

Guide for the conservation and sea turtle watching in National Natural Parks of Colombia



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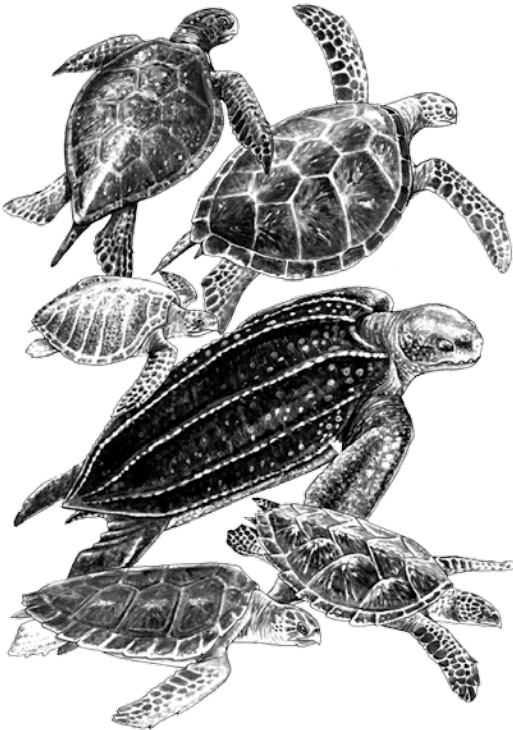
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Foreword

Sea turtles feed, grow, breed and move in eight National Natural Parks, two Flora and Fauna sanctuaries, one Park Drive and a special management area in both Caribbean and Pacific coasts of Colombia.

Four of the eight sea turtle species in the world occur in the Atlantic: Green (*Chelonia mydas*), Hawksbill (*Eretmochelys imbricata*), Leatherback (*Dermochelys coriacea*) and Loggerhead turtle (*Caretta caretta*). In the Pacific, it is known the occurrence of Leatherback, Hawksbill and additionally the Olive Ridley (*Lepidochelys olivacea*) and Black turtles (*Chelonia agassizii*). All these species are considered nationally and globally threatened species, indicating that they are on the brink of extinction.

This guide will show you how to watch sea turtles in their different habitats, when they are carrying out a characteristic activity of their lifecycle (nesting, feeding, migrating). If you observe a sea turtle while walking at the beach or while navigating in a boat in an area of the National Natural Park's system, follow the recommendations given here. In this way, you will enjoy, without disturbing, the enigmatic charm that surrounds these ancient reptiles. You will also learn how to easily assist and save a sea turtle in trouble (hooked or drowning) or to report a sea turtle that has a metallic or satellite tag.



No.	Common name	Scientific name
1	Black turtle	<i>Chelonia agassizii</i>
2	Green turtle	<i>Chelonia mydas</i>
3	Olive Ridley turtle	<i>Lepidochelys olivacea</i>
4	Leatherback turtle	<i>Dermochelys coriacea</i>
5	Loggerhead turtle	<i>Caretta caretta</i>
6	Hawksbill turtle	<i>Eretmochelys imbricata</i>

To conserve the sea turtles in the National Natural Parks is a commitment of everybody! Your effort is a valuable contribution to the sea turtle conservation work in Colombia, for the benefit and enjoyment of future generations!

Frequently asked questions

1. What is a sea turtle?

It is a cold-blooded reptile that needs to regulate its body temperature to maintain its metabolism. It cannot retract its head into its shell and instead of legs has flippers.

2. Do they breath underwater?

No. They have lungs and they need to emerge from the water to breath. The mean immersion time for a sea turtle is three hours

3. How many species are there?

There are eight species of sea turtles species in the world. Seven species belong to the family Cheloniidae and have a hard bony shell: Green, Hawksbill, Flatback (*Natator depressus*), Loggerhead, Olive Ridley, Kemp's Ridley (*Lepidochelys kempii*) and black turtle. The leatherback turtle belongs to the family Dermochelyidae and its shell is thick leathery skin.

4. Where do they live?

They live in tropical and subtropical seas.

5. What do they eat?

The Olive Ridley and Kemp's Ridley turtles eat shrimps; the loggerhead, big preys like crabs; the hawksbill sponges; the leatherback jellyfishes, as well as the Flatback in Australia that also eats soft corals; the Green and Black turtles eat sea grasses, algae and occasionally small animals.

6. How do they reproduce?

Females lay eggs their at the beach in average three times during the annual

breeding season (each time they lay an average approximately 100 eggs). Hatchlings require between 45-65 days to hatch and to the sea.

7. What happens if you find a sea turtle nest at the beach? What should you do?

If you find a sea turtle nest at the beach where the eggs are not uncovered or exposed, leave it like you founded and inform the park rangers about the precise location, so they can monitor and protect the nest. In case this is not possible, try to cover the nest to avoid human poaching or natural predators and remember exactly its position to inform later the persons in charge of the sea turtle program in the protected area. Observe the characteristics of the site where the nest is, like trees, rocks or any other reference that could help to find the nest. In case that the eggs are exposed and are likely to be washed away by the tides, search for a safe place for relocation in the upper part of the beach and move the eggs in the same position that they were found in the original nest, without rotating or shaking them. Inform as soon as possible about the new nest location to the people in charge at the protected area. If you think that you cannot relocate the nest, ask for help at the administration of the protected area.

8. What happens if you find hatchlings while you are walking at a sea turtle nesting beach?

If you find hatchlings that are finding their way to the sea while you are walking, do not pick them unless they are stuck in a hole or cannot pass an obstacle. Make sure that they enter the sea without help. Avoid tak-

ing them directly from the nest into the sea. This can hamper their recognition of the beach characteristics where they will return in the future to hatch their eggs – in case they are females – after reaching sexual maturity. Do not forget to count the hatchlings and inform the people in charge of the sea turtle program at the protected area.

9. What is their lifespan and at what age do they reach sexual maturity?

Sea turtles are long-lived species and with delayed maturity. They can live more than 120 years and start the reproductive phase after 30 years.

10. How much do they migrate?

They are species that travel long distances between growing, feeding and breeding areas. They can travel more than 5000 km with the aid of currents at speeds up to 40 km/hour.

11. What are their threats?

The over-exploitation of eggs and meat for human consumption; marine pollution; coastal development; uncontrolled tourism; degradation of feeding and breeding habitats; inadequate artisanal and industrial fishing practices.

12. What is bycatch?

It is the interaction between fishing gears and species that are not the main target during fishing operations. For example, bycatch can be sea turtles or juvenile fish that are not the target species but that end up captured.

Fishing practices and gears need to be modified to prevent bycatch. For example there is a regional initiative in the tropical Eastern Pacific Ocean to replace traditionally used J hooks for circle (C)

hooks that reduce sea turtle bycatch in long-line fisheries. Training fishers to handle and release accidentally caught (hooked or entangled) sea turtles is another strategy of the initiative.

Circle hooks apart from reducing sea turtle mortality and reduce the damage inflicted to the turtles that are accidentally hooked, reduce the bycatch of other non-target species.

13. What is satellite telemetry, what is it useful for? What to do if you find a sea turtle with a satellite tag?

Satellite telemetry is a technic that allows following sea turtle movement in the Ocean. It consists of attaching a transmitter to the sea turtle (in the shell), so when it emerges to breath at the surface the antenna of the transmitter can send a signal to a satellite that registers the animal position. Using computer software this information is passed to researchers through a webpage. After one or several months the battery of the transmitter runs out and stop functioning and the transmitter is detached from the sea turtle. In this way researchers and conservationists can follow the migratory routes of tagged individual turtles and map their navigation routes, determining how far do they migrate and how fast do they swim. If the map is well detailed it can be even possible to know the characteristics of the habitats that the turtles visit during their migratory routes. You can follow the different routes of sea turtles with satellite tags in the Colombian Pacific in the webpage http://www.seaturtle.org/tracking/index.shtml?project_id=791&dyn=1375199979.

If you find a sea turtle with a satellite tag do not capture the animal, try to register the tag number and see to whom it belongs.

Afterwards inform about its location and behavior at the time of the encounter. Do not try to detach the tag unless you see it is about to fall. In this case, return the tag to the person or institution to which it belongs. A satellite tag does not have any commercial value and it only helps sea turtle researchers that use this technology to obtain valuable information to protect these species from extinction.

14. How can we protect them?

Do not buy or consume products or by-products derived from sea turtles (eggs, meat, handcrafts, creams, oil, etc.). Do not throw plastic waste, toxics or any other pollutant to the rivers or the sea. If sea turtles ingest these, they will die. Denounce to the National Park authorities the illegal trade of these species.

Taxonomic sheet of sea turtles occurring in protected areas of Colombia

Scientific classification

The following scheme shows current the scientific classification for sea turtles.

KingdomAnimalia

Phylum Chordata

ClassReptilia

The Class Reptilia includes snakes, lizards, crocodiles and turtles. Reptiles are ectotherms (cold-blooded) and vertebrates (with a vertebral column). All reptiles have scales, breathe using lungs and have a three-chambered heart. Most reptiles lay eggs.

Order Testudines

Testudines includes all turtles. The Order is subdivided in three suborders. Suborder Pleurodira includes all the turtles that withdraw their heads into their shells. The suborder Cryptodira includes all other extant turtles and the suborder Amphichelydia includes various species of extinct turtles.

Suborder Cryptodira

The suborder Cryptodira includes various freshwater turtles, terrestrial turtles, soft shell turtles and sea turtles.

Family Cheloniidae or Dermochelyidae

Sea turtles are grouped in two families. The family Cheloniidae includes turtles that have their shells covered by scales. The family Dermochelyidae includes only one modern species of sea turtle, the Leatherback turtle (*Dermochelys coriacea*), whose shell is a thick leathery skin.

Genera	Species
<i>Caretta caretta</i>	Loggerhead turtle
<i>Chelonia mydas mydas</i>	Green turtle
<i>Eretmochelys imbricata</i>	Hawksbill turtle
<i>Lepidochelys olivacea</i>	Olive Ridley turtle
<i>Dermochelys coriacea</i>	Leatherback turtle
<i>Chelonia mydas agassizi</i>	Black turtle

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Green turtle (*Chelonia mydas mydas*)

© Óscar Cañón. CIMAD.



Leatherback turtle (*Dermochelys coriacea*)

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Loggerhead turtle (*Caretta caretta*)

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Hawksbill turtle (*Eretmochelys imbricata*)

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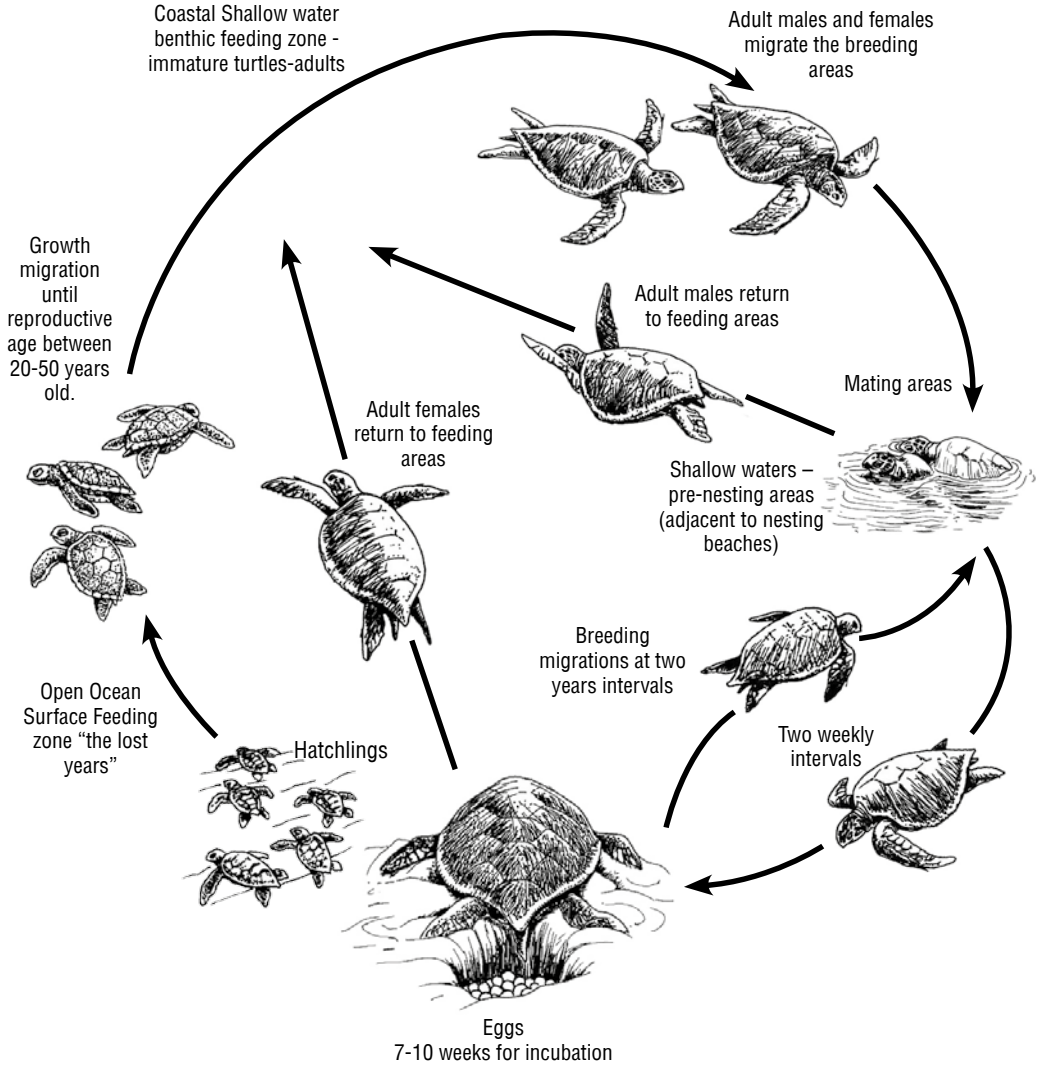
Olive Ridley turtle (*Lepidochelys olivacea*)

© Diego Amorochio. CIMAD.



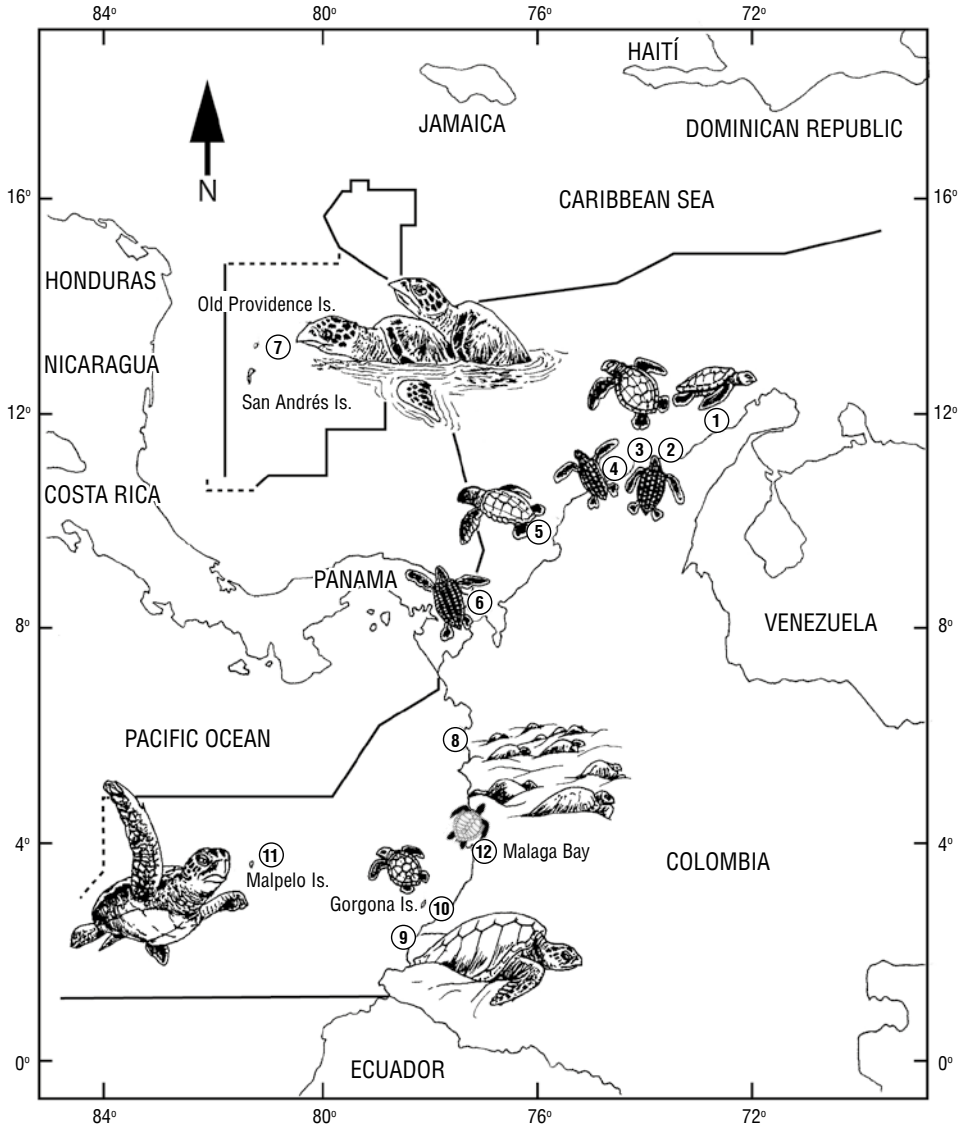
Black turtle (*Chelonia mydas agassizii*)

Sea turtle life cycle



Sea turtles in National Natural Parks of Colombia

Twelve protected areas, seven in the Caribbean and five in the Pacific Ocean, harbor important nesting beaches and marine habitats that provide food and shelter for six species of sea turtles in Colombia.














































Nesting beaches and foraging areas in National Natural Parks



Nesting beaches



Foraging/feeding areas

ATLANTIC										
Species	Flamencos FFS *(1)	Sierra Nevada NNP **(2)	Tayrona NNP **(3)	Salamanca Road Park (4)	Corales y San Bernardo PNN **(5)	Darien SMA *** (6)	Old Providence McBean Lagoon NNP			
Green turtle 										
Hawksbill turtle 										
Logger- head turtle 										
Leather- back turtle 										
PACIFIC										
Species	Utria NNP (8)	Sanquianga NNP (9)	Gorgona NNP (10)	Malpelo FFS (11)	Uramba Malaga Bay NNP (12)					
Olive Ridley turtle 										
Hawksbill Turtle 										
Leatherback turtle 										
Black turtle 										

* Flora and Fauna Sanctuary













** National Natural Park

*** Special Management Area









Sea turtle watching

1. At the beach

During the breeding season in the National Natural Parks, it is necessary to follow a few recommendations at the nesting beaches:

	Avoid stepping on turtle nests.
	Do not step on top or touch a sea turtle.
	Avoid camping or making fires on nesting beaches.
	Do not leave objects at the beach that could obstruct female sea turtles nesting or egg incubation. This could hinder the arrival of hatchlings to the sea.
	Do not throw litter at the beach or at the sea. Pick garbage in a bag and take it to a place where you can dispose it correctly. Cooperate with the beach cleaning activities that national park rangers undertake.
	Keep dogs and pigs away from nesting beaches. They are a threat to female sea turtle and their eggs. Avoid riding horses during the nesting season.
	Avoid lights at the beach. They disorient female sea turtles and their hatchlings.
	Approach sea turtles from behind and squat down at a maximum distance of 2 m. Do not make noise or strange movements.
	Use dark clothes always to walk during night at nesting beaches and reduce the use of torches and lighters.
	Do not approach or take pictures with flash to a sea turtle emerging at the beach or before she starts laying her eggs. Once sea turtles begin laying her eggs she goes into a trance and in this moment you can take pictures only from behind and never directly into the face. Retreat immediately if the animal shows signs of perturbation.
	Consider staying no more than 15 minutes at the place where the sea turtle is laying her eggs.
	If you are not with a guide, provide the information about your encounter to the park rangers. Remember that your cooperation is very important for the protection of these animals.

2. At the Sea

	When in the water, keep your distance. Do not disturb turtles if they are eating, floating, resting or sleeping.
	Do no mix the water, touch or step on the habitats where sea turtles are. These actions could alter the quality of the marine habitats where sea turtles occur.
	Never follow them and do not try to catch them or bring them on your boat.
	Avoid touching or feeding sea turtles while you are in the water. You could be harmed.
	Do not throw litter or other pollutants to the sea. Dispose garbage in appropriate places.
	If you bring your camera, take pictures to document the encounter and share these with other people.
	Upon return to the park, inform park rangers about your encounter and -provide details.
	Do not try to capture a sea turtle that is marked with a satellite tag. Inform the park rangers about the position and provide a description of the sea turtle. If you can register the tag identification number without disturbing the turtle, provide this to the people in charge at the park.

How to help sea turtle conservation during....

1. ...Fishing activities

- Consider to fish in areas far away from the routes used by female sea turtles to approach nesting beaches
- Check periodically nets, gillnets, longlines or other fishing gear to ensure that sea turtles have not been accidentally caught.
- Do not leave drifting fishing gears; sea turtles could get entangled and die.
- Use turtle excluder devices (TEDs) during shrimp trawling activities.



- Use circle hooks instead of the traditionally used J hooks. Circle hooks have demonstrated to increase the survival probability of sea turtles when accidentally caught.
- Do not fish at depths where it is possible to encounter sea turtles.
- Put in practice the FAO Code of Conduct for Responsible Fisheries (available at: <http://www.fao.org/docrep/005/v9878e/v9878e00.htm>)
- Try to involve as a volunteer with the National Natural Park System to contribute in the protection of sea turtles in our National Parks. Ask for information in the respective protected areas.

2. ... The navigation

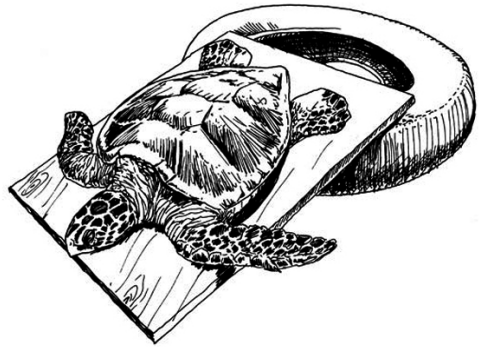


- Stay alert while navigating to avoid collisions that could harm or kill a sea turtle. Navigate at low speed.
- If there is a collision with a sea turtle, bring it onboard and provide first aid (see first aid section in this guide).
- Do not enter restricted or recovery areas within the parks.
- Reduce the speed to the minimum when you are bordering or passing by a coral reef area.
- Avoid disturbing or even cutting sea grass beds with the propeller when you are passing by these habitats.
- Do not use reflectors that can affect the activities at night of sea turtles in foraging or nesting areas.
- Never release the anchor or go ashore in coral reef or recovery areas.

3. How to provide first aid to sea turtles

In case there is a collision, entanglement or a sea turtle is hooked, follow this advice to provide first aids.

- If there is trauma or a coma, put carefully the sea turtle on her belly with her head tilted down slightly until she recovers or she is adequately treated at the park.
- If there are cuts or lacerations, take the sea turtle as soon as possible to the park to it can be disinfected, sutured and observed before release.
- If the sea turtle presents drowning symptoms, turn it head-down with the head tilted down and push the chest from back to front, observe and repeat the procedure.
- While the sea turtle is out of the water, keep it wet continuously (or put a wet piece of cloth).
- If the turtle is hooked and it is easy to remove the hook with a plier, do it.



Otherwise, cut the nylon/line. Immobilize the turtle to prevent that it harms you.

- When you see a sea turtle entangled in a net, cut the nylon immobilizing the animal. If the sea turtle is not harmed release it, otherwise take it to the park where it can be healed.
- If the animal has metallic tags, write down the tag number and provide these data to the park rangers.

4. Sea turtle monitoring in National Natural Parks

Some National Natural parks carry out sea turtle tagging with metal flipper tags (numbered) in nesting beaches and foraging areas. Tagging aims at knowing: sea turtle population size, areas that are visited by identified individuals, the distances traveled and how sea turtles return to nesting beaches and foraging areas. If you observe a tagged sea turtle, please write down the number in the tag and provide this information with date and location to the address that appears in the tag or the administration of the national park where you are.



What is IAC?

The Inter American Convention for the Protection and Conservation of Marine Turtles (IAC) is an intergovernmental agreement that provides a legal framework so that the American countries can take action in benefit of the marine turtles. It aims to:

- The need to implement harmonic measures between nations.
- Coordinate multilateral conservation efforts and protection actions.
- Supervise the implementation of a regional agenda that can help in the recovery of the six species that inhabit in our waters.

The objective of the IAC is to promote the protection, conservation and recovery of the marine turtle population rates and the habitat on which they depend, based on the greatest scientific information available and considering the environmental, socio-economic and cultural characteristics of each party. Currently, 15 countries are part of the IAC: (Netherlands Antilles, Argentina, Belize, Brazil, Chile, Costa Rica, Ecuador, United States, Guatemala, Honduras, Panama, Peru, Mexico, Uruguay, and Venezuela).

What are the advantages for Colombia in been part of the IAC?

Given the fact that marine turtles are highly migratory species, their conservation will depend on efforts at a national and at a international level, considering that the preservation of this specie will not only require of a appropriate national management, but of an effective international cooperation.

Any country that becomes a member of the IAC will have certain advantages in being a part of an international community; such as an active participation in a regional decision-making process with the purpose of recovering marine turtle populations; the possibility to improve the implementation of national and regional initiatives avoiding duplicating efforts; and the ability to interact with different stakeholders related to the process (government, private sector, communities, NGO, academia, etc.), closing the gap between decision-makers and information providers.

Specifically for Colombia, the advantages in adhering to the IAC are:

- Possibility to advocate in decision-making processes.
- Possibility to exchange information and technology.
- Access to regional and multilateral funding sources.
- Flexibility in the national implementation of measures considered by the Convention.
- Participate in the design and implementation of regional strategies.
- Strengthen national capacity to achieve the objectives set in 2002 by the National Program for Marine Turtles of the Ministry of Environment (MADS is the acronym in Spanish).

Working Together - MADS / WWF

Since 2013, the Ministry of Environment (MADS) and World Wildlife Fund (WWF) decided to join efforts to work towards the accession process of Colombia to be part of the IAC. One of the most relevant results this year was the approach to ethnic minority communities related to the use and consumption of marine turtles in the Pacific and Caribbean regions. Ten workshops were held in both regions, aiming to raise awareness on the importance for Colombia to be part of the IAC and to learn about the convenience of this instrument. These workshops have included more than 200 attendees (National Parks, fishing communities, Academia and NGO, among others); and cover areas such as Juanchaco, Bahía Solano and Sanquianga in the Pacific; as well as

La Guajira, Tayrona, Islas del Rosario (Rincon del Mar, Isla Mucura e Isla Grande), Acandí and San Andres in the insular and oceanic Caribbean region.

As a general conclusion, we received a very positive feedback regarding the awareness process of the IAC and we perceived the interest and intention of involved stakeholders to collaborate in a possible scenario where Colombia becomes part of the IAC. The importance of continuing with this national effort was highlighted throughout the workshops, and participants requested that in the future, there is a need to broaden these awareness spaces, to guarantee a full participation of all involved sectors.

Specific conclusions

of the workshops - to raise awareness about IAC

During 2014, ten workshops were held to raise awareness about marine turtles and the intention of Colombia to move forward with the adhering process to the IAC. The specific conclusions of the workshops were the following:

The participants stated that they agree with a possible adhering process to the IAC, since they consider that is a process that will bring more benefits than harm to the communities that directly interact with the marine turtles.

They also consider that parallel, or even before addressing the responsibilities that the IAC implies, there is a need to organize, update and fully implement the National Program for Marine Turtles of the Ministry of Environment; as well as the national monitoring and marking

protocols; in order to collect standardized information that can be comparable in time and useful to follow the population tendencies of the different species in the country.

They also affirmed that it is key to clarify at all moments of any discussion the term “use” of the resource in cases of subsistence, and that working together with the communities throughout the process is essential, in order to guarantee a visible and effective participation, acknowledging the importance of local and ancestral authorities. More so, they evidenced the need to include local researchers in conservation and monitoring processes of these creatures.

It is fundamental that new scenarios of discussion, socialization, and awareness of the

adhering process of Colombia to the IAC are taken in place, to expose and feedback in more detail of the possible benefits, challenges and implications of being a part of this Convention. Once again, this needs to guarantee the participation of local communities in a possible scenario of formal consultation processes.

The participants in the workshops also raised the importance of working together with other communities, respecting sacred areas and implementing conservation initiatives for marine turtles; always taking into consideration the economic benefits for the local communities that will improve the quality of life (i.e. ecological tourism).

Although the work for marine turtle conservation of many groups all across the country was highlighted, they raised the need to articulate efforts and demand concrete actions, besides addressing only base-line studies.

The people that attended the workshops requested support from the government in the development of their management plans for watersheds, solid residues and beach manage-

ment, among others. Also, they affirmed that is important that the areas identified for the protection and conservation of marine turtles are destined to function only for this purpose, to prevent that in the future they will be used for others intentions, like hotel development.

All the participants manifested a positive disposition to collaborate to the process and they are interested to get involved in monitoring and marking of marine turtles in the areas of reproduction and foraging. For the specific case of the Caribbean; they recommended WIDECAS (with the coordination in Colombia) as the entity in charge of coordinating the process of recompilation storage of the information.

Finally, they expect that in future scenarios of socialization of the IAC; there is a possibility to discuss about other issues that are directly related to this matter, such as tenure and land ownership, and productive alternatives that allow them to develop economically and pursue a better quality of life; maintaining an ecologically healthy and richly biodiversity environment.

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This guide is an essential tool for monitoring and preserving sea turtles, and for the responsible and sustainable eco-tourism in marine and coastal protected areas of Colombia.



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