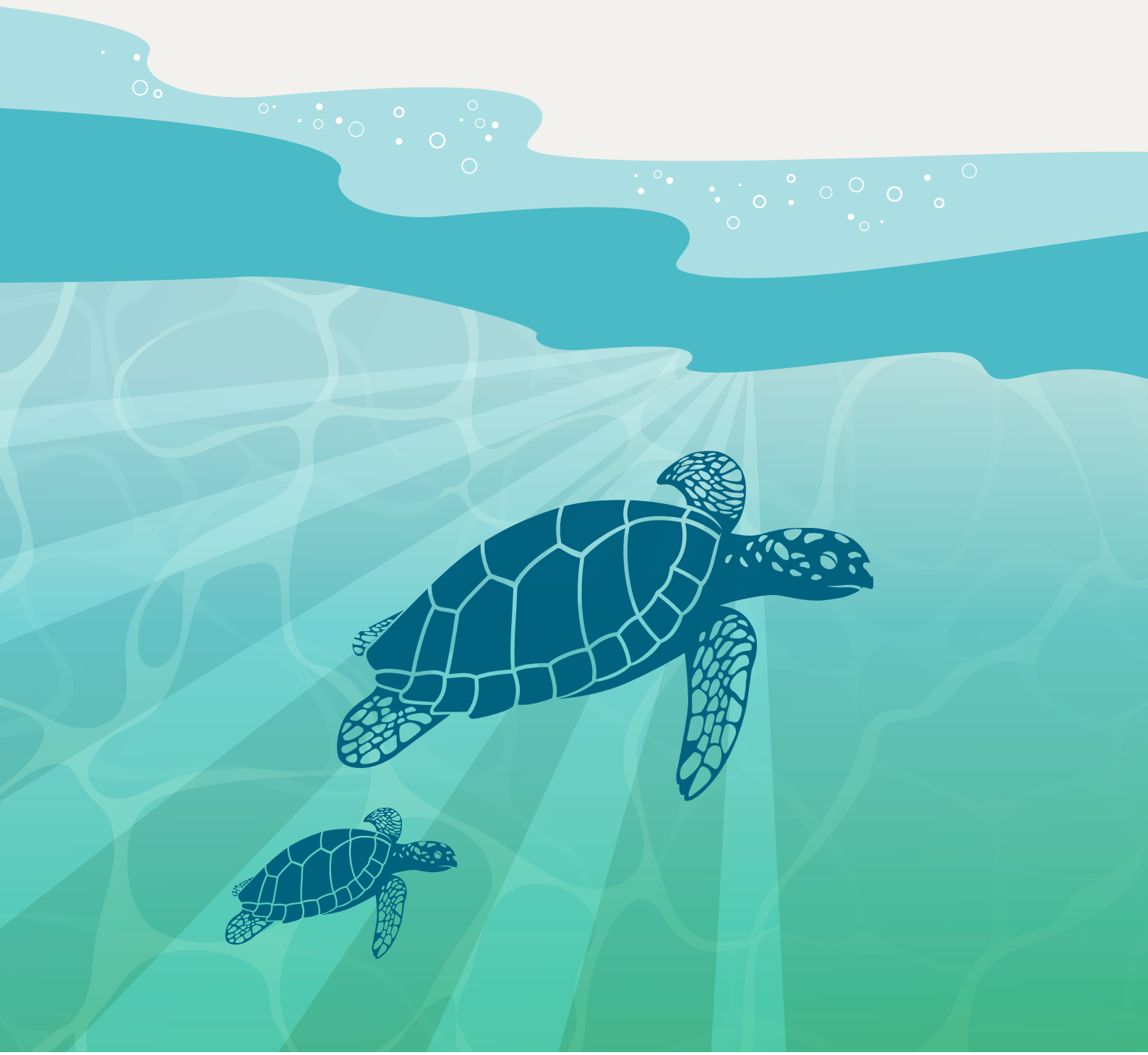
Guideline for interacting with sea turtles in Vanuatu



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Guideline for interacting with sea turtles in Vanuatu

Sea turtles are charismatic animals and many people, both from Vanuatu and our visiting tourists, are excited to see them. But turtles are threatened species and can be easily disturbed by humans and other human activities can also have detrimental effects. These guidelines are designed to ensure that any encounters between people and turtles are positive for the turtle as well as for the people who see them. This guideline aims to give you the knowledge to ensure that our interactions with turtles do not cause them harm or stress, and they remain happy and healthy into the future.

Vanuatu's turtles

Vanuatu's waters are home to four of the seven species of sea turtle found worldwide, (Hawksbill, Green, Loggerhead and Leatherback). Hawksbill, Green and Leatherback turtles also come ashore to lay their eggs on Vanuatu's beaches during the summer months. Turtles play important roles in our marine ecosystems, but all species of sea turtle are threatened with extinction. Sea turtles are migratory species, so they forage for food in one area, then travel to other islands or countries to mate and lay their eggs. This means they pass through different jurisdictions in different nations, and we all must work together to look after these globe-trotting reptiles.

Common English name: Green Turtle
Bislama name: Grin totel (o Bigfala totel)
Scientific name: *Chelonia mydas*
IUCN Conservation status: Endangered

How commonly encountered in Vanuatu:
Seen throughout islands and nest on our beaches.

Common English name: Hawksbill Turtle
Bislama name: Hoksbil totel (o Smolfala totel)
Scientific name: *Eretmochelys imbricata*
IUCN Conservation status:
Critically Endangered

How commonly encountered in Vanuatu:
Seen throughout islands and nest on our beaches.

Common English name: Loggerhead Turtle
Bislama name: Lokahed totel
Scientific name: *Caretta caretta*
IUCN Conservation status: Vulnerable

How commonly encountered in Vanuatu:
Occasional visitor to nest

Common English name: Leatherback Turtle
Bislama name: Letabak totel
Scientific name: *Dermochelys coriacea*
IUCN Conservation status: Vulnerable
Western Pacific sub-population is Critically Endangered

How commonly encountered in Vanuatu:
Lives most of life out to sea. A few nest on Vanuatu's beaches.

What is a threatened species?

Threatened species are species that are at risk of becoming extinct if measures are not taken to protect them. The International Union for the Conservation of Nature (IUCN) is the global authority on threatened species and assesses each species across different risks looking at parametres such as population trend, the size of the area where they can be found and the threats they are facing. The experts then assign a threat level based on standardised criteria.

Threatened species are those that are classed, with increasing concern, as Vulnerable (VU), Endangered (E) and Critically Endangered (CE). Because turtles are all threatened species, we need to take particular care not to increase the threats to their survival.

Where can you see turtles in Vanuatu?

Nearly everywhere along the coast! Turtles can be encountered in the water around nearly every island in the archipelago. But they are mostly likely to be seen in the habitat they use the most. During the day foraging green turtles are seen in seagrass meadows and foraging hawksbills can be seen on the coral reefs. Both species use the reefs and rocks to rest, and they can be encountered when travelling between foraging sites and between resting and foraging sites.

In the summer months (October to March) turtles travel from their usual foraging grounds to breed and nest. Female turtles come to the beach to lay their eggs in the sand usually on the beach they hatched on, or very close by. The nesting beaches in Vanuatu that have many turtles nesting are remote, but turtles have been seen even in recent years, nesting on beaches close to our urban areas of Port Vila and Luganville. Therefore, it is always important to be vigilant and watch out for turtles on any beach in Vanuatu.

What to do when you encounter a turtle in Vanuatu

As turtles can be found in different habitats and encountered by people during different activities, this guideline has been separated into several sections as the guidance varies depending on when and where you encounter turtles. Firstly, there is some general guidance for whenever you encounter turtles, then more specific guidelines for different encounter types. If you are a tourist on a guided tour or staying at a hotel, resort or bungalow, please follow the instructions of tour guides or guidance information provided by your accommodation.

General guidance for whenever you see turtles

Give turtles space

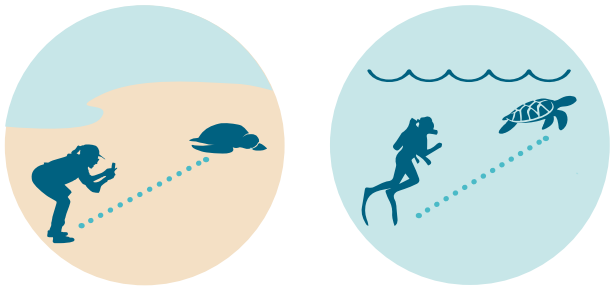
Whether you are in the water, in a boat, on a kayak or on a beach, don't swim, drive, walk or run towards a turtle. Turtles are shy animals and may not want to be close to people. To avoid causing distress, or frightening the turtle away, if you see a turtle stop, wait and watch. If the turtles feel comfortable you might then be able to enjoy its company for longer, following the guidelines in the sections for specific situations, whether in a vessel or in the water or on a beach.

Stay calm and quiet

Turtles can be frightened away if you make lots of quick movements and noise. Even though you can't see them, turtles do have ears and can hear well when in the water. If you stay calm, you lower the chance of disturbing them from their normal behaviour and moving away from you and you will have a better chance of a longer encounter. Limit the use of underwater horns and other noise-generating equipment to emergencies only.

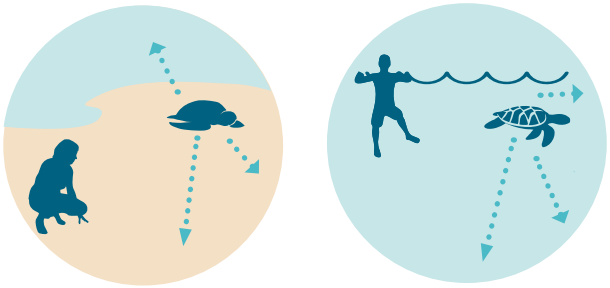
Approach slowly from the side

This is less intimidating than approaching from head on and won't surprise the turtles as approaching from behind might. Stay the required distance away from turtles specified in the sections below for encounters on or in the water or on beaches.

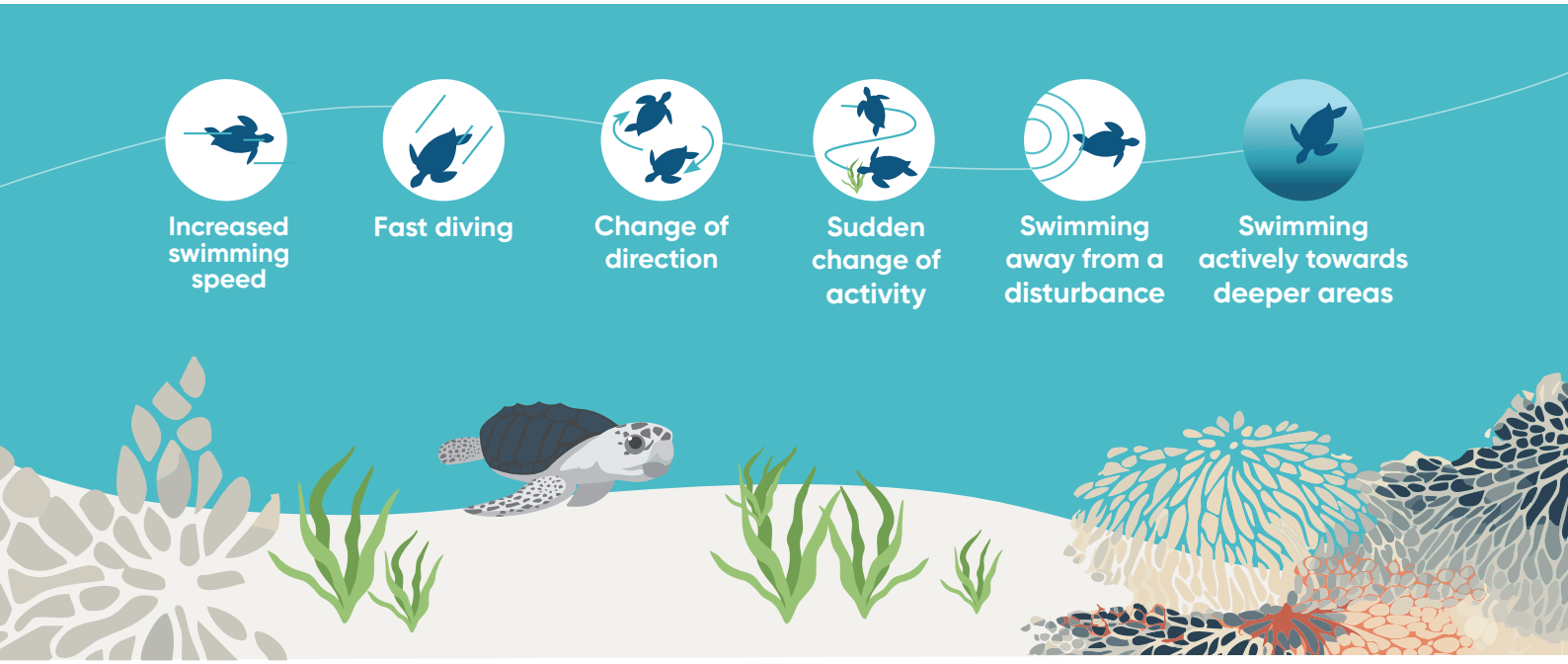


Turtles need to see an escape route

Turtles can get distressed if they think their exit is blocked. Ensure any turtle you see has an obvious escape route from you at all times. Don't crowd turtles and enjoy watching from nearby and both you and the turtle, will have a better experience.



If a turtle shows any sign of avoidance behaviours, move slowly and calmly away from the turtle. Signs of disturbance are:

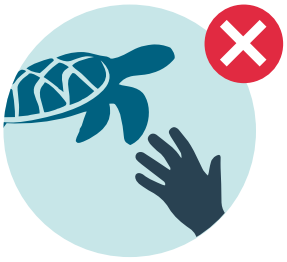


Let turtles breathe

Don't block a turtle's access to the surface. Turtles need to come to the surface to breathe. Swimming above them or driving / paddling a vessel over them can make them feel stressed.

Turtles don't like being touched

Turtles are wild animals. Do not touch turtles for your own health and safety as well as that of the turtle. Turtles can become stressed and defensive, potentially biting you if they feel threatened. You can also pick up serious diseases from a turtle, as well as transfer disease or toxic chemicals (e.g. from sunscreen or insect repellent) to a turtle if you touch them.



Light disturbs turtles

Sea turtles use light to position themselves and become disoriented by artificial light. Different turtle life stages can be adversely affected by artificial lights. Females on nesting beaches can be disturbed by lights and return to the water before laying. Hatchlings are disoriented by lights making it difficult for them to find the ocean and putting them in greater danger from predators, dehydration and death. Sleeping adult turtles can be disturbed by lights carried by divers and snorkellers. All life stages can be affected by lights from boats. Think about the turtles and refrain for using torches, flash photography, video lights, including from drones, or lighting fires near turtles.

Holding onto turtles underwater can kill them

Turtles need to come to the surface to breathe. If they are stressed their instinct is for them to swim away and dive and not to surface. If they are stressed, they will be using up more oxygen. Holding onto a turtle underwater can cause extreme stress and deplete oxygen, if the turtle does not surface to breathe it can run out of oxygen, pass out and drown. Holding onto turtles underwater can kill them. It is never OK to hold onto a turtle. Remember it is against the law to harass a turtle in Vanuatu.

It is never OK to chase, ride or harass a turtle

Turtles are wild animals. Attempting to ride a turtle is a form of harassment, will cause it distress and is against the law in Vanuatu. Chronic stress in wildlife can have negative impacts on their health, behaviour and reproductive success. This is also a safety concern for people as turtles may spread diseases to you and/or bite you. Regular contact with turtles can result in behaviour changes that affect their feeding and successful reproduction.

Leave mating turtles in peace

Sea turtles mate in the water and can be easily disturbed and may stop mating if you approach them. Male turtles can also become aggressive with females and there are often more than one male waiting his turn to mate, so it is best to avoid areas where turtles are known to mate. Turtle mating can appear very rough and it may look as if the female is in distress. She is not, this is part of natural turtle behaviour. Do not try to intervene to "help" the female turtle, this will cause her more stress than leaving things to nature.

Turtles don't need to be fed

Different sea turtle species have very different diets. All sea turtles can find all the food they need in the ocean and do not need extra food from humans. Feeding wildlife, often with inappropriate foods, can negatively affect their health, change their feeding patterns or stop them foraging for themselves.

Turtles need time to eat

Turtles eat with their heads down, unable to scan their surroundings for potential dangers. If turtles feel threatened by the constant presence of humans, they have been known to change their feeding behaviour and avoid foraging grounds where people visit. If you are lucky enough to see turtles foraging for food, keep your distance to make sure they aren't disturbed.

Take care when you are taking photos of filming turtles

Protecting the turtles and yourself from harm is more important than getting the perfect image or "selfie". Always follow the guidelines to ensure both you and the turtles have the safest and most enjoyable experience.

If you do take photos or videos of turtles consider submitting the images to a citizen science programme, such as the Internet of Turtles. There are now citizen science programmes that use AI on photos to identify individual turtles and by submitting your photos you can contribute the knowledge of how turtles use their habitat, where they migrate to and if the number of turtles in an area is changing or staying the same.

If you are flying a drone it should fly at least 20m above a sea turtle, whether it is on the beach or in the water

Many drones are much quieter than large aircrafts, however turtles are very sensitive to objects creating shadows and startling them in the water, or on land when coming onto the shore to lay. Amateur drone operators, or unfavourable weather conditions can also increase the risk of unintentionally striking a turtle.

Do not use drones to view turtles at night

Remember you need a permit to fly a drone in Vanuatu (please contact the Vanuatu Civil Aviation Authority for details). A 101 licences is required for recreational drones and under this licence flying drones at night is prohibited.

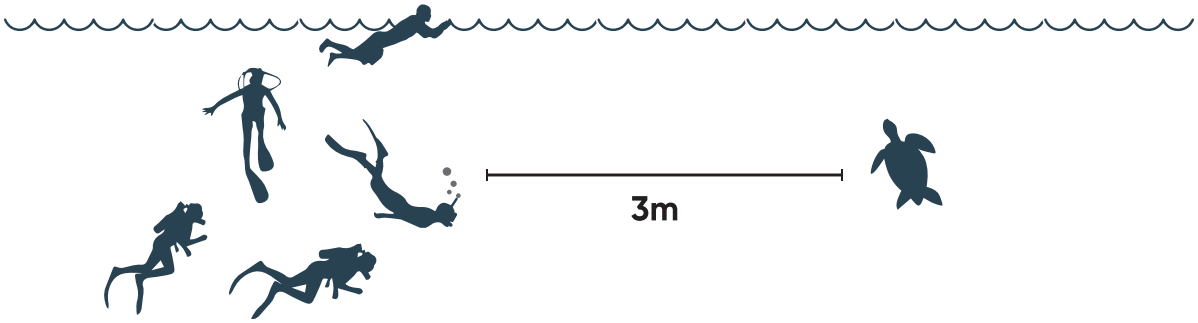
What to do if you see turtles when in the water (swimming, snorkelling or diving)

When you enter the water or first spot a turtle don't swim towards it

If you swim straight towards a turtle, you are likely to make it swim away from you and you won't have the best encounter you can. Stop and wait to see if it immediately swims away. If it doesn't and carries on doing what it was doing you can approach very, very slowly and carefully. If the turtle changes what it is doing – stops eating, seems like it is about to move, if it is sitting or swims faster, then stop and move back – if the turtles feel comfortable again you might then be able to enjoy its company for longer.

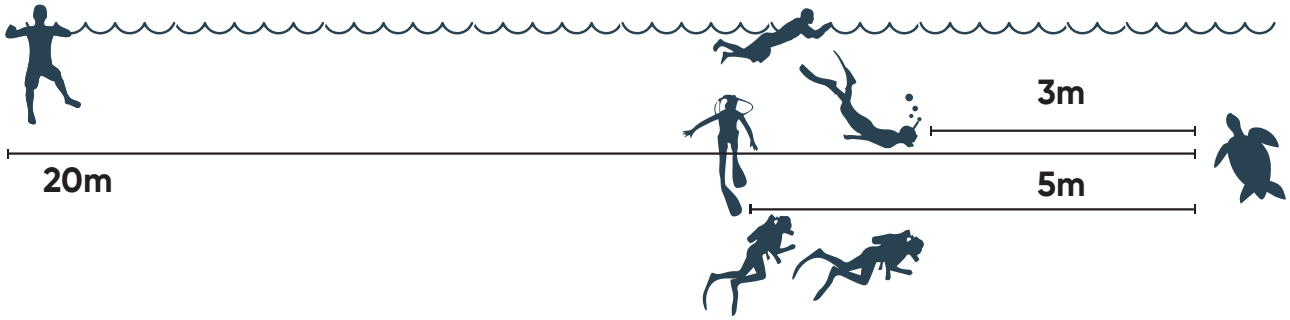
If you do approach a turtle for a closer look, approach from the side and no closer than 2 human body lengths away

2 human body lengths is about 3 metres which is the recommended distance to keep away form a turtle for your safety, as well as to avoid disturbing the turtle.



Do not corner, crowd or surround a turtle

Turtles can feel crowded if too may people are swimming close to them. It is unlikely that a turtle will be comfortable if more than 5 people are within 5 metres of the turtle. If you are in a group of more than 3 it would be best for everyone in the group to keep at least 5 metres away form the turtle (that's about 3 human body lengths away). When close to a turtle try to stay in a group and on the same side of the turtle so it can see an exit route if it wants to swim away.



If the turtle shows any avoidance behaviours, move slowly and calmly away from the turtle

Do not swim directly above a turtle

Turtles need to come to the surface to breathe.

Do not touch any turtles and never hold onto a turtle or try to ride a turtle

Do not approach mating turtles

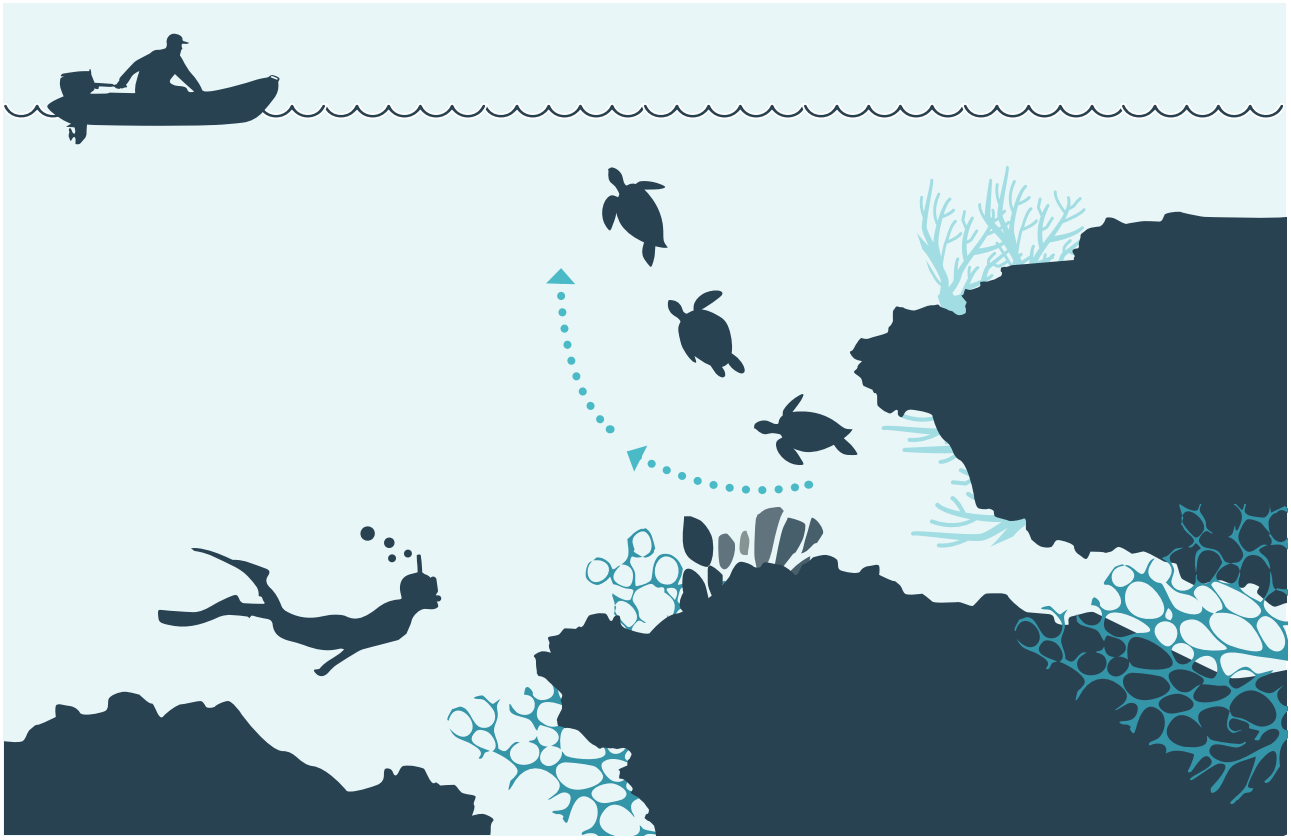
If you suddenly find yourself near mating turtles, stay very still and make no quick movements. Stay calm and slowly move away to give them some space.

If swimming or diving at night, minimise disturbance to sleeping turtles and take care when using torches and video lights

Avoid disturbing any sleeping turtles so you do not disrupt normal sleeping behaviours. If you are swimming or diving at night, minimise the use of torches and video lights around the turtles. If you do use a torch, shine light on the back of turtles shells only and avoid lighting their head. The turtle also has a risk of injury if they are suddenly startled awake and flee from their sleeping places which are often in coral crevices. If a turtle begins to move away from its sleeping place when you moved towards it, stop and back off – you are too close to it. Do not use white light or flash photography to take images or video of turtles at night. Avoid diving at or just after dusk in a known turtle sleeping spot, as swimmers or divers in the water may disturb the turtles and prevent them from using their preferred sleeping spot. If they have to choose a less suitable area for sleeping, it may not be as secure from predators.

If diving near turtles resting in a cave or overhang give them space to exit and surface

Even when resting, turtles need to come to the surface periodically to breath. If they are resting in a cave or overhang, they will need to come out from underneath to find their path to the surface. Make sure you are not blocking their exit from the cave or overhang and preventing them from breathing.



Do not feed turtles

Do not disturb normal foraging behaviour

What to do if you see turtles from a boat or other vessel

For boats with engines

No-wake-speed within 50m of known turtle area, over coral or seagrass habitat

Vessel strikes are a threat to marine animals around the world. Risks are higher where vessels move at high speeds and collisions with vessels can injure or kill sea turtles, whether the damage is from the boat or propeller. When in known turtle areas or habitat it is best to motor slowly and look out for turtles. Turtles can be found in many areas in Vanuatu and therefore captains and skippers should always be vigilant. Extra caution should be taken when the vessel is in an area where turtles are seen often and close to nesting beaches in the summer months.

Propeller guards do not make boats safe for turtles

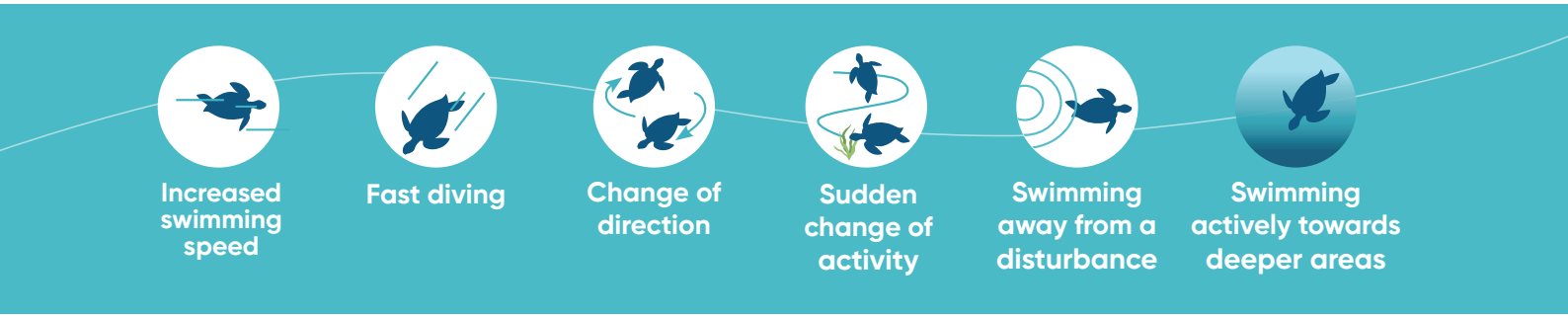
Boat propellers can be fitted with guards to prevent cuts from propellers, this can reduce some injuries however many of the fatal injuries to turtles are from boat strike occur due to the impact of the boat (hull or propeller) on the turtle. Propeller guards will not prevent these injuries. Reducing speed can. Even when propeller guards are fitted, boats should be slowed to no-wake-speeds in known turtle areas.

Drive in a constant low speed in a predictable direction when in turtle habitat

This allows the turtle to avoid the encounter if it wants to.

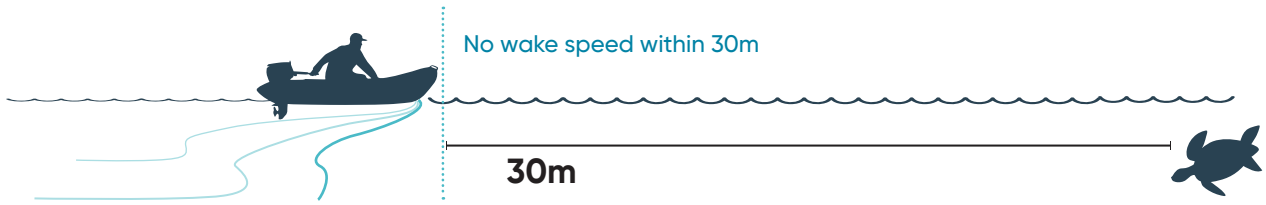
If the turtle shows any signs of avoidance, move slowly away from the turtle

Signs of disturbance include:



Slow down to no wake speed immediately when a turtle is seen within 30m of your vessel

Take extra care if the sea conditions or the visibility of the water means it is harder to see turtles.



Designate someone on board to watch out for turtles

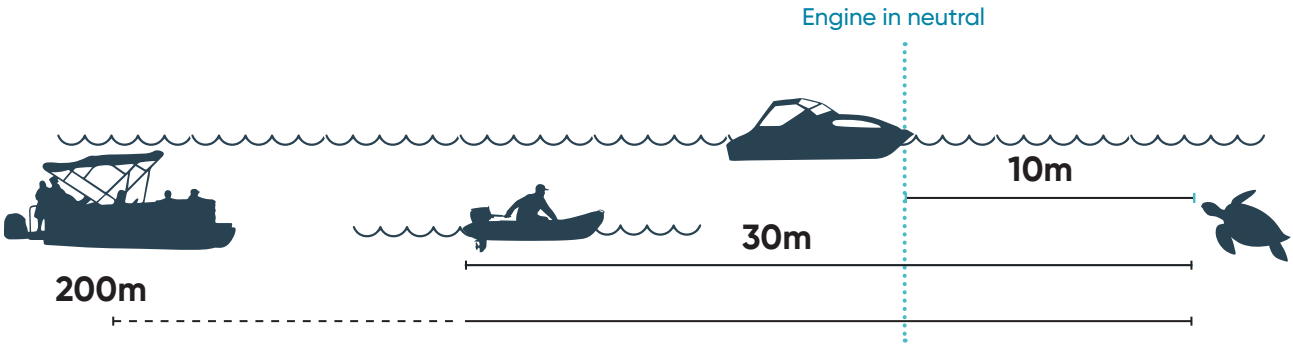
In turtle areas there should be a lookout for turtles and other vulnerable marine life such as dugongs. In small boats the skipper might be the appropriate person to be a lookout. On larger vessels this role should be designated to another person. Use a recognised signal (verbal or signed) for when the lookout sees a turtle so the skipper knows where the turtle is and can make the suitable adjustments to speed and direction. Make sure all crew know the signal for turtles.

If you are within 10m of a turtle, make sure your engines are in neutral

To reduce the risk of striking a turtle, keep engines in neutral when within 10m of one. Only engage the engine to move away from the turtle after you are sure where the turtle is and you have checked carefully that there is no other large marine life close by. Turtles may be disturbed by boats stopping and starting engines nearby. It is better to keep the engine idling in neutral than stopping and starting it. If the engine is off it is best to wait until any turtles are at a distance of 30m or more before restarting so as not to startle them.

There should never be more than 2 motorised vessels within 30m of a turtle. If you come across a turtle and there are already 2 boats within 30 metres, stay back, at least 200 metres away

The impacts and stress from human and vessel interactions are cumulative when there are many vessels surrounding a turtle.



No wake speed within 100m of a known turtle nesting beach during nesting season (October to March)

Risks of hitting turtles is increased close to nesting beaches during the breeding season as more turtles will be in the area so more caution is needed, particularly at night. If you don't know if the area is a nesting beach, ask local communities or be ccautious and reduce speed whenever you are close to a beach.

Do not use underwater scooters in known turtles areas. If you are in another area and riding an underwater scooter, disengage the engine as soon as you see a turtle

If using an underwater propulsion scooter, make sure you disengage the motor as soon as you see a turtle in the water. The noise generated from scooters can disturb turtles. Also, as you are moving more quickly through the water, you can easily frighten them away.

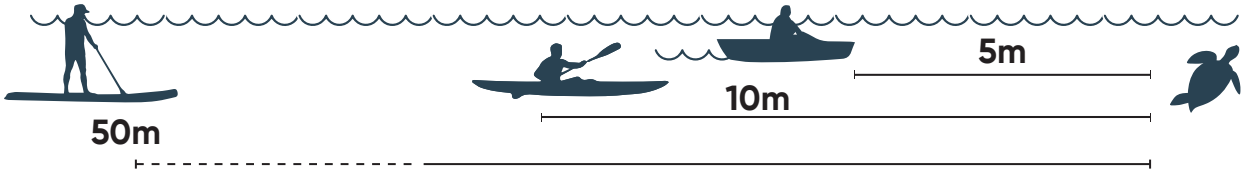
Avoid any pollution from oil or fuel

Make sure your engines are well maintained and don't leak any fuel or oil. Take care when filling up fuel and oil not to spill any in the water. Dispose of empty oil and fuel containers where they are not going to pollute the ocean.

For vessels without engines (boat, kayak, canoe, sailing dingy, stand-up paddleboard, surf board etc)

Keep your vessel at least 5 metres away from a turtle

By keeping your distance, you can avoid accidently hitting the turtle, or potentially frightening it away. If a turtle approaches your vessel and is within 5 metres, stop and wait until the turtle has passed and moved away from you before you paddle or move the vessel.



Approach from the side where possible

By approaching a turtle from its side, you are allowing it to have an escape route and to not feel cornered. If you pursue a turtle from behind it may feel chased, and approaching from the front can appear threatening and frighten turtles away. If there is more than one vessel they should stay on one side of the turtle.

Do not prod, poke or hit a turtle with any watercraft, paddle or floatation device

These actions are forms of harassment that can stress and harm sea turtles. Remember harassing a turtle is against the law in Vanuatu.

There should never be more than 2 non-motorised vessels within 10m of a turtle

If you come across a turtle and there are already 2 boats within 10 metres, stay back, at least 50 metres away. If there are two small vessels such as surf boards or kayaks, it is best if the two vessels stay together on one side of the turtle.

For all vessels (with and without engines)

If a turtle shows any signs of avoidance, move slowly away from the turtle

Keep the encounter to 30 minutes or less

Continued presence of vessels can change turtles' behaviour and make them avoid areas, impacting their wellbeing. The time of the interaction starts when a boat is first close to the turtle. If you are not the first boat near the turtle, make sure the whole encounter time including that of the boat/s before you doesn't exceed 30 minutes.

Never drive or paddle over the top of a turtle even if you think it is deep under the water

Turtles need to surface to breathe so there is a chance you can injure them by hitting them with the boat or propeller when they are surfacing. Anything that impedes turtles from surfacing can cause distress and they may choose to leave areas where boats or other vessels are frequently moving over them or close to them.

Be aware of other vessels in the area and communicate the positions of sea turtles

If a turtle tries to quickly swim away from one vessel, it may head straight into the path of another. To avoid collisions, watch out for other boats and the potential dangers to sea turtles.

Do not chase or harass turtles

If a turtle shows avoidance behaviours such as trying to swim away from your vessel, do not pursue it. Turtles should always have an obvious escape route so they can avoid stressful situations. Turtles may choose to leave certain islands/areas if they are harassed and not come back. This can lead to negative effects on their health and reproduction if the turtle is continuously stressed from interactions with people.

Do not feed turtles or throw objects in the water that may be confused as food

Feeding wildlife, often with inappropriate foods, can negatively affect their health, change their feeding patterns or stop them foraging for themselves. Throwing other objects that might be confused with food can be detrimental to turtle health, such as plastic that might cause an intestinal blockage.

Do not disturb normal behaviours, including foraging

If you see turtles in a seagrass area or reef area frequently surfacing to breathe, they may be feeding. Give these turtles a wide berth to avoid disturbing them when they are feeding.

Keep noise to a minimum on the boat to avoid disturbing the turtles

Be extra careful when driving, paddling or riding over seagrass and corals reefs

These habitats are critical for sea turtles and can be damaged by propeller wash as well as physical interaction with boats and other vessels.

Be careful where you anchor or pull your boat to shore to avoid damaging seagrass meadows and coral reefs

These habitats can be easily damaged by anchors so it is best to avoid anchoring in them. Use moorings that don't damage the seabed, for example a mooring with sunken floats that hold the chain or rope off the bottom is ideal.

Avoid anchoring overnight near nesting beaches

Turtles may avoid nesting on beaches if vessel are close by. It is best to anchor at least one nautical mile away from nesting beaches.

During the breeding season, try to minimise lights on boats after dark as these can confuse and attract hatchlings

Sea turtles use light to orient themselves and hatchlings have been known to swim to lights on vessels and become at greater risk of predation from fish. Nesting turtles can also be distrubed and disorientated by vessel lights. Use only one anchor light, turn off deck lights and switch off or cover light from portholes.

Be very careful in mating areas

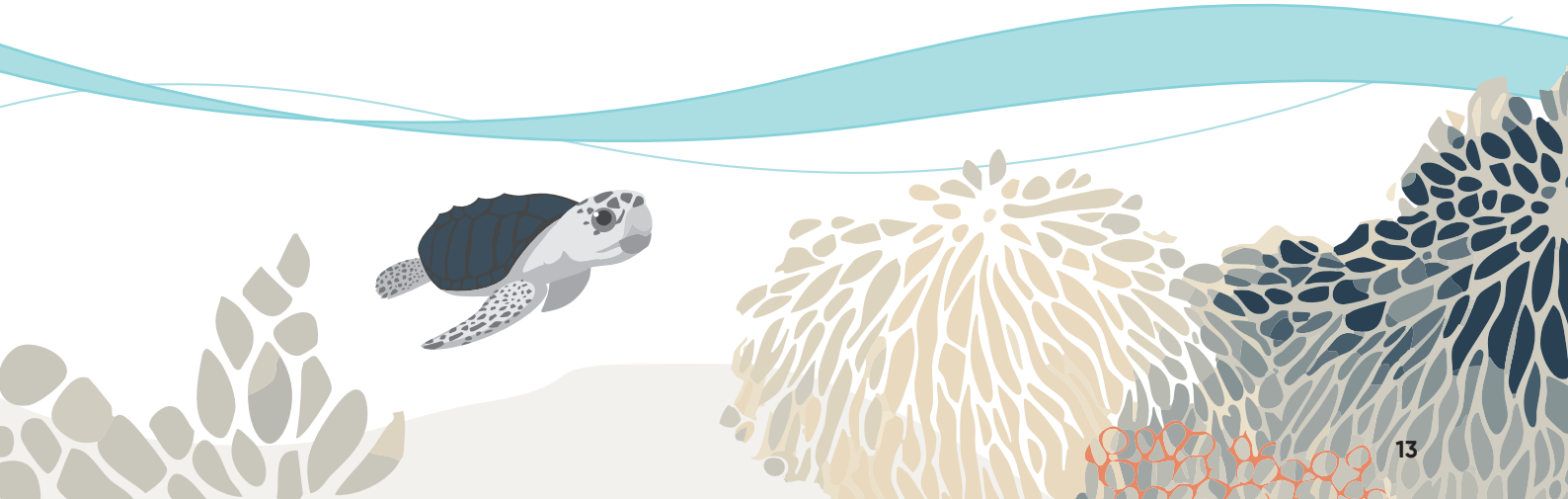
If you suddenly find yourself near mating turtles, stay calm and slowly move away to give them some space.

Stay away from nesting beaches during nesting season (October to March)

Female turtles can gather in feeding grounds near nesting beaches during the day. Boat activity can discourage them from nesting.

Respect local restrictions

Some coastal areas are protected in community conservation areas (CCAs). These areas may have local rules including no-go areas or speed restrictions to protect local marine life including turtles.



If you see nesting turtles on a beach

Female turtles coming to nest on the beach in the hotter summer months (Nov – March) can be easily disturbed and choose not to nest. If they do not nest one night, they might return to land on subsequent nights. But if they do not feel comfortable to return they might discharge their eggs into the sea where they will not survive. This has serious consequences for the conservation of all sea turtle species, and we want our female turtles in Vanuatu to feel safe so they continue to lay eggs on our beaches. Following these guidelines throughout the stages of laying will make sure you can observe this spectacular sight, without interfering with the reproduction of these threatened species. Be patient! The entire nesting process can take over an hour and a female can be disturbed at any point and decide to stop nesting.

General: Throughout the entire nesting process observe these following guidelines

Keep the beaches dark

Do not use torches or other artificial light

If you absolutely need to use a torch, only use a low, red filtered light. Flashes disturb nesting turtles and can startle them. If light is necessary for safety, a red (long wavelength) filtered torch light should be used as it is less intrusive. Always point the torch down only to light your way and do not shine it along the beach or towards the water.

Do not use flash photography during any of the nesting phases

Sea turtles use light to position themselves and become disoriented by artificial light. They can also be disturbed by lights and return to the water before laying. Remember not to use light even when a female has returned to the sea; she may still be distracted by light on the shore and more females may be approaching to nest and we don't want to frighten them away either.

Give nesting turtles space and time

Whenever you see a turtle on the beach, treat them with caution, respect and keep your distance. Turtles are large, heavy animals. They are quick in the water but very slow on land. This makes them vulnerable and anxious on the beach when laying eggs. It is also very tiring work to crawl onto the beach, dig, lay, cover and return to the sea so make sure you give any turtle you see enough space, so she feels comfortable taking her time and completing her nesting properly.

Keep the beaches quiet

Avoid unnecessary noise and movement that might frighten away a turtle wanting to nest.

No Smoking

Don't smoke when there are turtles on the beach.

On seeing a turtle, stop, drop to the sand and stay still

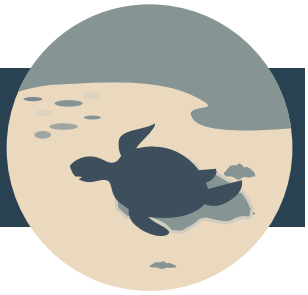
You should not approach any closer after you have spotted a nesting female on the beach or shore line. Much like humans' eyesight underwater, turtles' eye sight on land is quite poor. If you stay low and still, you will likely look like a rock or shrub, and she can continue past you undisturbed. It is important to stay patient, still and quiet so you don't scare her back into the sea before she can lay.

PRE NESTING:
When female turtle emerges from the water and crawls up the beach to find a suitable place to dig a pit to lay her eggs.

Do not move

Do not move closer to the turtle or out of the way if she approaches you, even if she is coming stright towards you, just stay still. By giving the turtle space you have the best chance of seeing her lay a nest. Any movement could startle her into abandoning the nest attempt.

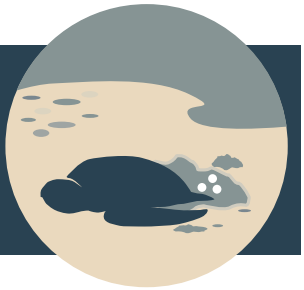
NEST BUILDING:
When a turtle digs a pit in the sand for her eggs.



Remain where you are and do not move

Turtles can be disturbed in this phase. They can also dig false nests where they don't lay their eggs and then dig another pit. Do not assume she has moved to the egg laying stage until you can see her laying her eggs.

EGG LAYING:
When a turtle stops flicking sand and lays her eggs into the small chamber she has made. Once she starts laying she is less easily disturbed.



As she concentrates on laying, the female turtle enters a focused (trance-like) state where she is a little less likely to be disturbed by people. You must still be careful, slow and quiet as disturbance during this phase can still stop her nesting successfully. **This is the only phase where you may move a little closer behind the turtle**. Unless you have experience with watching turtles laying it can be very hard to be sure that the turtle has entered this laying mode or trance. Turtles often dig false nests before settling on where to lay their eggs. If you cannot see that she has started to lay or have any doubt that she has not entered this phase **don't move and continue to watch from a distance.**

To avoid disturbing her, you must be directly behind her, **stay low by crawling as low to the ground as possible and approach no closer than 10m away.** 2 metres is a little bit more than a adult human body length. If five imaginary people can't lie head to toe between you and the turtle nest you are too close.

Only 2 people should approach at a time, being sure to stay behind her and not visible to the turtle.

During laying you may use a low, red filtered light to view the egg chamber and turtle laying

This is the only time a light may be used, and you should make sure it has soft, longwave red filter. The light should remain behind the turtle and be focused in the chamber itself as the turtle lays, not around the turtle or beach.

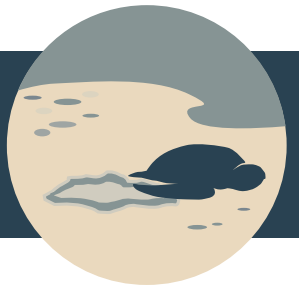
Do not touch the eggs or laying turtle

Under no circumstance touch or interfere with the eggs or laying turtles. The temperature and moisture content of the sand have been carefully selected by the turtle and moving the eggs can drastically change these conditions, interfering with successful hatching. Touching the eggs can also risk transferring diseases or toxic chemicals (e.g. from sunscreen or insect repellent) onto them. Although you may approach closer to the turtle, do not touch her. This is for your safety as well the turtle's wellbeing. Turtles and humans can transfer diseases, and if frightened the turtle could bite you. It is also very stressful for wild animals to be touched and she is likely to be scared away and not finish nesting.

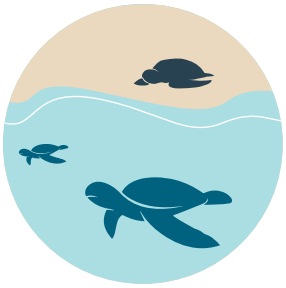
Move back from the turtle when she starts covering her nest with sand

A turtle can still be easily frightened and abandon her nesting attempt at this stage. This will affect incubating temperatures and predator protection if the nest is not covered properly and can also discourage recurrent nesting by the female turtle. Turtles' flippers are strong! A turtle can throw sand up to 10m behind her so stay back to avoid being covered in flying sand.

NEST COVERING AND RETURN:
The turtle throws sand over her nest to cover and protect her eggs before crawling back to the sea.

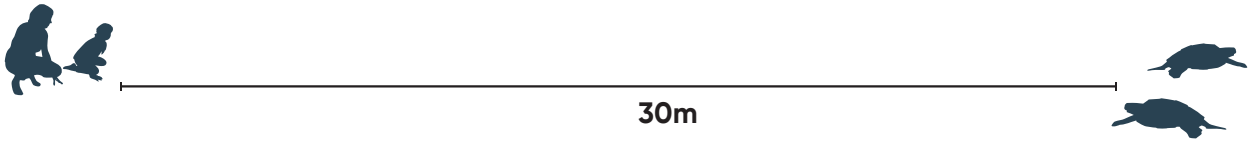


Give female turtles time to return to the sea



Do not follow her or try to hurry her back to the sea. Avoiding stressing the turtle after she has completed her nest. By this stage she will be exhausted from all her activities on land, so it is best to watch from a distance of at least 30 metes away (about half the width of a football field) as she returns to the water at her own pace. Female turtles may be having a break before returning to the ocean where more males are waiting to mate with them. They will only stay resting on the beach if they are undisturbed and feel safe, so stay back and watch from a distance until she decides to crawl to the ocean.

If you see females resting on the shore, don't try to encourage them into the sea. Stay at least 30 metres back (about half the width of a football field).



Do not walk over a nest

The sand thrown on top of the nest will be aerated and loose. Do not walk over the nest and compact the sand down over the eggs as it can crush them.

Leave the nests be

Sometimes nests are at risk of being washed out or preyed on by animals. Relocating nests is a very specialist conservation action. If you are not trained in this, the turtles have more chance of surviving, whatever the risks, if you leave the nest alone rather than try to relocate the nest. Putting anything over the nest site to protect nests from predators risks changing the temperature and humidity inside the nest, putting the eggs at risk of death or producing a sex bias in the hatchlings (sex is determined by temperature in the nest). Leave nests alone but do keep dogs and livestock off the beach.

If you see hatchlings (baby turtles) on the beach

Keep the beach dark

Do not use torches or other artificial light on beaches where hatchlings may be found. If you absolutely have to use a torch, only use a low, red filtered light. On a naturally dark beach the reflection of the moon off the ocean is the lowest light along the horizon. Hatchlings use this low horizon light cue to find the ocean. They can become disoriented by artificial lights, making it difficult for them to find the ocean and putting them in greater danger from predators, dehydration and death. Video camera lights, flash photography, campfires and lights from buildings on shore can all cause hatchlings to head in the wrong direction. If light is necessary, a soft red filtered torch light should be used. Refrain from using lights even after the hatchlings have entered the water as they may become confused and head back towards the beach.

Hatchlings don't need our help

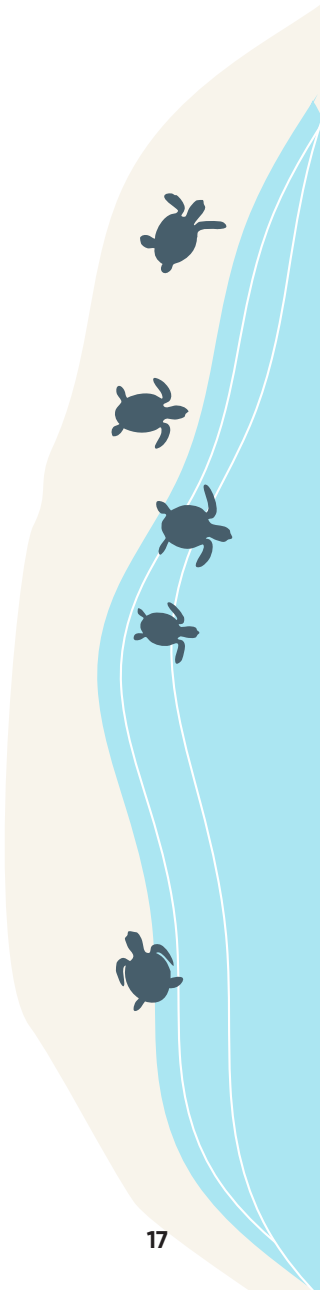
Do not disturb a nest or assist emerging hatchlings. Digging their way out of their nest and running down the beach are important steps for hatchlings both for their physiological development and imprinting mechanisms. They need this time to exercise their lungs before swimming and diving in the water.

Let them use all their energy to get to the open ocean

Touching or picking up hatchlings causes stress and confusion, particularly during this crucial developmental period. They need all the energy they have in their yolk sack to make their way to the sea, past the surf and out to the deep ocean. Using up energy trying to run or swim and not getting anywhere because they are in someone's hand depletes their yolk sack energy and reduces their chance of making it to the open ocean. You can also transfer disease or toxic chemicals (e.g. from sunscreen or insect repellent) to a hatchling if you touch them.

Don't stand in their way

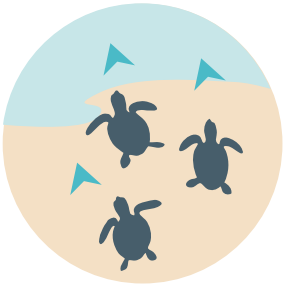
Stay behind the hatchlings and don't get between the hatchlings and the sea and keep away from the nest. Getting between a hatchling and the ocean can cause them to go off course and not make it to the ocean. To avoid stepping on hatchlings, if you see them, stay behind them and stay still. Dozens of hatchlings will emerge from one clutch, running in all directions. You could also accidently step on lost or late emerging hatchlings. Be careful where you walk before and after they emerge as hatchlings are so small (less than the size of your palm) they can get stuck in your footprints.



Redirect without picking up

If you do find hatchlings heading in the wrong direction it is most often because of artificial lights. It is best if the hatchlings find their own way, so it is better to shield the light than to pick up a hatchling. Put your body or another object between the hatchling and the light so it turns back to the light on the horizon over the ocean. If, and only if, this is not possible you can carefully and quickly move them to a dark section of the beach and allow them to run to the sea. If they are stuck on beach furniture, branches or in a hole they can't get out of, try moving the object or moving some sand away so they can get out of their predicament without you touching them. Make sure you have given them a chance to work it out for themselves before interfering.

If you find stranded hatchlings in the day



This is a very rare occurrence, but if you do find stranded hatchlings, help them and release them as soon as you possibly can. Ideally by redirecting them to the ocean. If there is a high chance predators will catch them during the day, keep them in a dark place with sand to rest on and release them the next night as soon as it gets dark. Keep them on sand, not water, so they do not enter their frenzy swimming phase and waste valuable yolk reserves they need for swimming to the deep ocean over their first few days of life. Hatchlings should be released after dark to avoid predators and left to run down the beach themselves to the water. Release all hatchlings, even ones which seem weak or stunted. Sea turtle hatchlings do extremely poorly in captivity and their best chance is out to sea. Remember it is against the law to keep turtles in captivity in Vanuatu.

Green Turtle - *Chelonia mydas*

Keeping Vanuatu's beaches turtle friendly

Turtle nesting season happens between October and March in Vanuatu. Turtles have been known to nest on many different beaches in Vanuatu including those close to urban centres and resorts. There are lots of things we can do to make the crawl up the beach for female turtles to lay their eggs and the crawl down the beach for the hatchlings safer and easier. We should also protect the nests from damage.

Keep dogs away from nesting beaches

If you live near a nesting beach, keep all dogs tied up or inside a fenced yard at night during nesting season. Dogs are an introduced species in the Pacific. They are predators of turtle nests and known to dig up and eat turtle eggs in Vanuatu. Controlling dogs and keeping them away from known nesting areas will help sustain the turtle population.

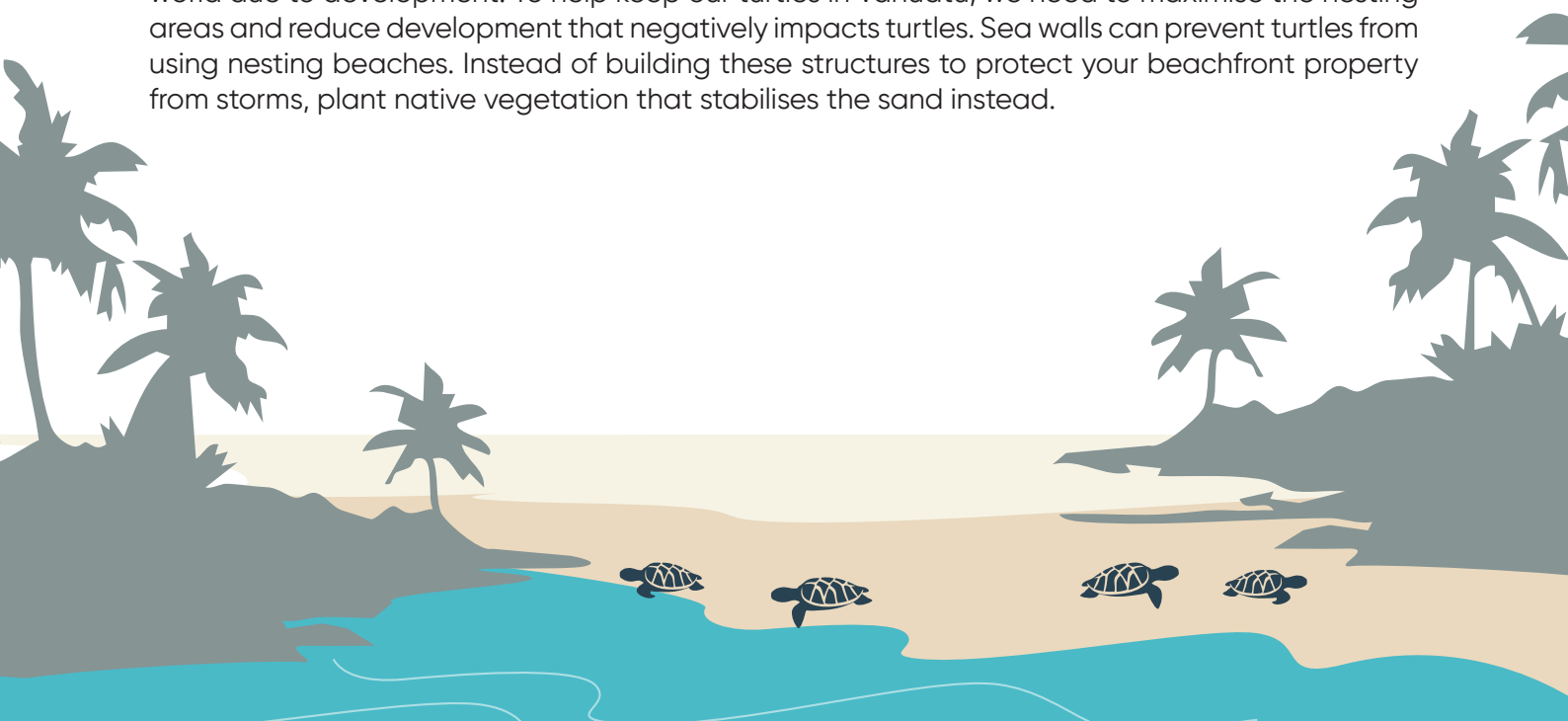
Keep the beaches dark during nesting season

The light produced from fires, flash photography and torches on nesting beaches disorients adult and hatchling turtles who use light to guide themselves. Female adults may also become stressed and scared off by lights and return to the water before laying. When a female has returned to the sea after laying, she may still be distracted by light on the shore and more females may be approaching to nest who we don't want to deter from coming on shore to lay. Hatchlings can be drawn by the light into fires, or away from the ocean into the bush. If you must use a torch on a nesting beach, use a low voltage torch with a red filter.

If you have a beachfront property, ideally turn off the lights at night. If you need outside lights, use turtle friendly lighting. Long wavelengths of light disturb turtles less that higher wavelengths. Wavelengths of 560 nanometres or longer, which appear to us as amber, orange or red in colour are best. Use low wattage, low lumen lights, that are mounted low and shielded so the light does not pollute the beach. Low lumen LED lights will also save you money on power bills. Shut curtains and blinds and move indoor lights away from window.

Carefully consider any development on nesting beaches to avoid destroying limited suitable nesting beach habitat in Vanuatu

Nesting beaches are essential for Vanuatu to sustain our sea turtle populations. Turtles return to the beach where they hatched to lay their own eggs and if the beaches are destroyed, the turtles don't have any other options. These threatened species are losing their nesting areas all over the world due to development. To help keep our turtles in Vanuatu, we need to maximise the nesting areas and reduce development that negatively impacts turtles. Sea walls can prevent turtles from using nesting beaches. Instead of building these structures to protect your beachfront property from storms, plant native vegetation that stabilises the sand instead.



Do not leave beach furniture on the sand overnight during nesting season

Put away all beach chairs, umbrellas, tables, tents etc. overnight so they do not obstruct or entangle any turtles making their way up the beach to lay, or any hatchlings trying to reach the ocean. Nests are not always obvious so don't stake sun umbrellas or build sandcastles above the high tide mark during the day as these may accidently disturb a nest destroying the eggs that have been laid.

Leave vessels moored or pulled up on the beach on nesting beaches where they won't impede the access for nesting females

Do not drive vehicles or ride horses on nesting beaches during the nesting season

These activities can deter turtles who may want to nest, potentially harm turtles if there is a collision, damage nests, harm hatchlings, or make it difficult for hatchlings to reach the water as they get stuck in tire or hoof depressions.

Do not litter

Turtles can become entangled in larger pieces of rubbish which can deter them from nesting and possibly injure them. Hatchlings can become stuck in litter on beaches and delay their journey to the sea, making them more vulnerable to predators. Litter, particularly plastic, can also easily enter turtle ecosystems where they and other wildlife can possibly ingest, choke on or become entangled in it. Always take your rubbish with you and dispose of it appropriately.

Other actions you can choose to do to protect the reefs and seagrasses

- Reduce your carbon and plastic footprints.
- Reduce use of harmful chemicals that can end up in the ocean via drains and rivers, such as fertilizers and pesticides.
- Use reef-friendly sunscreen.

Tourism and Turtles

Turtles are threatened species and therefore we must make sure interactions with them are not causing them or the turtle population harm if we want turtles to survive into the future. Tourism has the potential to either help or harm turtles. The best way to view turtles and not do them any harm, is to see them in their own wild habitat behaving as they would if people were not there. The recommendations in these guidelines give you the knowledge to do this.

Ecotourism involving wildlife, if done well, teaches people about our threatened species and encourages people to live in a more sustainable way and take actions that can help protect wildlife at risk. This can have a positive effect on turtle populations. Conservation projects can benefit from tourists, not only from funding but there are some activities that can be done safely by tourists themselves with a small amount of training and guidance. Monitoring nesting beaches is one example. Not only can this collect useful data, but patrolled beaches are less likely to be poached. Collecting data on the number of turtles seen when swimming or snorkelling or from a canoe is another example of an activity that can inform conservation without invasive interactions. The basic rule of thumb is to avoid any tourism activity where turtles are held in captivity. Any tourism activity which removes a turtle from its ocean environment (for any length of time, even one minute) is causing stress to the turtle and can reduce its likelihood to thrive. A good gauge of whether a tourism

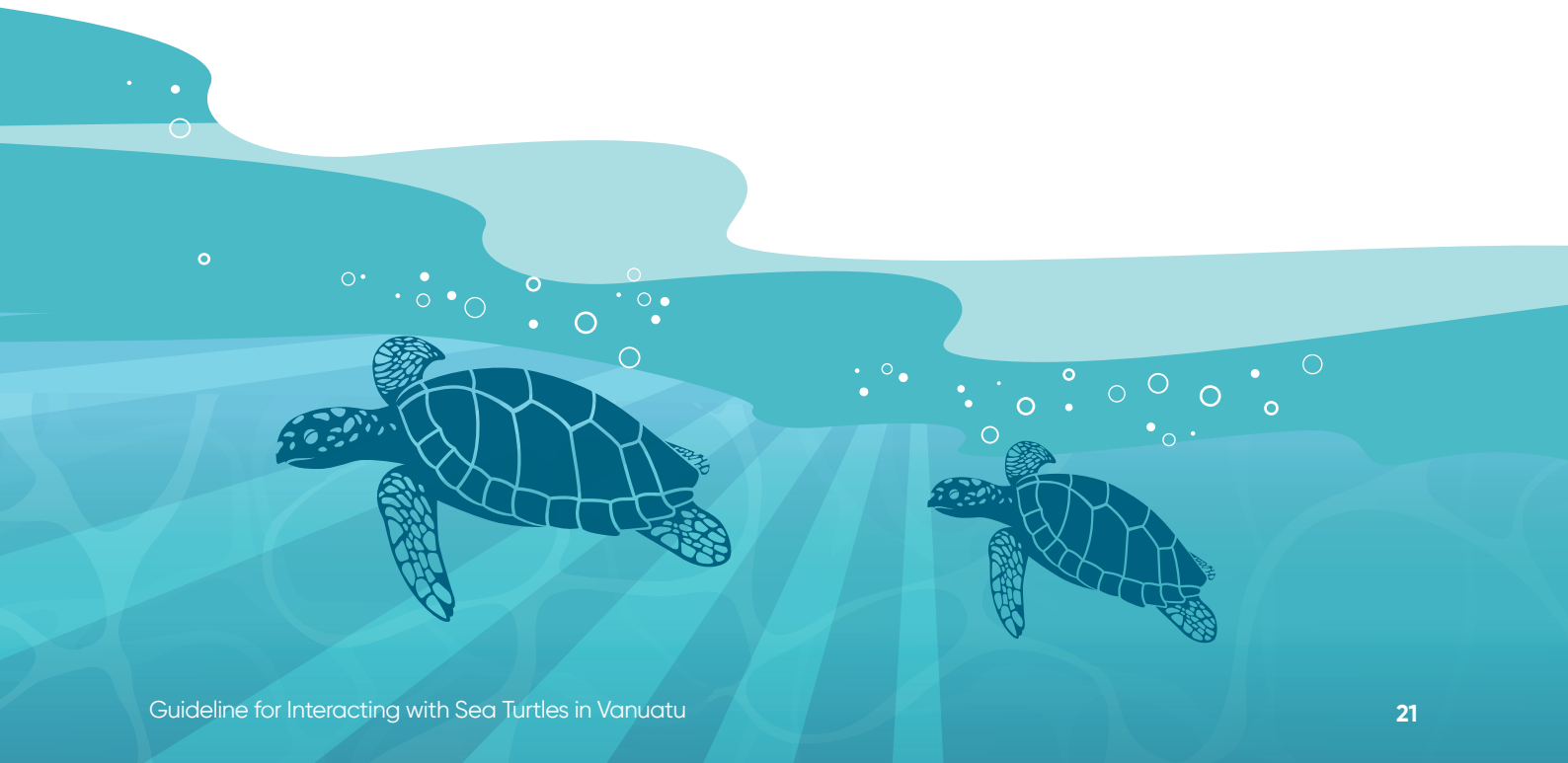
activity involving turtles is genuinely helping to conserve sea turtles is whether the operator is working with a local or international NGO with expertise in turtles. It is always best to check with the NGO to make sure any claims made by tourism operators are legitimate. Any tourism activity that involves human intervention with a turtle can only be justified if part of a well-designed conservation initiative with oversight by turtle experts.

Turtle Shell "Tortoiseshell" Products

Hawksbill turtles are some of the most beautiful and special creatures in the sea, including in Vanuatu. Due to their colourful and malleable shells, they have been specifically hunted around the world for their shells. Their shell, referred to as "tortoiseshell", is made into jewellery and other products, often sold as souvenirs to tourists. This activity has been a significant factor in hawksbills becoming Critically Endangered globally. Hawksbill turtles are internationally protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and trade of any sea turtle species parts is prohibited without specific exemption permits. Despite this, illegal trade continues in many countries today. Remember it is against the law in Vanuatu to even have tortoiseshell in your possession.

To help end this practice, make sure you NEVER buy anything made from turtle shells (or any other part of them) to stop the demand for such products. When in doubt about the materials, do not purchase the item. Look out for semi-transparent goods with brown, orange, amber and yellow coloured non-uniform patterns. If you suspect someone is selling genuine turtle shell products in Vanuatu, report them to the Vanuatu Fisheries Department compliance office. Call +678 23119 or +678 7748499 (Port Vila office) or 36218 (Espiritu Santo office) or email the compliance team at fisheriescompliance@fisheries.gov.vu or the research team on fisheriesresearch@fisheries.gov.vu. The general contact for the Vanuatu fisheries Department is contact@fisheries.gov.vu.

If you are in another country, report them to the relevant authority bodies. You can also download the SEE Turtle App to report tortoiseshell products from the SEE Turtle website: https://www.seeturtles.org/too-rare-to-wear



Turtles are protected by Vanuatu laws:

Sea turtle species in Vanuatu are protected under the Fisheries Act (2014). Regulation 59 prohibits the harming, killing, consuming, selling, purchasing, export or destroying of any turtle species, hatchlings, juveniles or adults. It also prohibits the taking, holding, selling, purchasing or exporting of sea turtle shell. It prohibits the interference with or disturbance of turtle nests or nesting turtles, and the taking of and consumption of turtle eggs. It also makes it illegal to hold turtles in captivity in any way. There is provision for the Director to grant an exemption on the grounds of custom, education and/or research.

A person who breaks this law faces a fine of up VT200,000. If a company breaks this law the penalty is a fine of up to Vt1,000,000.

If a turtle is accidently injured or killed you must report it immediately to the Vanuatu Fisheries Department. Call +678 23119 or +678 7748499 (Port Vila office) or 36218 (Espiritu Santo office) or email the research team on fisheriesresearch@fisheries.gov.vu or the compliance team at fisheriescompliance@fisheries.gov.vu. The general contact for the Vanuatu fisheries Department is contact@fisheries.gov.vu.

If you see a sick, injured or dead turtle please also report this to the Vanuatu Fisheries Department or the Vanuatu Environmental Science Society by emailing vess@vanuatuconservation.org, or Wan Smol Bag's Vanua Tai coordinator, Donald James on 7772613 / 5419965.

If you have a turtle watching tour you are required to have a tourism permit for this activity.

If you witness a tour operator who is not abiding by these guidelines you can contact the Department of Tourism on +678 33400 and ask for the officer for minimum standards. You should also make the operator aware of your concerns. This can help change perceptions about what is appropriate treatment of turtles.

Keeping Vanuatu's sea turtles healthy and happy

If everybody in Vanuatu follows this guideline for observing turtles we hope that these iconic wild animals will continue to be happy, healthy and exist in Vanuatu into the future. We hope that following the guidelines and learning about Vanuatu's environment and wildlife will ensure the encounters you have with turtles will be a better experience for both you and the turtles.

Use this QR code to see the full guidelines on the Vanuatu Environmental Science Society's website.

EUROPEAN UNION

SPREP
Secretariat of the Pacific Regional Environment Programme

Pacific BioScapes

VESS
VANUATU ENVIRONMENTAL SCIENCE SOCIETY

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