



Educational kit

TO DISCOVER THE MARINE MAMMALS OF THE CARIBBEAN

Interreg
Caraïbes

Fonds européen de développement régional

CARI'MAM



UNION EUROPÉENNE



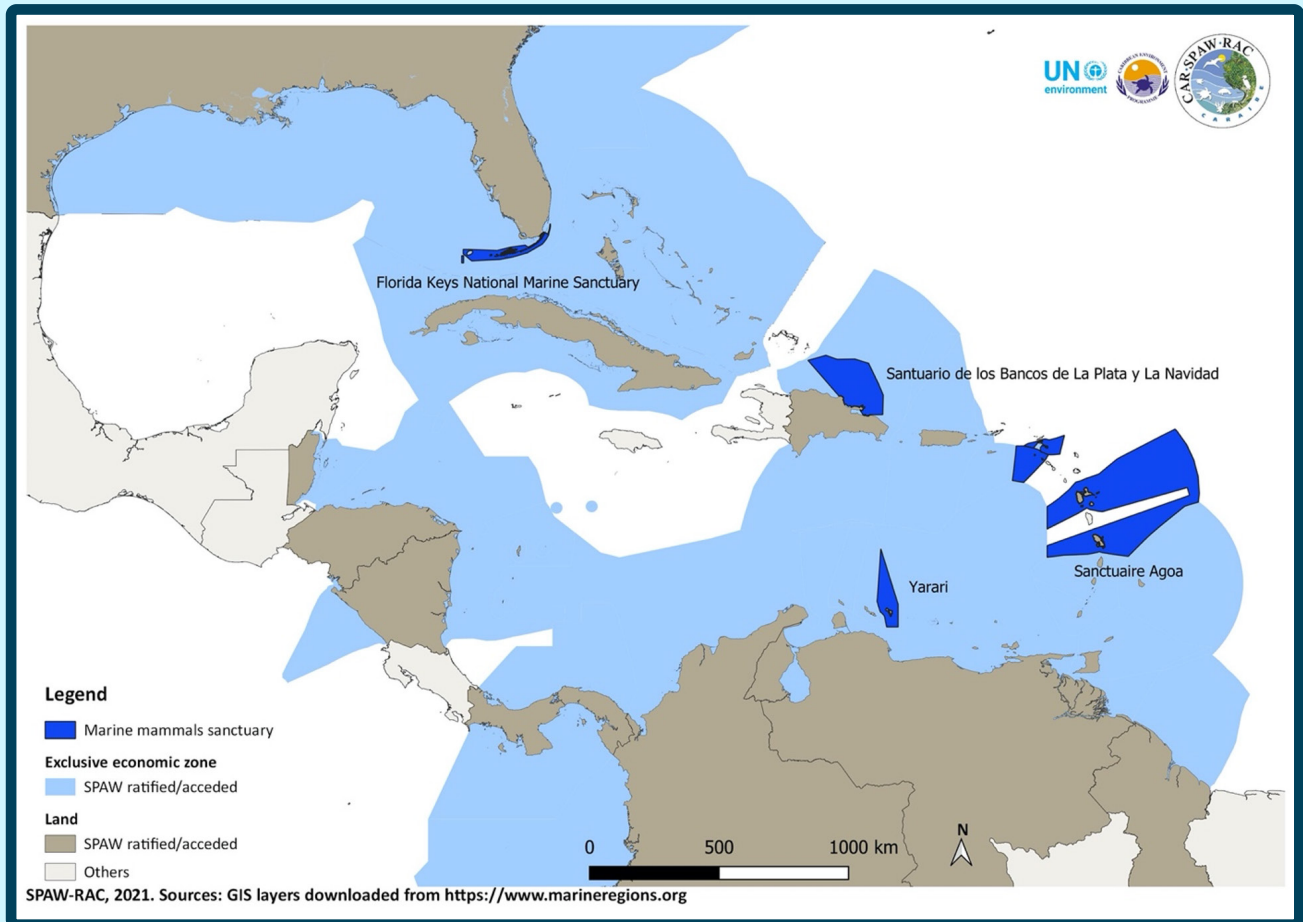
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INTRODUCTION

The SPAW-RAC (Regional Activity Center for the Protocol Concerning Specially Protected Areas and Wildlife for the Wider Caribbean Region) of the Cartagena Convention has created this educational kit for you as part of the CARI'MAM project for you.

Signed on January 1990, the SPAW Protocol came into effect on June 2000 and is currently endorsed by 18 countries.



Under the terms of the Protocol, the Contracting Parties must, in accordance with their own legislation, take all measures to protect, conserve and sustainably manage the zones and threatened animal or plant species listed by the SPAW Protocol.

All marine mammal species are protected under the annex II of the SPAW Protocol, and a regional action plan is dedicated to them.

These recommendations for a respectful observation of these animals have been drawn from the SPAW Protocol's guidelines.

However, these recommendations are not a substitute for national regulations. We suggest that you consult your local authorities to learn about the legislation in force in your country.



Marine Biodiversity, discover and protect the richness of the Caribbean

The Caribbean region easily stirs the imagination with its turquoise waters and white sand beaches. Every year, a great number of visitors flock to its shores.

This exceptional region comprises a unique biodiversity due to a high rate of endemism, and to the immense diversity of species. Many fauna and flora species are observed only in the Caribbean. Actually, the region has two of the thirty-six biodiversity hotspots in the world. Yet, because of human presence, natural Caribbean habitats degrade over time and many of their species are now threatened.

Therefore, to protect biodiversity while promoting a sustainable development for Caribbean states, policies are shifting. Protecting marine biodiversity means ensuring the sustainability of resources and preserving our quality of life and tourism experience.

As a marine mammal observer, you act as an ocean ambassador and key player in their conservation.

To preserve the marine environment, here are a few simple rules which will help you add value to your activity, while protecting the ecosystem :



Do not throw anything overboard



Do not feed or touch wild animals

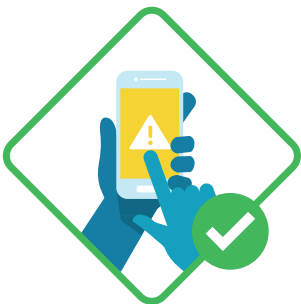


Use low-noise, energy efficient engines.

Prefer reusable materials.



Enroll in community science programs to enhance and share common knowledge around marine mammal population



Immediately report an accident or collision with an animal to the authorized responders



Report any animal in distress (injured, entangled, or stranded) to the stranding network or your local competent authorities

As you take visitors aboard, remind them that spotting marine wildlife is never guaranteed.

If marine mammals keep out of sight, use this opportunity to share your knowledge on other local species



Corals

The Caribbean region has an estimated 26,000 km² of coral reef surface. Most of these reefs are fringing reefs, which means they are situated close to the shoreline and in shallow waters.

Reefs create a rich habitat for sea life: about 30,000 different species share this natural environment. Coral reefs have different functions for marine life: they act as nurseries, habitat, hiding place, shelter, breeding or resting site. Among the many species present, we, of course, find a great variety of fish, with among them about sixteen types are parrotfish. Parrotfish are critical to coral reef health as they produce over 320 to 1 ton of sand per individual per year.

Key environment for marine life, coral reefs play an important role to coastal communities. As a matter of fact, about 21% of Caribbean shorelines are directly protected by coral reefs when extreme weather occurs, because of their ability to break 97% of the waves offshore. It is also important to keep in mind that this service is fully effective when mangrove and seagrass beds are also present nearby.

Caribbean corals and several species of coral reef fish are protected in the region by the SPAW protocol, or by Caribbean governments measures.



Sea turtles

The great Caribbean Region, which includes the Caribbean Sea and the Gulf of Mexico, is a breeding ground for six out of 7 sea turtle species in the world: while the hawksbill, green and leatherback turtles are the most common in the area, the loggerhead, Kemp's ridley, and olive ridley sea turtles are also found.

- ◆ The hawksbill turtle has at least a thousand nesting sites in most of the Caribbean territories.
- ◆ The green sea turtle is key to the health of seagrass beds. In fact, when feeding, the green turtle grazes the beds, taking off the tops of leaf blades while leaving the roots. This daily trim helps the seagrass grow faster and healthier.
- ◆ The leatherback turtle is the largest of all sea turtle species. It can grow up to two meters in length. It is unfortunately declining in the region.
- ◆ Olive and Kemp's ridleys are the smallest of the sea turtles, reaching only about sixty cm in shell length. Kemp's ridleys are mainly found in the Gulf of Mexico.

As all these species are on the IUCN Red List of Threatened Species, they are protected by the SPAW protocol in the Cartagena Convention.



Sharks

About 150 species of sharks and rays can be found in the Caribbean. The most frequently observed sharks are :

- ◆ The lemon shark
- ◆ The Caribbean reef shark
- ◆ The nurse shark
- ◆ The tiger shark

As apex predators, sharks play a great role in the balance of marine ecosystems. Many shark species are on the IUCN Red List of Threatened Species, and 11 of them are currently protected by the SPAW protocol.



Seabirds

Over 65 seabird species live and 20 nest in the Caribbean region. Among the most observed families, we find :

- ◆ Pelicans, which frequent coastal waters. They are gregarious birds, feeding and travelling in flocks. They feed on small fish, catching them near the water surface.
- ◆ Magnificent frigatebirds, they never plunge into the surface waters, instead they catch flying fish as they jump out of the water. They are often seen feeding on discarded fish from fishing boats or stealing other birds' captured food.
- ◆ A great variety of terns are present in the area but only about ten species nest there. They spot their prey (fish, cephalopods, crustaceans, frogs) by flying or hovering above the waters, then dive to pick them off just below the surface.

All these species are subject to numerous pressures, mainly due to human activity :

- ◆ Overfishing and poaching of protected species,
- ◆ Incidental catch and entanglement in active or derelict fishing gear,
- ◆ Loss or damage of their habitat, chemical pollution of surface waters, etc.

Read and learn more about the biology of these species on our website:

www.car-spaw-rac.org

Browse through each species fact sheet and identify your closest marine sanctuary or protected area managers on your territory. They are the key partners for biodiversity education, knowledge, and conservation.

Quiz

- 1. How many fauna and flora species live in corals ?**
- 2. True/ False: About a quarter of the Cuban shorelines are directly protected by coral reefs.**
- 3. True /False: The loggerhead turtle feeds mainly on seagrass beds, thus ensuring their maintenance.**
- 4. True / False: The leatherback turtle is the largest of all sea turtle species.**
- 5. How many species of sharks and rays live in the Caribbean ?**
- 6. True / False: Frigatebirds never plunge into the surface waters.**

ANSWERS :
1- About 30,000 species are found in corals / 2- TRUE – More precisely, 21% of the Caribbean shorelines. / 3- FALSE – It is the green turtle! The loggerhead turtle mainly feeds on invertebrates. / 4- TRUE – It can grow up to two meters in length / 5- About 150 species. / 6- TRUE – They catch flying fish as they jump out of the water



2.

Marine Mammals Observed of the Caribbean Sea

In the Caribbean Sea, over 35 species of marine mammals can be observed! A better understanding of their environment and behavior, will help you operate respectful sightings, and share key information with the general public, area managers and scientists. This is the best way to make whale watching a sustainable activity.

Marine mammal watching can lead to significant impacts. If simple rules are not respected, animals may be disturbed, and thus modify their lifestyle on the short run and, even more problematic, on the long run as well. This phenomenon may result in their health degradation, reduced travels, or a lower reproductive rate. This is a direct threat to the local populations and for the marine mammal watching activity!

Marine mammals are subject to several pressures, mainly due to human activity :

- ◆ Bycatch and entanglement in active or derelict fishing gear
- ◆ Ship strikes (collision with vessels)
- ◆ Loss or damage of their habitat such as coral reef destruction, chemical pollution of surface waters, or noise pollution

All marine mammals found in the Caribbean are vulnerable species, protected by the SPAW Protocol, but also by an array of national laws and rules that we advise you to check and respect.



Here are the most emblematic marine mammals of the Caribbean :

The West Indian manatee :

The adult individual is about 3 to 4 meter-long. Generally found in coastal habitats or in estuaries, alone or in small groups, it is a discreet and quiet animal, only showing the tip of its snout at the surface. This herbivore's diet is quite diverse, including seagrass, mangrove leaves, algae, and a variety of aquatic plants such as the common water hyacinth.



The short-finned pilot whale :

As an adult, it measures up to 7 m for males and 5 m for females. Highly gregarious, it is often observed in pods of about 15 individuals, and sometimes in clusters resting at the surface. It is a common specie throughout the Greater Caribbean, but often sighted near the steep slopes along the continental shelf breaks. Known for spy-hopping, it can get close to boats



Melon-headed whale :

It is a dolphin with no discernible beak. Its charcoal-gray to dark-gray body grows up to 2-3 m



Bottlenose dolphin :

Somewhat stockier than other small dolphins, it measures between 2.5 m and 4 m. It is often seen in groups of a few individuals and sometimes in larger pods. Playful and curious, bottlenose dolphins can get close to boats and interact at the surface. They are among the most common species in the Greater Caribbean, especially in coastal areas.



Atlantic spotted dolphin :

Compared with other dolphins, it is a medium-sized, robust dolphin. Its skin gets more and more mottled as it matures. Its length is usually between 1.7 m and 2.3 m. Often sighted in large pods, they like to approach ships and ride bow waves. They are among the most common species in the Greater Caribbean, especially around continental slopes and shelves, and around the islands.



Pantropical spotted dolphin :

Slender and streamlined, their back, flanks and dorsal fin are dark grey, with more and more clear spots around their body as they mature. Adults are about 1.6 to 2.5 m long. Often sighted in large pods, they commonly play around boats and ride bow waves. They are the most common species in the Greater Caribbean, especially around island slopes and continental shelves.



Sperm whale :

It is rather easy to identify at sea, being the largest toothed whale, with an average of 16 m in length, a dark and uniform color, and a strong blow pointing left at a 45° angle. Rather solitary, they are also seen in small pods of less than ten individuals, sometimes resting or socializing at the surface. They feed on deep-sea preys. Sperm whale vocalization is powerful and characterized as series of clicks.



Humpback whale :

Humpbacks can easily be identified by their long head covered with knobs and white elongated pectoral fins. Its fluked tail is typical with wavy trailing edges and varying patterns. Adults range in length from 12–16 m.

In the Caribbean, humpbacks are not observed year-round. The first sightings usually occur at the end of the year, and the last individuals are reported before the end of April. They migrate to tropical waters to breed and give birth. Their mating area extends from Cuba to the south of Venezuela.

The highest concentration of individuals is found north of the Dominican Republic and Puerto Rico, and around the Lesser Antilles. Solitary individuals, or mother-and-calf pairs, or very small groups are generally seen in shallow water zones (10-200 m of depth) or offshore, above coral plateaus. The whale calf stays with its mother for about 1 year. Humpbacks are the most acrobatic of the large whales, breaching entirely out of the water, pectoral slapping and lobtailing. Curious, they often get close to ships.



Read and learn more about the biology of these species on our website :

<https://www.car-spaw-rac.org>.

Browse through each species fact sheet and identify your closest marine sanctuary or protected area managers on your territory. They are the key partners for biodiversity education, knowledge, and conservation

Quiz

- 1. How many species of marine mammals thrive in the Caribbean ?**
- 2. True/ False: Boat collisions are the most common threat to marine mammals.**
- 3. True /False: The short-finned pilot whale is a solitary species.**
- 4. How big can a bottlenose dolphin get ?**
- 5. True /False: The pantropical spotted dolphin has a more streamlined body than the Atlantic spotted dolphin.**
- 6. What is the sperm whale's blow's angle ? 90°, 60° or 45° ?**
- 7. True /False: The humpback's calf stays with its mother for 2 years.**

ANSWERS :
1- About 35 species. / 2- FALSE - On top of ship strikes, marine mammals are more often threatened by bycatch and entanglement in fishing gear, and by the degradation and pollution of their environment. / 3- FALSE - It is a very gregarious species. / 4- About 4 m long. / 5- TRUE - the Atlantic spotted dolphin is quite chunky. / 6- The sperm whale has a strong blow pointing left at a 45° angle. / 7- FALSE - The humpback's calf stays with its mother for 5 or 6 years.



3.

Recommendations for the observation of marine mammals

The recommendations in this educational kit for the observation of marine mammals in the Wider Caribbean Region (WCR) have been drawn from the SPAW Protocol's guidelines. This official document is available on the UNEP website ([link](#)).

One of the three protocols that form the Cartagena Convention, the SPAW Protocol, dedicated to the preservation of the biodiversity, is currently endorsed by 18 countries.

It provides a unique legal framework for the conservation of regional biodiversity. Under the terms of the Protocol, the Contracting Parties must, in accordance with their own legislation, take all measures to protect, conserve and sustainably manage the zones and threatened animal or plant species listed by the SPAW Protocol.

All marine mammal species are protected under the annex II of the SPAW Protocol, and a regional action plan is dedicated to them.

However, these recommendations are not a substitute for national regulations. Some countries require a special authorization or permit, and the approach rules can vary. We suggest that you consult your local authorities to learn about the legislation in force before engaging in a whale watching activity.

Developed in concert with private marine mammal observers, these guidelines will allow you to adopt a respectful and sustainable professional attitude to preserve the biodiversity as well as your activity.

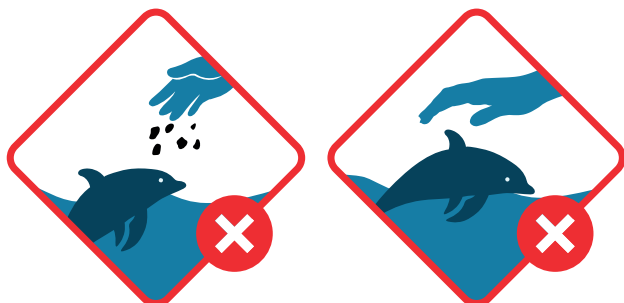
In general :

Remember that animals must stay in control of the situation: allow marine mammals to choose the nature, duration, and proximity of the observation.

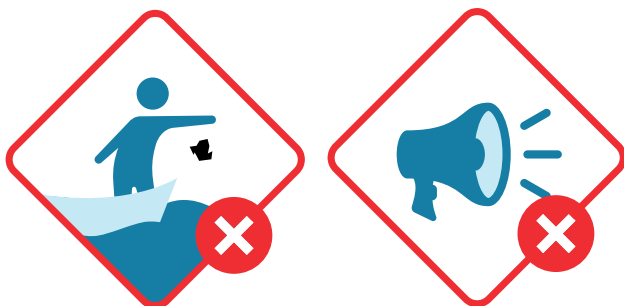
- ◆ It is critical to prevent any accident and avoid any behavior that might be perceived by the animal as intrusive, generate stress, and induce a change of behavior or direction.
- ◆ You must stop your activity at any sign of the animal becoming alarmed or disturbed (lobtailing, pectoral slapping, sudden change of direction, etc.)

To ensure that these requirements are fully met and to allow the captain to focus on navigation, the observation guide should be a different person than the captain of the vessel.

To watch safely and respectfully, here are the general principles to follow :

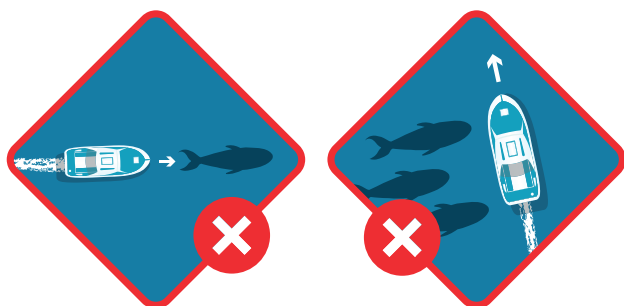


Do not feed or touch marine mammals.



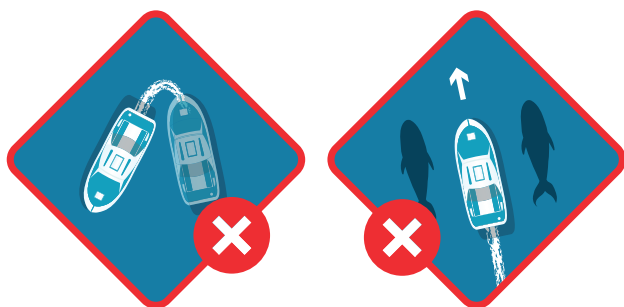
Do not throw litter into the water.

Do not make any loud or sudden noise.



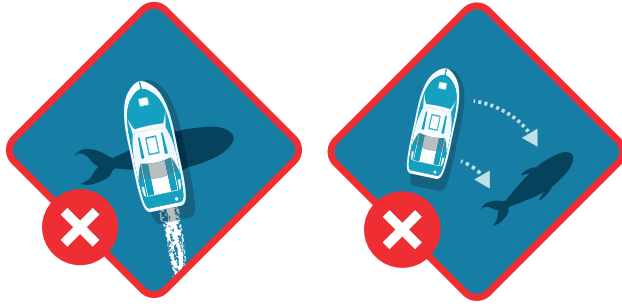
Do not chase an animal trying to get away from you or resting (stationary at the surface).

Do not block the travel direction of the animals.



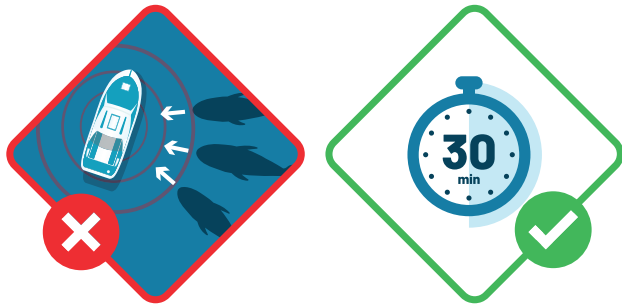
Do not suddenly change direction or speed.

Do not separate, disperse, encircle animals, do not position yourself in the middle of a group.



Do not go over an animal.

Do not position the watercraft in such a way that it may drift towards the animals.



Do not carry out activities that might encourage the animals to approach the vessel.

A nice watching session should not last over 30 minutes.

Regarding the angle of approach, the method consists in :

- ◆ Approaching the animal from the side and slightly to the rear, so it doesn't feel cornered (if surprised, a whale will most probably dive to escape and your whale watching experience will be disappointing for the people on board).
- ◆ Avoiding head on approaches or directly from behind.
- ◆ Note that in the case of sperm whales, it is recommended to approach from the rear and slightly to the side.

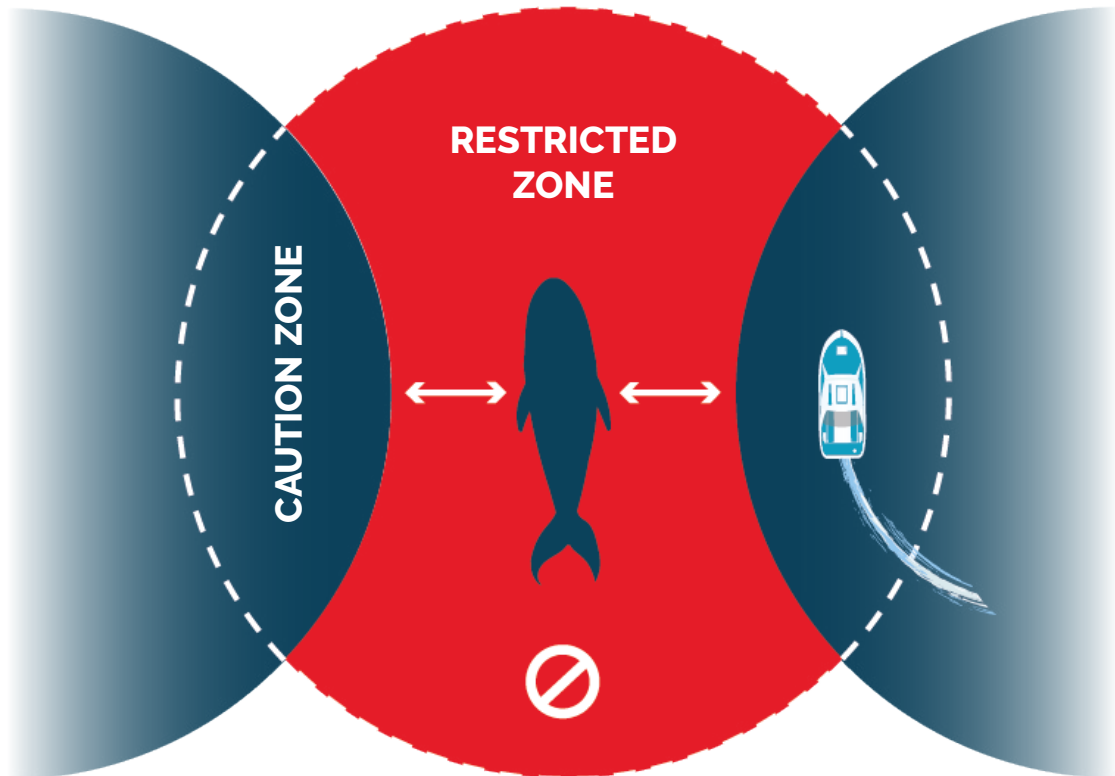
In addition to the method of approach, you should always know the safe distance.

When observing marine mammals and/or if you would like them to get closer to your watercraft, for their safety, and for yours and the people's on board :

- ◆ Reduce speed gradually, turn the engine on idle or drop the sails.
- ◆ Always respect the right distance with animals.

To help you understand what the right distance is, we identified two zones: the caution zone and the no approach zone.

(Beware, these zones may vary by territory or country in the Caribbean. Make sure you know the rules by checking with local competent authorities).



THE CAUTION ZONE

- ◆ It is an area in which watercraft should proceed at a no-wake speed (6 knots or less).
- ◆ According to the SPAW's guidelines, the caution zone is :
 - 300 m from a whale
 - 150 m from a dolphin
 - 50 m from a manatee (within 50 m of a manatee, engines should be turned off).
- ◆ If the animals are moving, your speed should not exceed the speed of the slowest of them.
- ◆ No more than three watercrafts should be in the caution zone of a marine mammal at a time. When there is more than one watercraft in the caution zone, operators should coordinate movements and maintain radio contact. If three watercrafts are already there, you will have to wait until one of them leaves.

THE RESTRICTED ZONE :

- ◆ The restricted zone is the minimum distance to which a watercraft may approach a marine mammal. In this zone, engines should be in neutral, or sails dropped.

Particular circumstances :

If you note the presence of a mother-calf pair, greater distances are strongly recommended. Generally speaking, be very careful with pods including mother-calf pairs and be even more respectful by limiting the observation duration and increasing the viewing distance.

If you navigate in an area with manatees, your speed should not exceed 5 knots.

- ◆ According to the SPAW's guidelines, the distance be either :
 - Between 50 and 250 m from whales.
 - Between 30 and 100 m from dolphins.
 - 30 m from manatees

Evaluating distances at sea is not easy but it is essential. We suggest that you practice with familiar fixed objects such as a harbor breakwater, marker buoys, etc.

Non-complying with these distances is an offense and may result in an accident with wildlife. If in doubt over your distance during an observation, do not take risks and increase the distance !

- ◆ When departing from marine mammals, determine where the animals are relative to the watercraft to avoid collisions or coming too close to the animals, and increase speed gradually only after the animals are outside the restricted zone.

Any accidents or collisions with marine mammals should be documented and reported to relevant authorities.

We remind you that the use of aircraft and helicopters is discouraged, except in the case of permitted scientific research and media. Aircraft may not approach (in height or distance) within 500 m of a marine mammal.

Also, remember that watercrafts such as jet skis and all motorized personal watercraft, parasail, remotely operated craft, wing in ground effect craft, hovercraft, windsurfers, kite surfers should not be used.

As a marine mammal observer, you act as an ocean ambassador and key player in the preservation of this amazing biodiversity. We rely on you to make sure animals are viewed and appreciated but not disturbed. Watch responsibly means watch respectfully, in other words passively.



4.

Swimming with marine mammals

The SPAW's guidelines do not encourage swimming with marine mammals, and it is forbidden in many Caribbean countries. Please consult the relevant authorities of your territory to check the enforced rules.

Swimming with marine mammals is more intrusive than watching them from a vessel. Moreover, it is dangerous: marine mammals are part of marine wildlife, they are unpredictable and can weigh several tons.

With marine mammals, the key word is discretion, to minimize the impact of our presence on wildlife.

If you decide to engage in this activity, for your security and the animals' well-being, consider the following rules :



Swimming with the use of any underwater breathing apparatus should not be allowed.



Do not take underwater photographs with flash or illuminated shots.



Swimmers should not be allowed in the water with surface-active large whales (breaches, lobtailing, pectoral slapping, head lunging, abrupt movements, loud surface slapping noises, etc.) This type of behavior is an alert.



Swimming with mothers and calves should be discouraged.



All persons in the water with marine mammals should be accompanied by an appropriately trained local guide.



Maintain the right distance between the point where swimmers take a dip and marine mammals, or between the swimmers and the animals.



Do not touch the animals.



Before going in the water, decide how many swimmers will be allowed to take a dip and limit the duration of their swimming time.

Quiz

- 1.** True / False: In marine mammals, lobtailing, pectoral slapping, or a sudden change of direction are signs of stress.
- 2.** True / False: Feeding wildlife puts them at risk.
- 3.** True / False: Marine mammals can easily adapt to your watercraft direction.
- 4.** What is the maximum duration of a good watching session ?
- 5.** True / False: It is recommended to approach the animals head on.
- 6.** True / False: It is recommended not to reduce your speed suddenly when approaching marine mammals.
- 7.** What is the caution zone for whales ?
- 8.** What is the caution zone for dolphins ?
- 9.** What is the recommended maximum speed in the caution zone ?
- 10.** True / False: The no approach zone is the minimum distance that you should keep between the animal and the vessel.



11. What is the no approach zone for whales ?

12. What is the no approach zone for dolphins ?

ANSWERS :
- TRUE - These signs are red flags, you must stop the watching activity. / **2- TRUE** - Never feed marine mammals to avoid making them dependent on humans. / **3- FALSE** - To prevent serious accidents, do not change your direction suddenly or repeatedly. / **4-** A nice watching session should not exceed 30 minutes. / **5- FALSE** - It is recommended to approach the animals from the side and slightly to the rear, except in the case of sperm whales, where it is recommended to approach from the rear and slightly to the side. / **6- TRUE** - It is recommended to reduce your speed gradually, with no abrupt change. / **7-** The caution zone for whales is 300 m. / **8-** The caution zone for dolphins is 150 m. / **9-** Your speed should be 6 knots or less. / **10- TRUE** - In this zone, engines must be turned off and sails dropped. / **11-** Depending on the country, the restricted zone for whales is between 50 and 250 m. / **12-** Depending on the country, the restricted zone for dolphins is between 30 and 100 m.



This educational kit project has received funding from the European Regional Development Fund (FEDER) as part of the Caribbean Interreg Program.

MORE INFORMATION

CAR-SPAW website

<https://www.car-spaw-rac.org/>

UNEP website

<https://www.unep.org/fr>

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