sub-species are more common at Mackay, Moreton Bay and northern New South Wales.

SIZE AND APPEARANCE

Large transparent box-shaped bell with one tentacle in each corner. The bell can be 6-18cm wide with 4 thick, ribbon-shaped tentacles that may be up to 1m long.

FIRST AID

Tropical Australia - North of Agnes Water

- Remove person from water if safe to do so
- DRSABCD
- If person has more than one localised single sting or looks/feels unwell, call triple zero (000) and seek assistance from a surf lifesaver/lifeguard if available
- Liberally douse stung area with vinegar for 30 seconds. If vinegar is unavailable, rinse the sting well with seawater
- Apply cold pack or ice in dry plastic bag for pain relief. Do not apply freshwater directly onto the sting.
- Person may experience Irukandji Syndrome and should be monitored for 45 minutes.

Non-tropical - South of Agnes Water

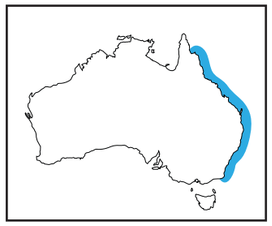
- Rinse well with sea water
- Place stung area in hot water for 20 minutes
- If local pain is unrelieved by heat or if hot water is not available, apply cold pack or ice in a dry plastic bag
- If pain persists, is generalised or if the sting area is large or involves sensitive areas (e.g. the eyes), dial triple zero (000) and seek assistance from lifesavers/lifeguards if available

DID YOU KNOW?

The name Morbakka is derived from 'Moreton Bay Carybdeid' because it was originally discovered in Moreton Bay. *Morbakka fenneri* is a type of Irukandji jellyfish, which are a subset of the carybdeid jellyfish.



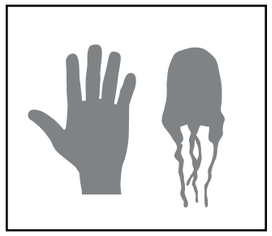
Morbakka fenneri



Distribution in Australian waters



Morbakka sting



Size relative to human

MARINE STINGERS
SNOTTIE
CYANEA SP.

COMMON NAMES

Hair jelly, Snottie, Lion's mane

DISTRIBUTION

Worldwide

SIZE AND APPEARANCE

Large, flat bell up to half a metre in diameter with a large 'mop' of fine hairlike tentacles 5-100cm long. The bell top is often white or brown with yellow, brown or reddish colouring underneath.

FIRST AID

Its sting causes immediate severe burning pain and whip-like marks, often with tentacles remaining on the stung area. Severe stings may cause the casualty to stop breathing and suffer cardiac arrest.

- Remove casualty from water if safe to do so
- DRSABCD
- Remove any adhering tentacles
- Wash area with seawater (not freshwater)
- Place casualty's stung area in hot water (no hotter than the rescuer can comfortably tolerate) for 20 minutes
- If local pain is unrelieved by heat or if no hot water available, apply a cold pack or ice in a dry plastic bag
- If pain persists and sting area is large or involves sensitive areas (e.g. the eyes) dial triple zero (000) and seek assistance from the lifeguards if available
- Administer CPR if required

As the Cyanea is found in tropical areas, if they cannot be easily identified as such there is a risk that the sting is from a potentially lethal jellyfish and the priority is to preserve life by treating the casualty with vinegar.

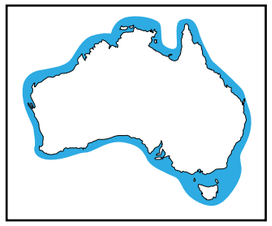
Outside the tropics, where a large number of non-life threatening stings occur, the primary objective is pain relief with heat or cold.

DID YOU KNOW?

- *Cyanea* was used as the murder weapon in the Sherlock Holmes book 'Adventures of the Lion's Mane'
- There are many different species, including at least six in Australian waters
- *Cyanea* can occur on the beach in hundreds of numbers at a time
- They are called 'snottie' as they leave a huge amount of slime on stinger nets



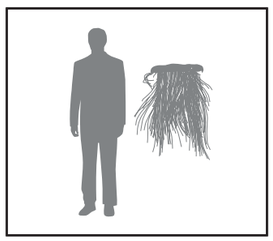
Cyanea capillata



Distribution in Australian waters



Cyanea sting



Size relative to human



For beach safety information visit: **beachsafe.org.au**