



Sea Turtle Handling
Guidebook for Fishermen

United Nations Environment Programme
Mediterranean Action Plan - UNEP
Regional Activity Centre For Specially Protected Areas

Sea Turtle Handling Guidebook for Fishermen

Document prepared by

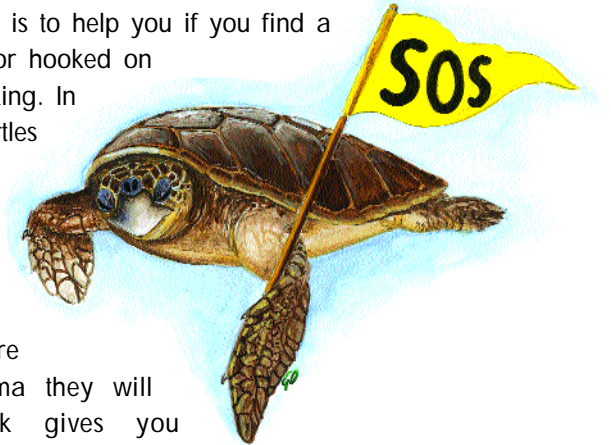
Guido Gerosa & Monica Aureggi

CHELON - Marine Turtle Conservation and Research Program

...A FEW WORDS BEFORE STARTING

Many times, while fishing, you probably incidentally caught a marine turtle. How many times did you ask yourself : What can I do to help this unlucky animal?

The aim of this guidebook is to help you if you find a marine turtle in your net or hooked on your main line while working. In some cases, caught sea turtles appear lifeless but in others they are alive and active. Lifeless turtles are not necessarily dead, but may be comatose; if they are returned to the sea before recovering from the coma they will drown. This guidebook gives you instructions to prevent unnecessary turtle deaths.



As you surely know, all marine turtles are protected by national and international law. The main reason why many people are now working on these animals is that these strange sea reptiles are disappearing from the earth, impoverishing our beautiful seas. This means that if you encounter a marine turtle in difficulty you should help it, and if you are lucky enough to encounter a healthy turtle you should release it into the sea as soon as possible.

In order to handle with care these animals, which are apparently so strong and unbreakable, follow the easy instructions in this guidebook which should be always kept with you on board.

We are turning to you because fishermen are people who have made the sea their own place of work and are in contact with it (and therefore with sea turtles) more often than anybody else. The sensitivity and attention that you always show to the sea and its creatures are a guarantee of the turtles hopes of survival in the water.

TECHNICAL EDITORS

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WORKING WITH SCIENCE

In the Mediterranean there are many research projects at work in order to increase knowledge of marine turtle habits and lives. Groups of scientists generally collaborate with Government Authorities and ask for help from those who come in contact with the sea or beaches (the two areas frequented by turtles). In addition to this, in order to help animals injured during fishing or other connected activities, many rescue centres have been built to give turtles hospitality and care, before releasing them safely into the sea. Thanks to the valuable relationship between fishery and science, many fishermen have already decided to collaborate with these projects and many turtles have been saved. For this reason it is very important to bring back to harbour all caught turtles, whether healthy, injured or dead.

To collaborate it is not necessary to have particular skills; it is enough to have goodwill and to contact the appropriate authority or the research projects (if there are any) that are working in the area.

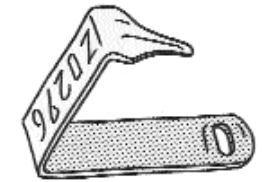
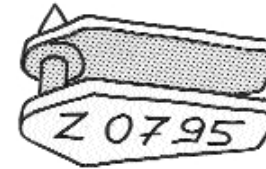
Sometimes there is no place where advice can be sought and you must decide what to do with caught turtles on board in order to return them to the sea as soon as possible.

This easy-to-follow guidebook will help you by giving you advice on how to save the turtles on your own.

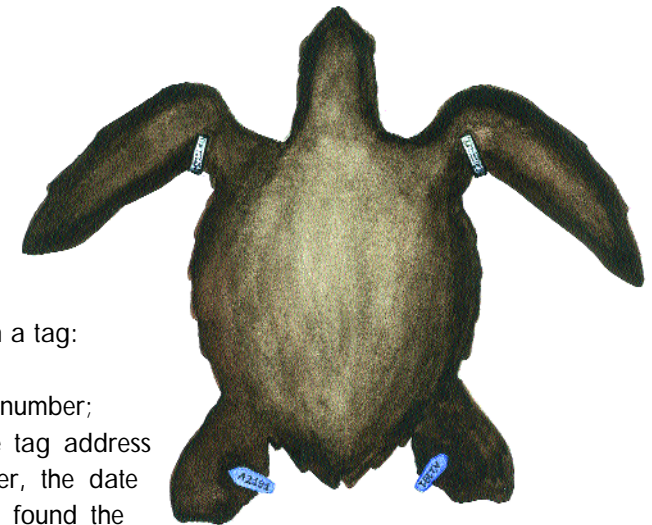


WATCH OUT FOR TAGS

How many sea turtles live in the Mediterranean? Nobody can answer this question, and the only answer scientists can give is that their numbers are low and declining.



Many of them have already been fished once or more; some have been saved in rescue centres or seen laying eggs on wild beaches, others have never been seen. The problem of distinguishing one turtle from another (therefore the ones that had already been seen) has been solved by applying a tag to the limb of the animal, on which a code number and address appear. This simple method of identification is like giving a name to a turtle and allowing everybody to recognise it. For this reason it is very important, if you see a marine turtle, to look for plastic or metal tags on either the front or rear flippers.



If you find a turtle with a tag:

- * do not remove it;
- * note its address and number;
- * write a letter to the tag address stating the tag number, the date and place where you found the turtle, the turtle's condition (healthy, injured or dead) and your own name and address.

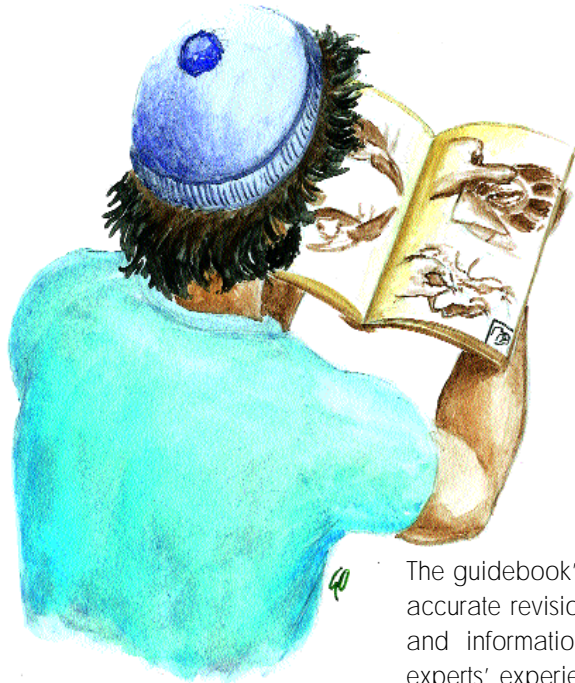
HOW TO USE THE MANUAL

The Sea Turtle Handling Guidebook for Fishermen is an easy tool produced to provide simple procedures for handling any marine turtle caught in a fishing net or hooked on your main line.

The guidebook consists of an introduction, general information on marine turtle biology and conservation and an operative section, which includes single pages on each fishing method, an assessment of turtle's condition page, and a recovery techniques page. The last few pages offer a glossary, and a space for useful addresses and notes.

Following the illustration in the adjacent page, you can easily operate, particularly, when you have a turtle on board: go to the page corresponding to your fishing method and carefully follow the figures and instructions.

As marine turtles are delicate animals and not easy to handle, for correct use of the guidebook please to read all the pages carefully before taking any action.



The guidebook's contents provide an accurate revision of published works and information from marine turtle experts' experiences and opinions.

Sea Turtle Life Cycle

Mediterranean Sea Turtle Species

Main Threats

Most Common Mediterranean Fishing Gears Which Interact With Sea Turtles

Longlines

Longlines

Trawls

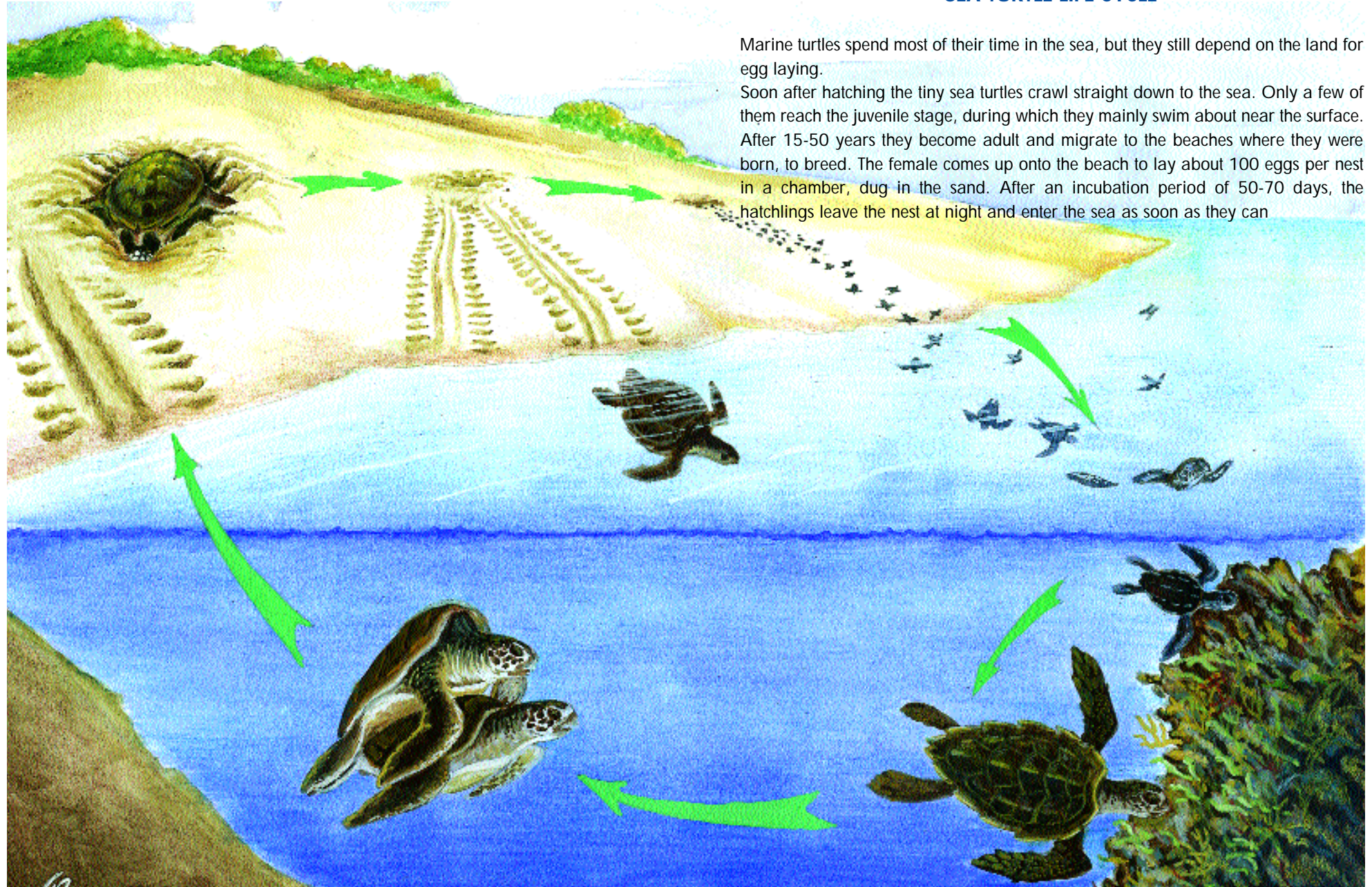
Gillnets

Assessment of Turtle's Condition

Recovery Techniques



SEA TURTLE LIFE CYCLE

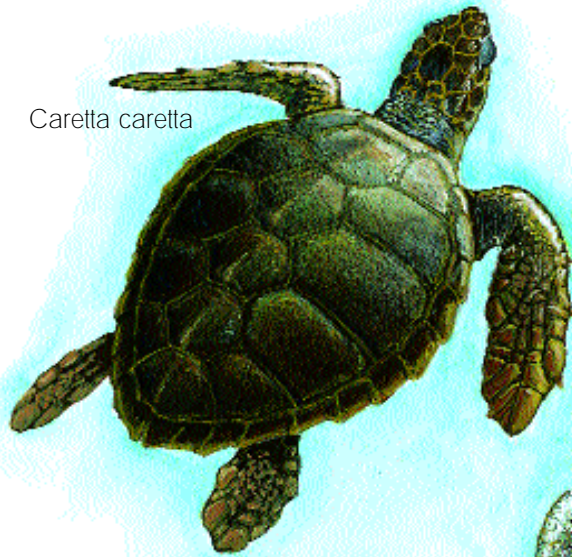


Marine turtles spend most of their time in the sea, but they still depend on the land for egg laying.

Soon after hatching the tiny sea turtles crawl straight down to the sea. Only a few of them reach the juvenile stage, during which they mainly swim about near the surface. After 15-50 years they become adult and migrate to the beaches where they were born, to breed. The female comes up onto the beach to lay about 100 eggs per nest in a chamber, dug in the sand. After an incubation period of 50-70 days, the hatchlings leave the nest at night and enter the sea as soon as they can

Mediterranean Sea Turtle Species

Caretta caretta



Loggerhead turtle
Caretta caretta
Carapace length: up to 99 cm
Weight: up to 105 kg



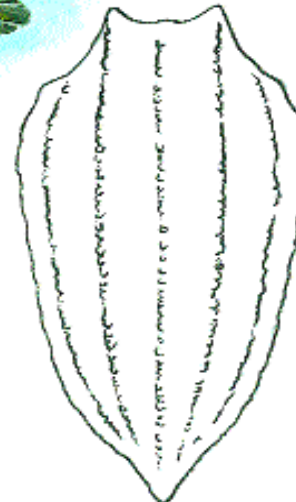
Chelonia mydas



Green turtle
Chelonia mydas
Carapace length: up to 105 cm
Weight: up to 180 kg



Dermochelys coriacea

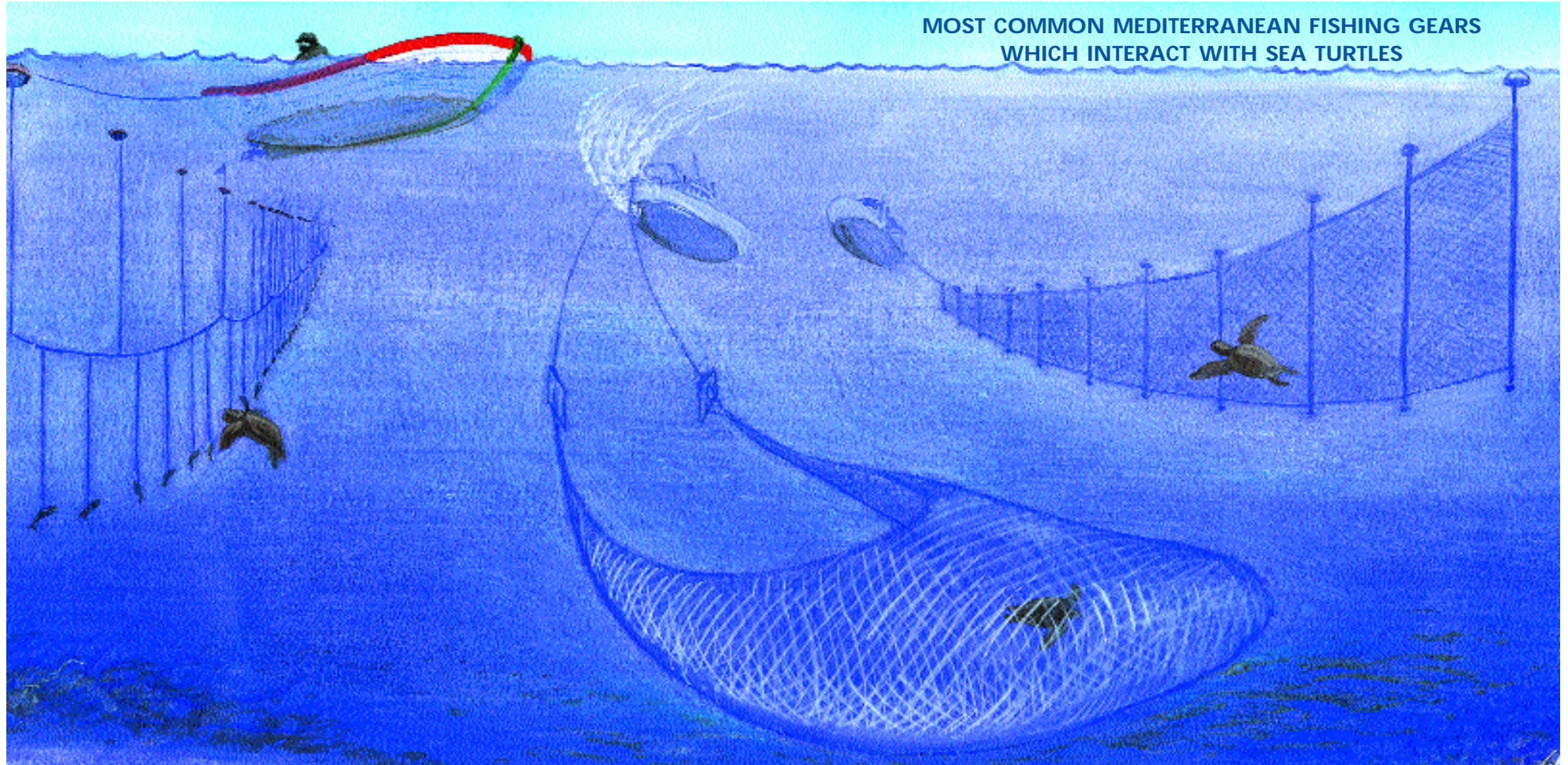


Leatherback turtle
Dermochelys coriacea
Carapace length: up to 256 cm
Weight: up to 916 kg





MOST COMMON MEDITERRANEAN FISHING GEARS WHICH INTERACT WITH SEA TURTLES



LONGLINES

Longlines consist of a main line, sometimes of considerable length, to which snoods with baited or unbaited hooks are fixed at regular intervals. The main line is set either

near the seabed or in mid-water or near the surface. The longline bases its capture capability on the likelihood of a hook meeting a specimen of the target species.

TRAWLS

Trawls use a net consisting of a cone-shaped body, closed by a bag and extended at the opening by wings. The net is trawled by one ship or more, and is an «active»

fishing gear in that it catches all the animals in its path, collecting them in the terminal bag. According to type of trawls are used either on the seabed or in mid-water.

GILLNETS

Gillnets are nets placed vertically so that they fence in or block off areas of water and catch every marine organism bigger than the mesh which tries to pass through it. Although

they are considered «passive» fishing gear, as far as turtles are concerned gillnets could be judged «active» because their catch may be attractive to turtles.

LONGLINES

Scan the main line as far ahead as possible in order to sight turtles in advance.

Immediately upon sighting the turtle:

- * reduce both vessel and main line reel speed
- * steer the vessel towards the turtle
- * minimise tension on both the main line and the branch line with the turtle

Once the branch line containing the turtle is in your hands, put the engine in neutral and pull in the turtle manually until it is brought alongside the vessel.

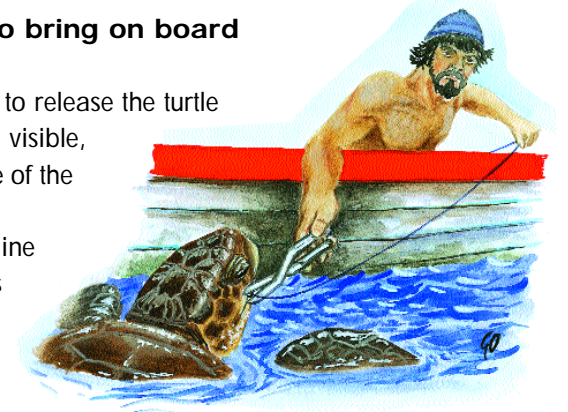


If the turtle is **DEAD**

- The best thing to do is to bring the turtle into the harbour, store it in a freezer, and then give it to the competent Authority. Leave any entangled hooks or line in place
- If it is not possible to keep the dead turtle on board, return it to the sea, after removing any entangled line and visible hooks

If the turtle is too large to bring on board

- Stop the vessel
- If entangled, remove the line to release the turtle
- If hooked, and if the hook is visible, cut the line as close to the eye of the hook as possible
- If hooked internally, cut the line as close to the beak as possible
- Check that the turtle has swam safely away before starting up the vessel




If the turtle can be taken on board

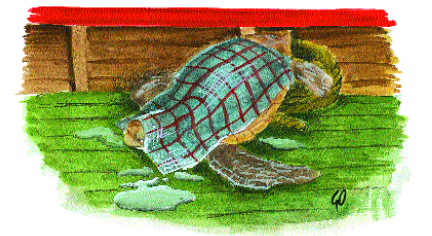
Use a dip net or hold the turtle by the side of the carapace or by the flippers. Do not use the line to which the turtle is hooked, any sharp objects or gaffs to take the animal on board

After assessing the turtle's condition  follow the instructions below:

If the turtle is **NOT ACTIVE**

Keep the turtle on board and:

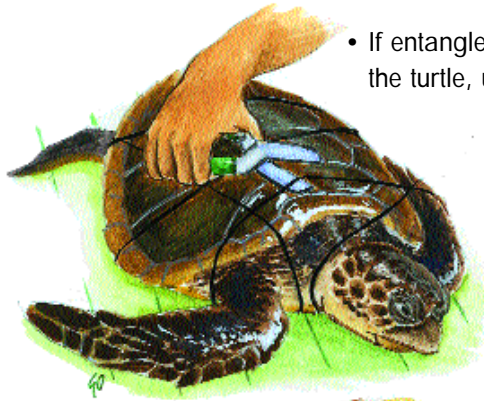
- look for a shady and out-of-the-way place
- raise the hindquarters of the turtle about 20 cm off the deck
- keep it damp using a water-soaked towel. Do not place the turtle in a container holding water
- repeat the techniques  every two hours until the turtle responds to at least one of them, for up to 24 hours
- if the turtle reacts to one of them, it can be considered **INJURED**. Leave it on board for a few hours, then follow the suggestions on the next page
- if there is no response or if the response is undetectable, after 24 hours the turtle can be considered **DEAD**



LONGLINES

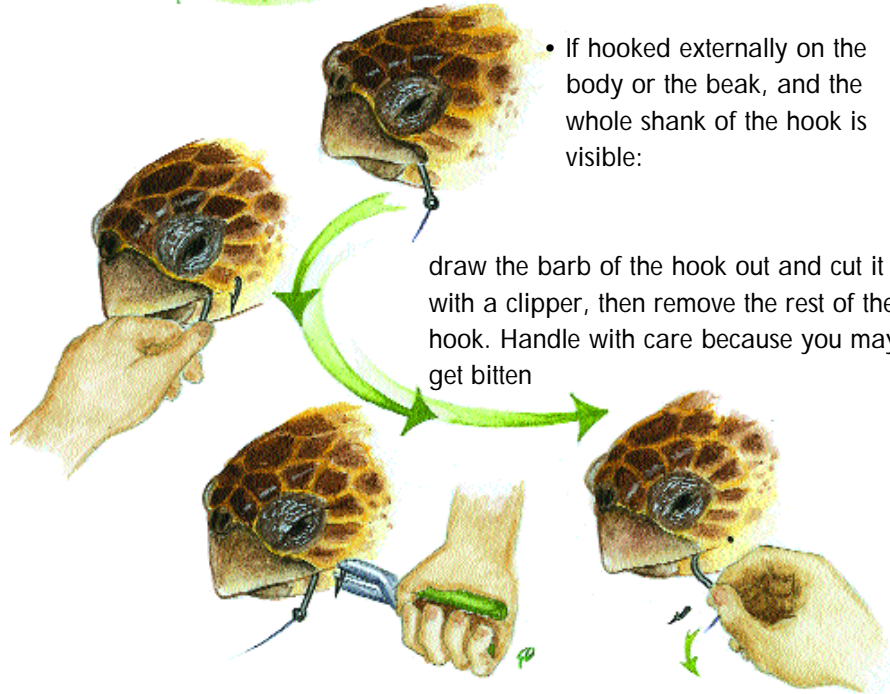
If the turtle is **HEALTHY** or **INJURED**

- If entangled, remove the line to release the turtle, using clippers to cut the line

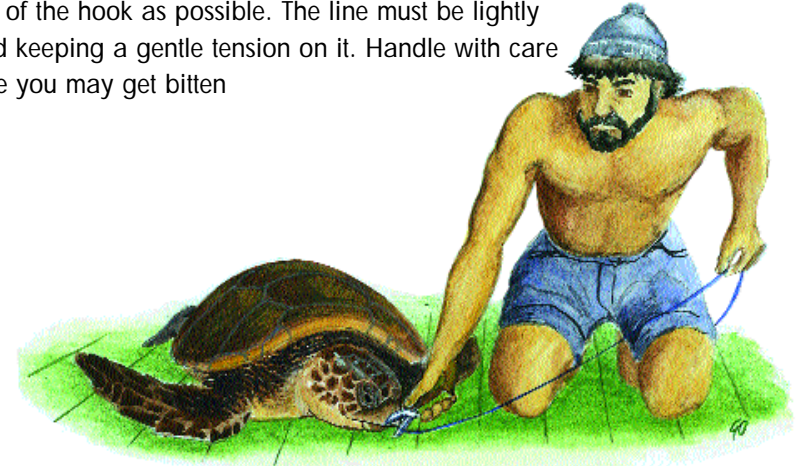


- If hooked externally on the body or the beak, and the whole shank of the hook is visible:

draw the barb of the hook out and cut it with a clipper, then remove the rest of the hook. Handle with care because you may get bitten



- If the shank of the hook is partly visible or not visible, cut the line as close to the eye of the hook as possible. The line must be lightly handled keeping a gentle tension on it. Handle with care because you may get bitten



Return the turtle gently to the sea, head first, vertically, over the stern of the boat:

- with vessel in neutral gear
- without dropping the turtle on the deck



RECOMMENDATION

- If you have a Log Book remember to record any information about the turtle caught
- Remember to respect the provisions of the law concerning this fishing method



TRAWLS

- Once the net is on board, try to spot the turtle in the terminal bag
- Always put the trawl down on the deck before opening and emptying it
- Separate the turtle from the rest of the catch and by-catch



After assessing the turtle's condition  follow the instructions below:

If the turtle is **HEALTHY** or **INJURED**




Return the turtle gently to the sea, head first vertically, over the stern of the boat:

- with vessel in neutral gear
- with the net not trawling
- without dropping the turtle on the deck

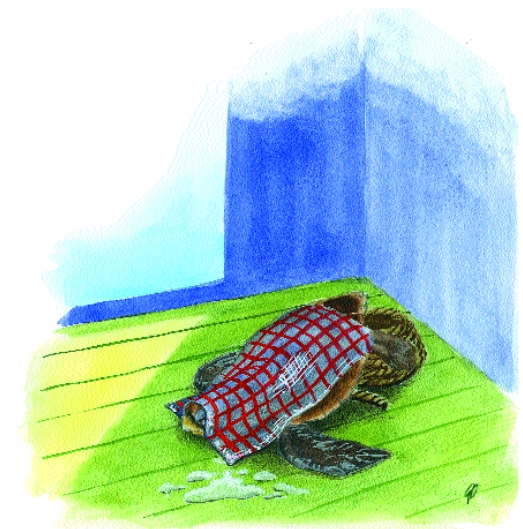
If the turtle is **NOT ACTIVE**

Keep the turtle on board and:

- look for a shady out-of-the-way place
 - raise the hindquarters of the turtle about 20 cm off the deck
 - keep it damp using a water-soaked towel. Do not place the turtle in a container holding water 
 - repeat the techniques every two hours until the turtle responds to at least one of them, for up to 24 hours
 - if the turtle reacts to one of them, it can be considered **INJURED**
- Leave it on board for a few hours, before releasing it
- if there is no response, or if the response is undetectable after 24 hours the turtle can be considered **DEAD**

If the turtle is **DEAD**

- The best thing to do is to bring the turtle into harbour, store it in a freezer, and then give it to the competent Authority
- If it is not possible to keep the dead turtle on board, return it to the sea



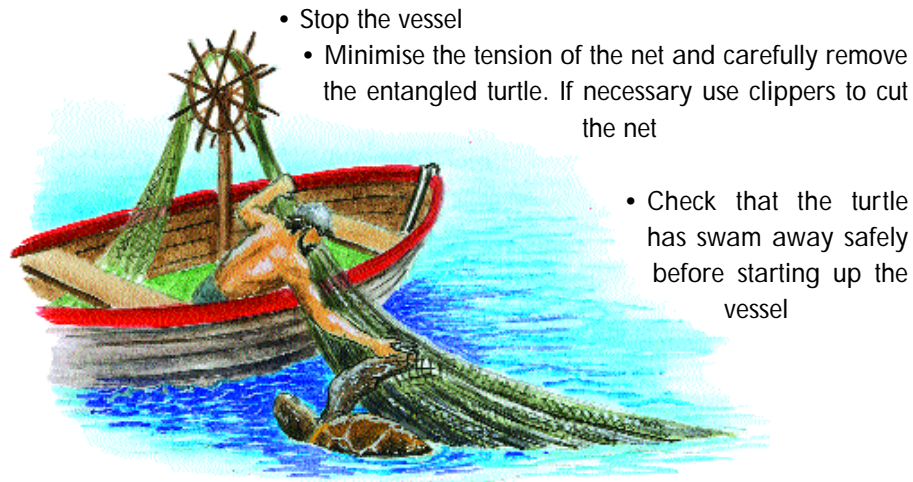
RECOMMENDATION

- If you have a Log Book remember to record any information about the turtle caught.
- Remember to respect the provisions of the law concerning this fishing method
- Refrain from trawling near turtle nesting beaches during turtle nesting season
- Limit trawl shots to less than ninety minutes in areas of high turtle density

GILLNETS

- Scan the net as far ahead as possible to spot turtles as early as possible
- Immediately upon sighting the turtle reduce the speed of the net reel and carefully pull in the net

If the turtle is too large to bring on board



- Stop the vessel
- Minimise the tension of the net and carefully remove the entangled turtle. If necessary use clippers to cut the net
- Check that the turtle has swam away safely before starting up the vessel

If the turtle can be taken on board



- Carefully set the turtle free from the net. If necessary use clippers to cut the net
- Hold the turtle by the side of the carapace or by the flippers. Do not use any sharp objects or gaffs to retrieve it

After assessing the turtle's condition  follow the instructions below:


If the turtle is **HEALTHY** or **INJURED**

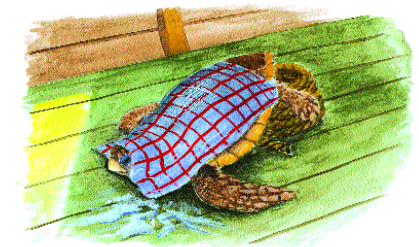
Return the turtle gently to the sea, head first, vertically, over the stern of the boat:



If the turtle is **NOT ACTIVE**

Keep the turtle on board and:

- look for a shady and out-of-the-way place
- raise the hindquarters of the turtle about 20 cm off the deck
- keep it damp using a water-soaked towel. Do not place the turtle into a container holding water  every two hours until the turtle responds to at least one of them for up to 24 hours
- if the turtle reacts to one of them, it can be considered **INJURED**. Leave it on board for a few hours before releasing it.
- if there is no response, or if the response is undetectable after 24 hours, the turtle can be considered **DEAD**



If the turtle is **DEAD**

- The best thing is to bring the turtle into harbour, store it in a freezer, and then give it to the competent Authority
- If it is not possible to keep the dead turtle on board, return it to the sea

RECOMMENDATION

- If you have a Log Book remember to record any information about the turtle caught.
- Remember to respect the provisions of the law concerning this fishing method
- Refrain from fishing near turtle nesting beaches during turtle nesting season



Assessment of Turtle's Condition

* In order to assess the turtle's condition it is possible to use some techniques which allow the caught animal to be classified as:

healthy, injured, not active, dead



HEALTHY

- * The turtle lifts its head strongly when breathing.
- * When a flipper is pulled there is a strong withdrawal reaction.
- * When placed on solid ground such as a floor the turtle attempts to make crawling movements.



When the turtle is lifted, it moves as if swimming and it holds its limbs and head above the plane of the ventral surface of the body **HEALTHY**



When the turtle is lifted, it does not move and its limbs and head are held below the plane, of the ventral surface of the body

INJURED

- * The head and limbs are mostly held below the plane of the ventral surface of the body. The movements are very erratic or spasmodic and non-directional, appearing uncontrolled.
- * The recovery techniques produce only a weak localised flinch response.
- * When a flipper is pulled or pressure is applied on the neck, there is only a weak or absent withdrawal reaction.

The turtle reacts, even with a slight response, to at least one of the recovery techniques: **INJURED**



An absent or undetectable response to all the recovery techniques: **NOT ACTIVE**



NOT ACTIVE

- * Recovery techniques do not produce any response.
- * When a flipper is pulled or pressure is applied on the neck, there is no withdrawal reaction.
- * No attempt is made by the turtle to move on solid ground such as a floor.

ATTENTION: if you find a turtle with flesh that has begun to rot and that stinks, it means that it is surely **DEAD**



RECOVERY TECHNIQUES

Resuscitation



Holding the turtle by the side of the carapace, lift one side about 10 cm then lift the other side and rock it gently from left to right and right to left

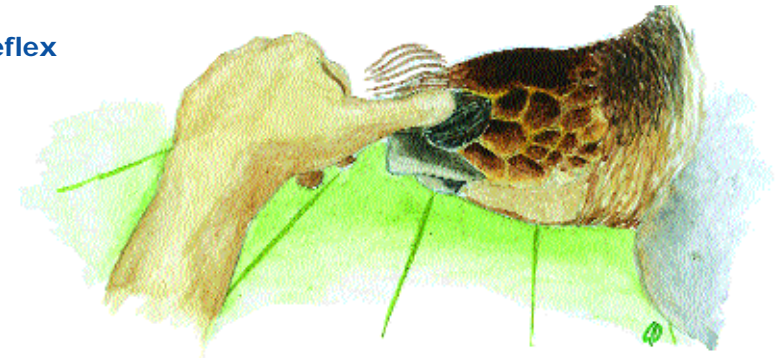


RECOMMENDATION WHEN USING TECHNIQUES

- * While applying the techniques, observe the turtle closely and carefully and handle it firmly and gently without injuring or damaging it.
- * Techniques can be used quickly but only twice in succession. In case of uncertainty of response, a second attempt can be made ten minutes after the first one.

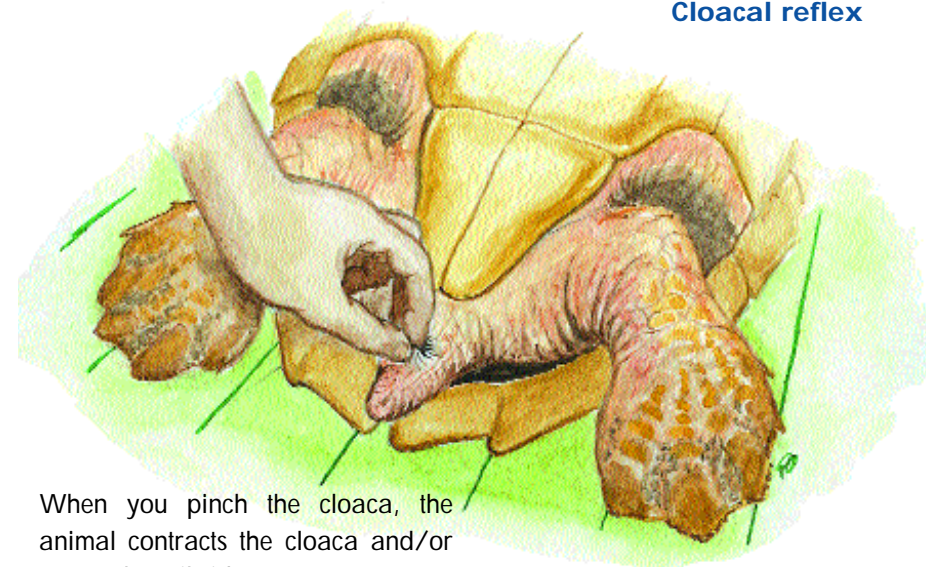
RECOVERY TECHNIQUES

Eye reflex



When you lightly touch the eye or the upper eyelid with your finger, the animal exhibits a flinch response closing its eyes

Cloacal reflex



When you pinch the cloaca, the animal contracts the cloaca and/or moves the tail sideways



Glossary

Adult: turtles that have attained adult size, i.e. that are larger than minimum breeding size (Mediterranean region: loggerhead turtle about 60 cm, green turtle about 90 cm).

Beak: sharp and hard horny part that covers the turtle's mouth.

Carapace: dorsal osseous shell of the turtle covered by horny scutes or leathery skin.

Cloaca: terminal region of the gut of most vertebrates into which kidney and reproductive ducts open. Externally there is only one posterior opening to the body, the cloacal aperture.

Coma: state of deep unconsciousness usually lasting a long time and in which animals have lost their cerebral functions, mobility and sensitivity, whereas circulation of the blood and respiration are preserved.

Comatose: in a coma.

Competent Authority: the authority in charge of recording events concerning fishing activities and/or protected species.

Chamber: a hole from 40 to 50 cm deep in the shape of a flask in which eggs are laid.

Egg laying: process of depositing eggs in a hole dug in the sand.

Extinction: when a species disappears from the earth.

Flipper: limbs of the sea turtle. Front flippers are particularly flattened and elongated and used simultaneously for propulsion, whereas the rear ones are shorter and act as a rudder.

Hatchlings: sea turtles that have quite recently hatched and are still on the nesting beach or at sea only until they commence feeding (loggerhead about 4 cm; green turtle about 5 cm).

Incubation period: the time that elapses between laying of the eggs and the emergence of the hatchlings on the surface of the beach.

Life cycle: the sequence of events from the birth of an individual to its death.

Migrate: move, typically or relatively for long distances, periodically or seasonally from one habitat or location to another.

Nest: place on the beach where the eggs are incubated from when they are laid to when they hatch out.

Juvenile: animals who are not yet adult. Turtles that have commenced feeding but have not attained sexual maturity.

Reptiles: class of cold-blooded vertebrates well adapted to life on land and that lay eggs on the ground. They appeared on Earth about 270 million years ago and today are represented by lizards, snakes, crocodiles and turtles, etc.

Rescue Centre: place where animals (i.e. sea turtles) are rescued and receive hospitality and care before being returned to the wild.

Scutes: horny shields covering the carapace and plastron. The shape and size do not correspond to the underlying bony plates. They are important for identifying species of marine turtles.

Species: group of «similar» animals able to breed with each other and to give birth to fertile offspring.

Threat: indication or warning of a kind of danger that can affect the species survival.

Useful Address

Notes

2001 RAC/SPA

Regional Activity Centre For Specially Protected Areas

Boulevard de l'Environnement, BP 337 - 1080 Tunis Cedex - Tunisie