



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

# **IOTC Recommended Best Practices for the Handling of SSI**

## ***IOTC ROS SFO TR17.7***

Category: IOTC fisheries impacts on the ecosystems, interactions  
with species of special interest and mitigation

*[IOTC ROS SFO TR17]*



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

io tc ctoi

# Tuna fisheries impact a large number of other species, including:

- Marine birds
  - Turtles
  - Sharks and rays
  - Billfish
  - Marine mammals
- From time to time some of these sensitive species are accidentally caught and need to be released in the best possible condition possible
  - Observers are not specifically allocated to release / handle animals, but can be involved if deemed safe



CapMarine  
Capricorn Marine Environmental



# Turtle Interactions with IOTC Fisheries



## Juvenile turtles at risk from:

- Purse-seiners (FADs)
- Longliners
- Gillnets

## Leatherback turtles at risk from:

- Longliners
- Gillnets



## Adult turtles at risk from:

- Trawlers
- Gillnets





Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Best Practices Marine Turtles (Res 12/04)

## General instructions to all fisheries:

6. “(...) fishermen (...) to bring aboard, if practicable, any captured marine turtle that is comatose or inactive as soon as possible and foster its recovery, including aiding in its resuscitation, before safely returning it to the water.

(...) fishermen (*note of trainer: and observers*) to be aware of and use proper mitigation, identification, handling and de-hooking techniques and keep on board all necessary equipment for the release of marine turtles, in accordance with handling guidelines in the IOTC Marine Turtle Identification Cards.



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Best Practices Marine Turtles (Res 12/04)

## Instructions to longline vessels

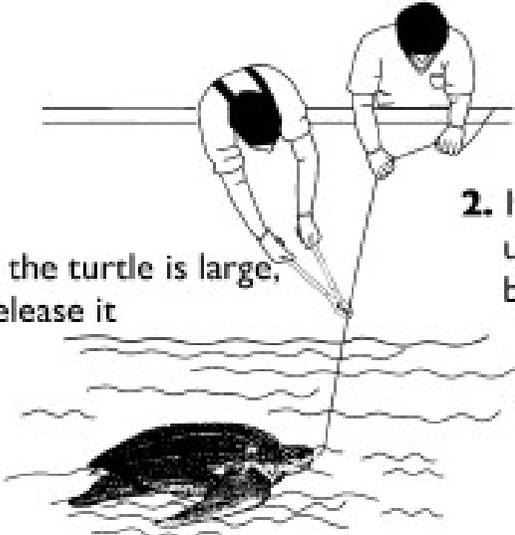
8. “(...) all **LONGLINE** vessels carry line cutters and de-hookers in order to facilitate the appropriate handling and prompt release of marine turtles caught or entangled, and that they do so in accordance with IOTC Guidelines

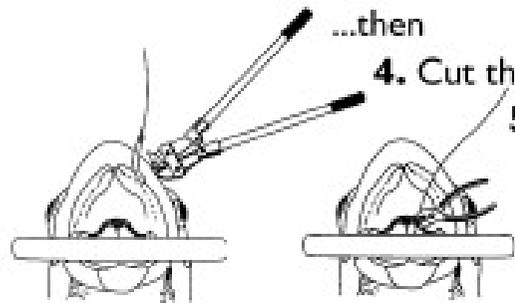
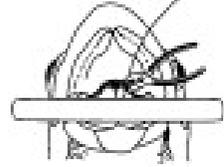
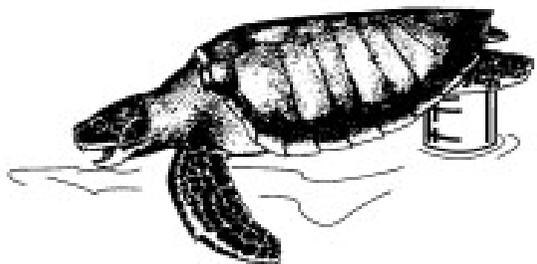


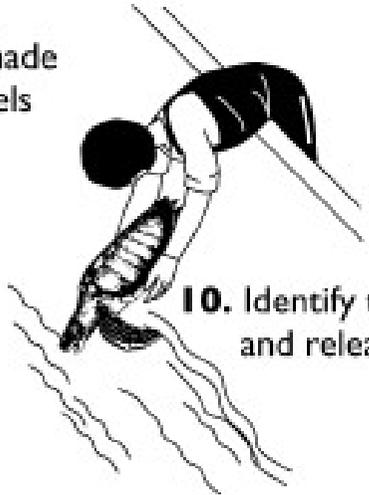
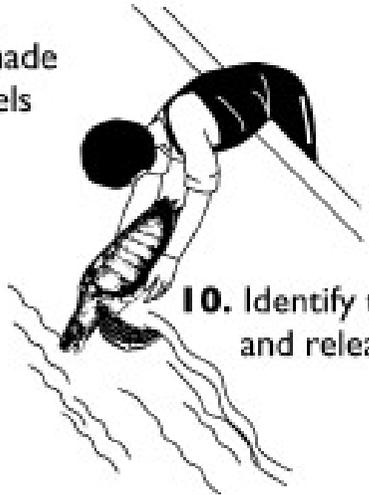
CapMarine  
Capricorn Marine Environmental



# RELEASING HOOKED TURTLES

1. If the turtle is large, release it  

2. If it is small, use a dip net to bring it on board  

3. Place a piece of wood in the turtle's mouth so it cannot bite you...  
...then  
4. Cut the hook, or  
5. Cut the line  

6. Assess the turtle's condition before releasing it  

7. Raise the rear flippers off the deck to drain water from the lungs  

8. Place the turtle in the shade and cover with wet towels  

9. Depending on how lively it is, keep it on board between 4 and 24 hours  

10. Identify the turtle and release it  

11. Record the interaction in the fishing log book  




# RELEASING HOOKED TURTLES



## Able to bring on-board:

- If hooked on the beak dehook it.
- If hooked on the throat cut the branch



## Too big to bring on-board

- Bring it as close as possible without pulling too hard on the branch line.
- Cut the line the closest possible to hook



# Best Practices Marine Turtles (Res 12/04)

## 9.a) Instructions to purse-seine vessels

- i. "(...) avoid encirclement of marine turtles, (...) if encircled or entangled, take practicable measures to safely release the turtle in accordance with the IOTC guidelines."
- ii. "(...) release all marine turtles observed entangled in fish aggregating devices (FADs) or other fishing gear;"
- iii. "If a marine turtle is entangled in the net, stop net roll as soon as the turtle comes out of the water; disentangle the turtle without injuring it before resuming the net roll; (...) assist the recovery of the turtle before returning it to the water"
- iv. "Carry and employ dip nets, when appropriate, to handle marine turtles."



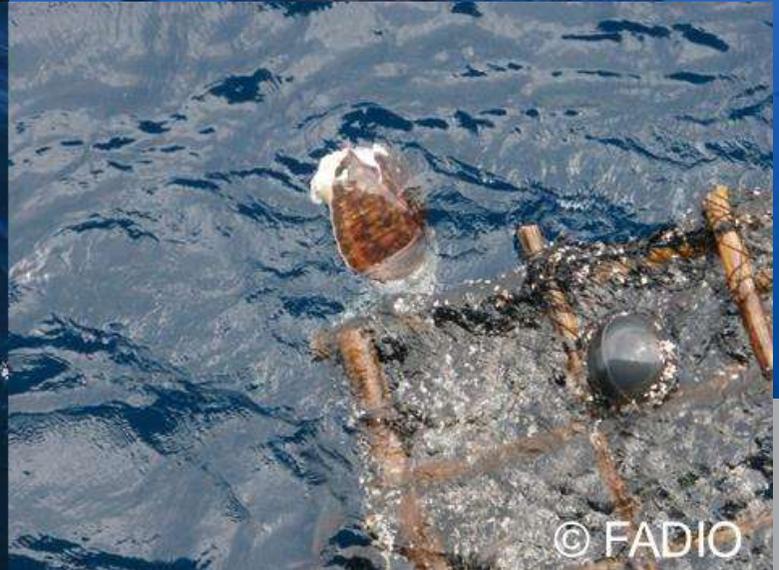


Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Turtle Release

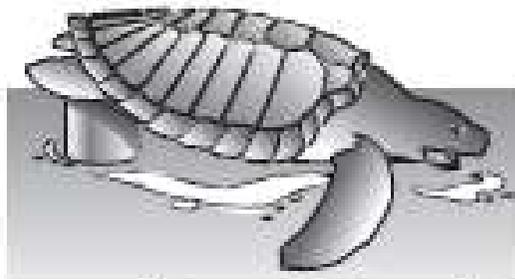


CapMarine  
Capricorn Marine Environmental

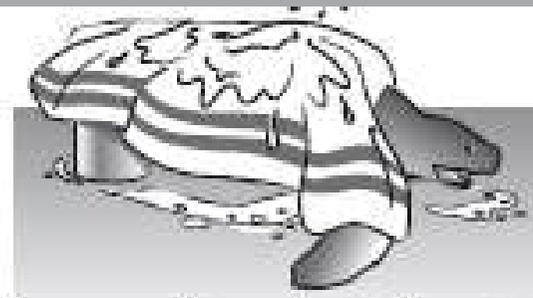


## Details on Turtle Revival

- Place the turtle on deck and elevate hindquarters
- Keep the sea turtle shaded and damp or moist but under no circumstance place in a container holding water.
- Periodically, gently rock the turtle side to side
- Gently touch the eyes and pinch the tail periodically to see if it reacts
- Continue resuscitation attempts for at least 4 h and up to 24 h.
- release over the stern with the engine in neutral.



Raise rear flippers 20 cm off deck  
to drain water from lungs



Place turtle in shaded location,  
covered with wet towels



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# DANGER!

**Although non-aggressive, turtles can cause serious injuries when handled improperly:**

- Powerful jaw -> bites
- Claws flippers -> scratches
- Powerful flippers
- Adult turtles are heavy and must be lifted properly
- Sampling equipment (scalpel) should be handled with care
- Wear a lifejacket when released



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

## OBSERVER TASKS TURTLE CAPTURES

- Observe, record and report fisherman's actions concerning the following of IOTC Res. 12/04;
- If the turtle is not brought on board:
  - Identify the turtle and provide an size estimation
  - Photograph the turtle and its interaction with the gear
  - Fill in data collection form
- If the turtle is brought on board:
  - Untangle the turtle (use knife and scissors if necessary)
  - Photograph, measure and collect samples if needed
  - Revive the turtle, if necessary
  - Request crew to release the turtle gently.
  - Fill in the data form



CapMarine  
Capricorn Marine Environmental



# GOOD PRACTICES (OBSERVER AND CREW)



➤ Hold the turtle by the side of the shell.



➤ Return the turtle gently to the sea.

**DO NOT:**

❌ Do not place the turtle upside down. Turtles cannot breathe in this position.

❌ Do not expose the turtle to the sun.

❌ Do not lift them by the flippers.





Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

## Best Practices Whale Sharks (Res 13/05)

- 3. (...) whale shark unintentionally encircled in the purse seine net, the master of the vessel shall**
  - a). “(...) take all reasonable steps to ensure its safe release, while taking into consideration the safety of the crew. These steps shall follow the best practice guidelines for the safe release and handling of whale sharks developed by the IOTC Scientific Committee;”



CapMarine  
Capricorn Marine Environmental

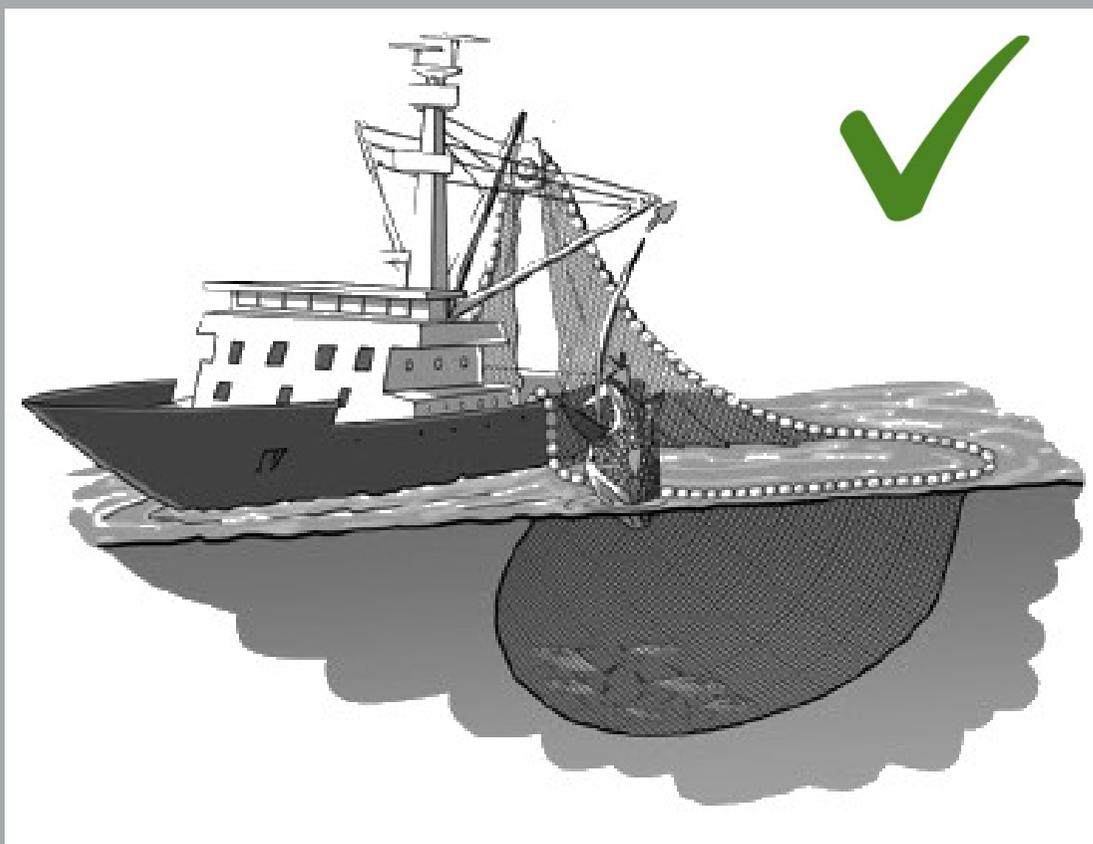


Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien  
iotc ctoi

# HOW TO RELEASE WHALE SHARKS



- The first technique is applied if the whale shark is at the surface and separated from the tunas.
- Either the shark tears the net by its weight and passes outside or, if the operation presents no danger, a crew member cuts a few meters of the net in front of the mouth of the shark to release it.



CapMarine  
Capricorn Marine Environmental



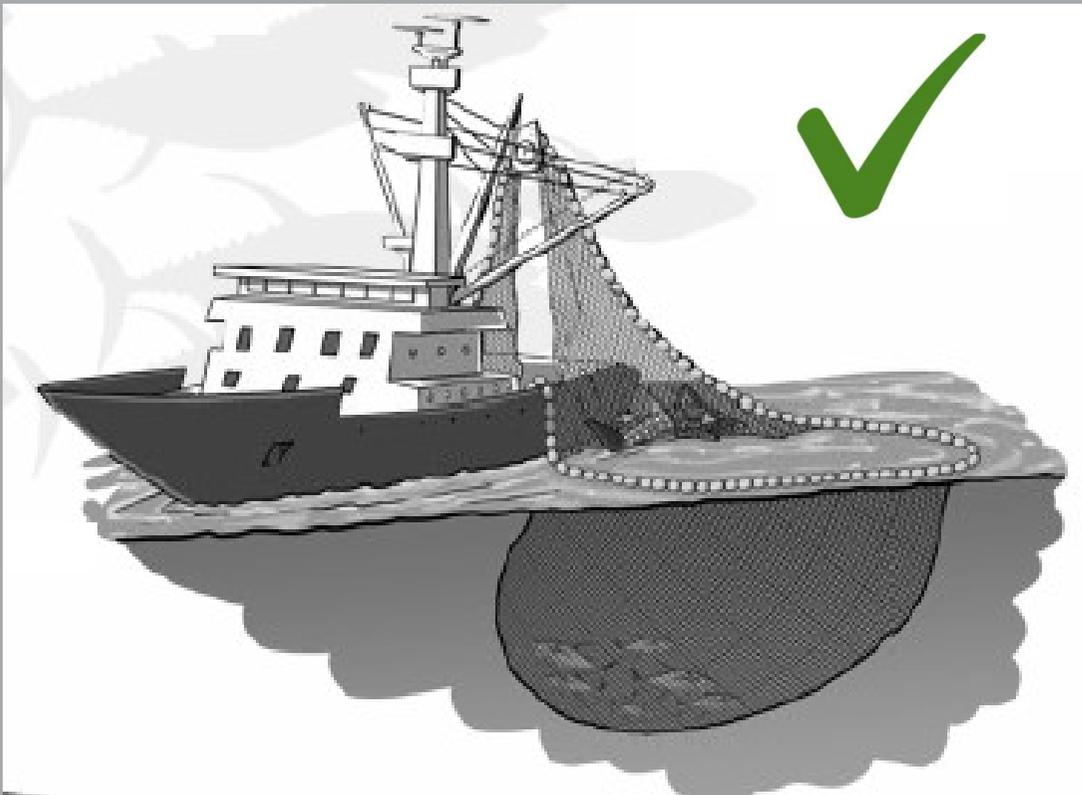
Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# HOW TO RELEASE WHALE SHARKS



- For the second technique, the crew in charge of the net hauling operation manages with the winch and the capstan to bring the whale shark close to the hull, to stand the animal on the net and to roll it outside the bunt.
- A rope placed under the animal and attached to the float line could help rolling the whale shark out of the net.



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## OBSERVER TASKS WHALE SHARKS ENCIRCLEMENT

- ☞ Observers to “report the incident with the following information:
- ☞ i) the number of individuals;
  - ☞ ii) a short description of the interaction, including details of how and why the interaction occurred, if possible;
  - ☞ iii) the location of the encirclement;
  - ☞ iv) the steps taken to ensure safe release;
  - ☞ v) an assessment of the life status of the animal on release, including whether the whale shark was released alive but subsequently died.



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## Best Practices Sharks (Multiple Res.)

- **Vessels to promptly release unharmed, to the extent practicable, thresher, oceanic whitetip and blue sharks when brought alongside for taking on-board the vessel.**
- **Fishers to release these species if recognised on the line before bringing them on-board the vessels.**
- **Fishers to release live sharks, especially juveniles and pregnant sharks that are caught incidentally and are not used for food and/or subsistence.**
- **Fishers to be aware of and use identification guides (e.g. IOTC Shark and Ray Identification in Indian Ocean Fisheries) and handling practices.**



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

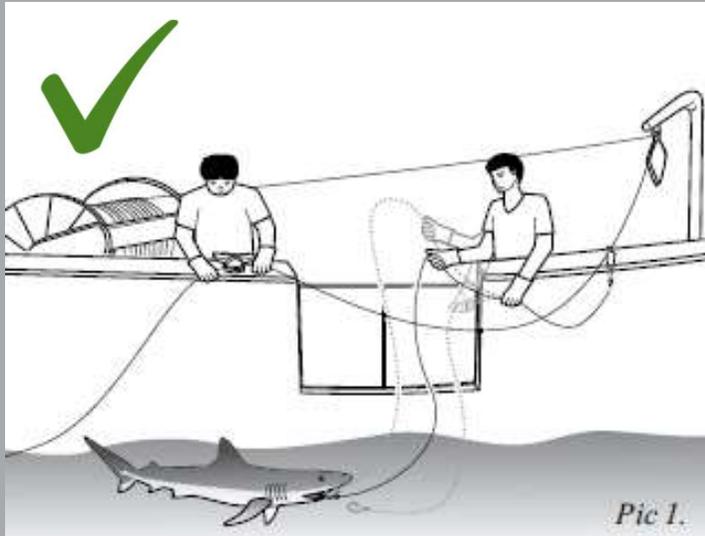
# Removing hooks onboard



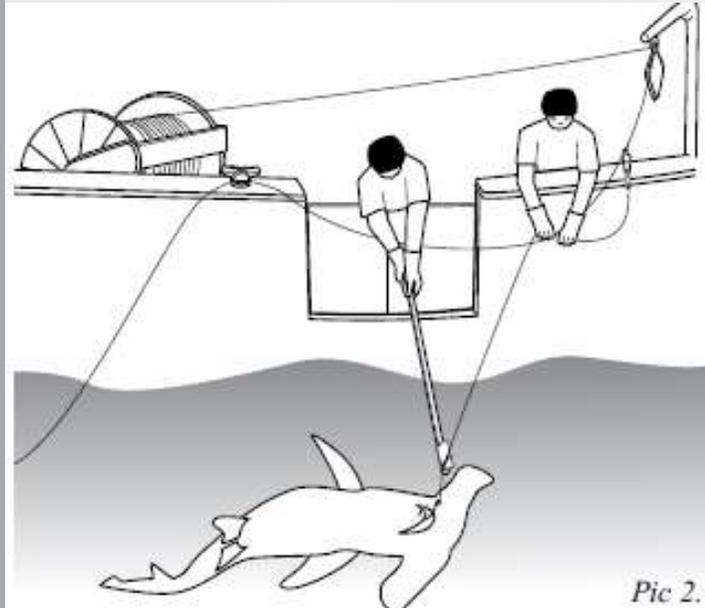
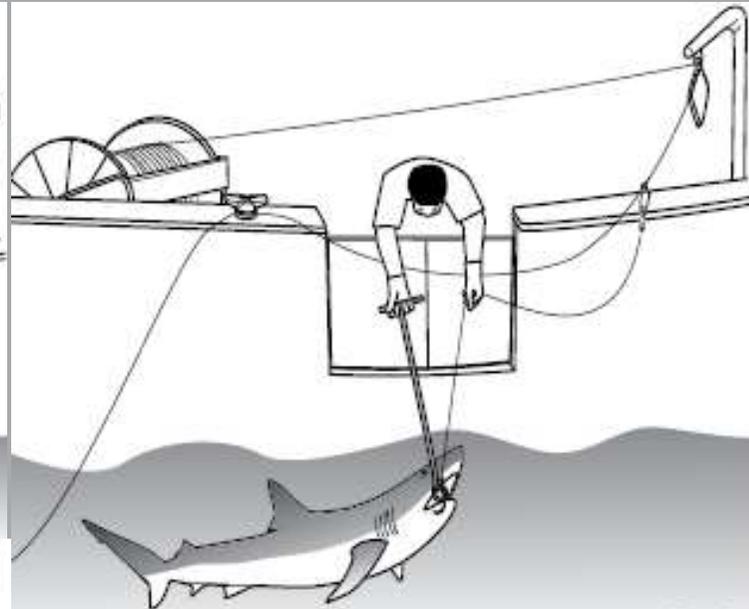
CapMarine  
Capricorn Marine Environmental



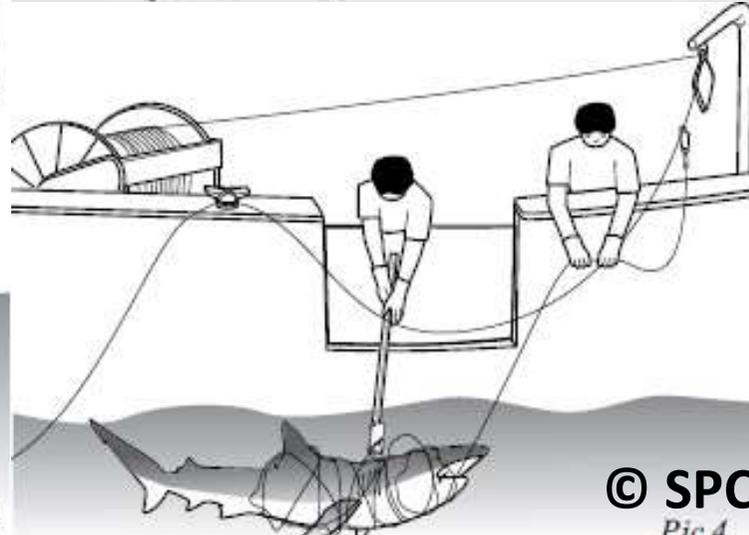
# Shark Release Maneuvers (LL)



Pic 1.



Pic 2.



© SPC  
Pic 4





# Shark Release Maneuvers (LL)



Pic 5.



Pic 7.



Pic 8.



Pic 6.



© SPC

Pic 9.





Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## OBSERVER TASKS SHARK CAPTURES

Observers to “report the incident with the following information:

- a. the species of the individual
- b. a short description of the interaction, including details of how and why the interaction occurred, if possible
- c. the location of the interaction
- d. the steps taken to ensure safe release;
- e. an assessment of the life status of the animal on release
- f. comments on the respect of IOTC good practices by the crew



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Shark Release Maneuvers (Purse-seiners)





Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

## Shark Release Maneuvers (Purse-seiners)



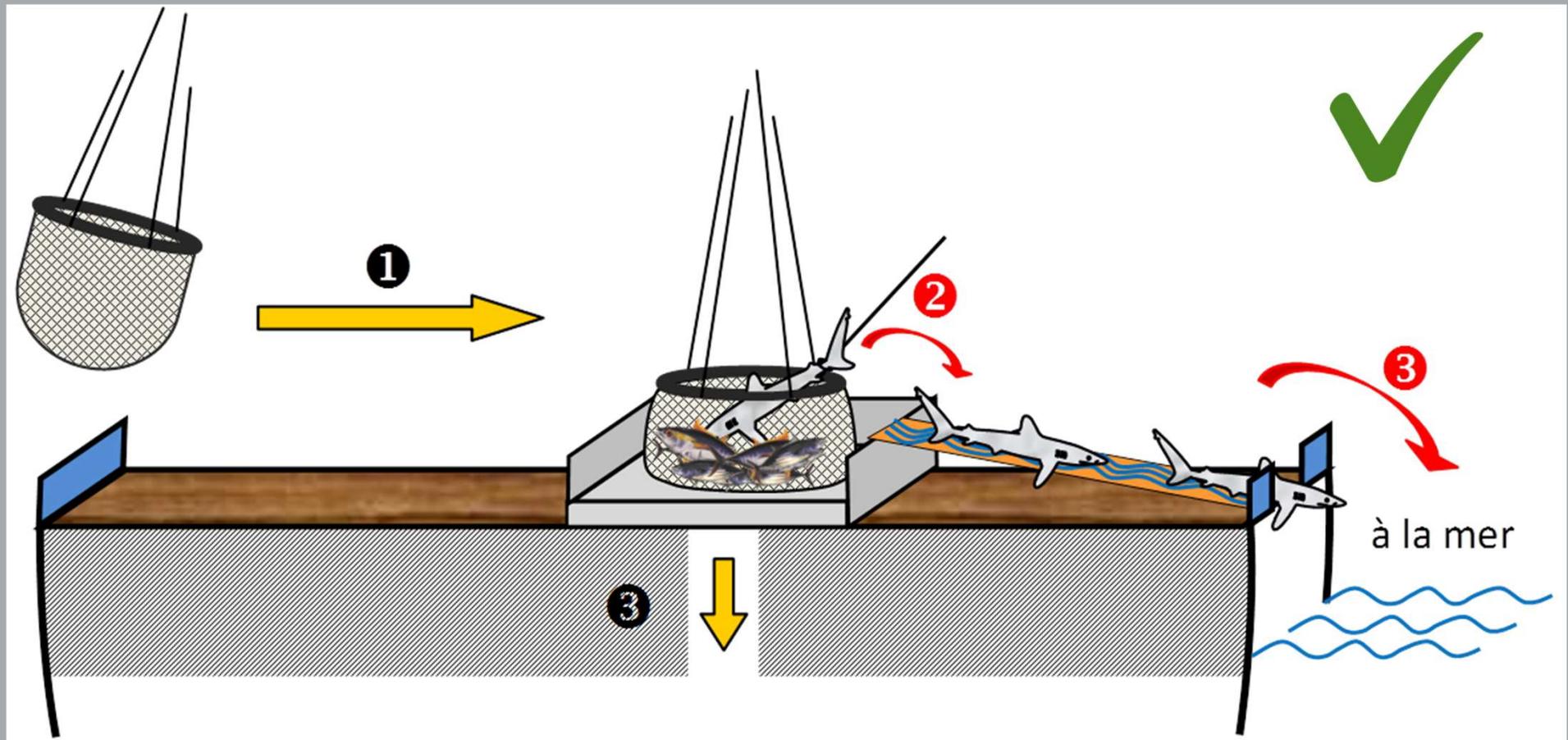
Note: Side valves / opening on deck



CapMarine  
Capricorn Marine Environmental



# Shark Release Maneuvers (Purse-seiners)





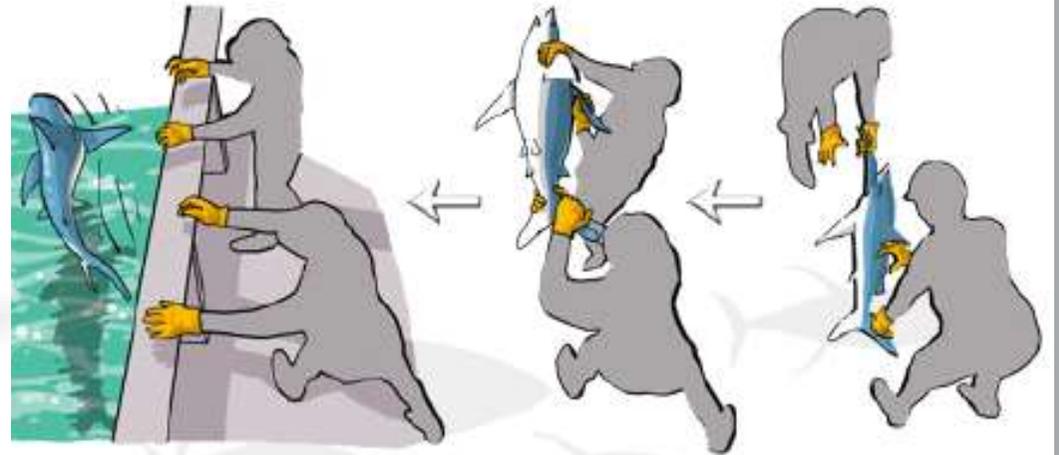
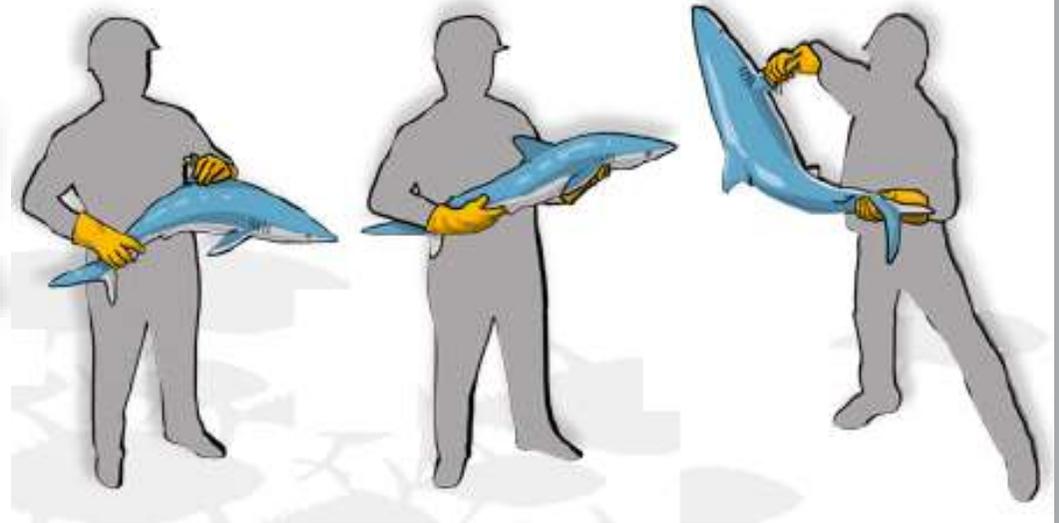
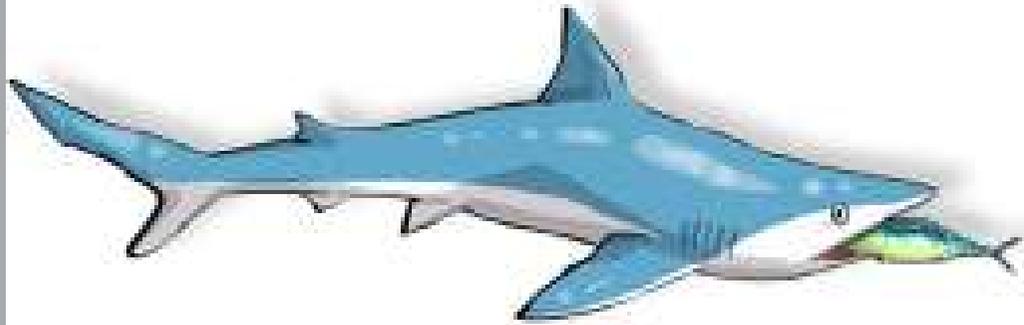
Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# GOOD PRACTICES (CREW)



CapMarine  
Capricorn Marine Environmental



**DO NOT:**  
DO NOT:

- Under no circumstances should a shark be lifted by its tail or head.
- Do not carry or drag the shark by inserting your hands in its gill slits.
- Do not expose the animals to the sun.
- Don't expose animals to physical trauma (do not throw it, whatever the distance; do not push it too harshly; and avoid squeezing fish around the belly, as this can damage internal organs, etc.).

**DO NOT:**  
DO NOT:

- Do not insert a gaff or other pointed objects in the body, jaw or gills to carry or drag the animal.
- Don't expose animals to physical trauma (do not throw it, whatever the distance; do not push it too harshly; and avoid squeezing fish around the belly, as this can damage internal organs, etc.).

**DO NOT:**  
DO NOT:

- Do not use bind wire tightly around the animals' body or insert wire into their skin in order to tow or lift them.





# Best Practices Mobulid Rays (Res. 19/03)

## 5. (...) to all fishing vessels, other than those carrying out subsistence fishery

“(...) to promptly release alive and unharmed, to the extent practicable, mobulid rays as soon as they are seen in the net, on the hook, or on the deck, and do it in a manner that will result in the least possible harm to the individuals captured. The handling procedures detailed in Annex I, while taking into consideration the safety of the crew shall be implemented and followed.”

9: (...) fishermen are aware of and use proper mitigation, identification, handling and releasing techniques and keep on board all necessary equipment for the release of mobulid rays in accordance with the handling guidelines of Annex 1.





# Best Practices Mobulid Rays (Res. 19/03)

## ANNEX 1: Live release handling procedures

1. *Prohibit the gaffing of rays.*
2. *Prohibit the lifting of rays by the gill slits or spiracles.*
3. *Prohibit the punching of holes through the bodies of rays (e.g. to pass a cable through for lifting the ray).*
4. *Rays too large to be lifted safely by hand shall be, to the extent possible, brailed out of the net using best available method such as those recommended in document IOTC-2012-WPEB08-INF07.*
5. *Large rays that cannot be released safely before being landed on deck, shall be returned to the water as soon as possible, preferably utilizing a ramp from the deck connecting to an opening on the side of the boat, or if no such ramp is available, lowered with a sling or net.*





# GOOD PRACTICES (CREW)

**DO NOT:**

- Do not carry a ray by its tail: this is dangerous!
- Do not drag, carry or hold a ray only by its "cephalic lobes".
- Do not carry or drag the shark by inserting your hands in its gill slits.
- Do not insert a gaff or other pointed objects in the body.
- Do not expose the ray to the sun.

**✓**





Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

# OBSERVER TASKS SHARK AND RAYS ENCIRCLEMENT

Observers to “report the incident with the following information:

- a. the number of individuals;
- b. a short description of the interaction, including details of how and why the interaction occurred, if possible;
- c. the location of the encirclement;
- d. the steps taken to ensure safe release;
- e. an assessment of the life status of the animal on release
- f. comments on the respect of IOTC good practices by the crew



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

## Best Practices Marlins (Res. 18/05)

**Paragraph 6:** In addition, CPCs may consider the adoption of additional fisheries management measures to limit fishing mortality such as: releasing any specimen brought alive on-board or alongside for taking on board the vessel; modify fishing practices and/or fishing gears to reduce juveniles catches; adopting spatial/temporal management measures to reduce fishing in nursery grounds; limiting days at sea and/or fishing vessels exploiting billfishes.



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Releasing Marlins



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## OBSERVER TASKS

Observers to “report the incident with the following information:

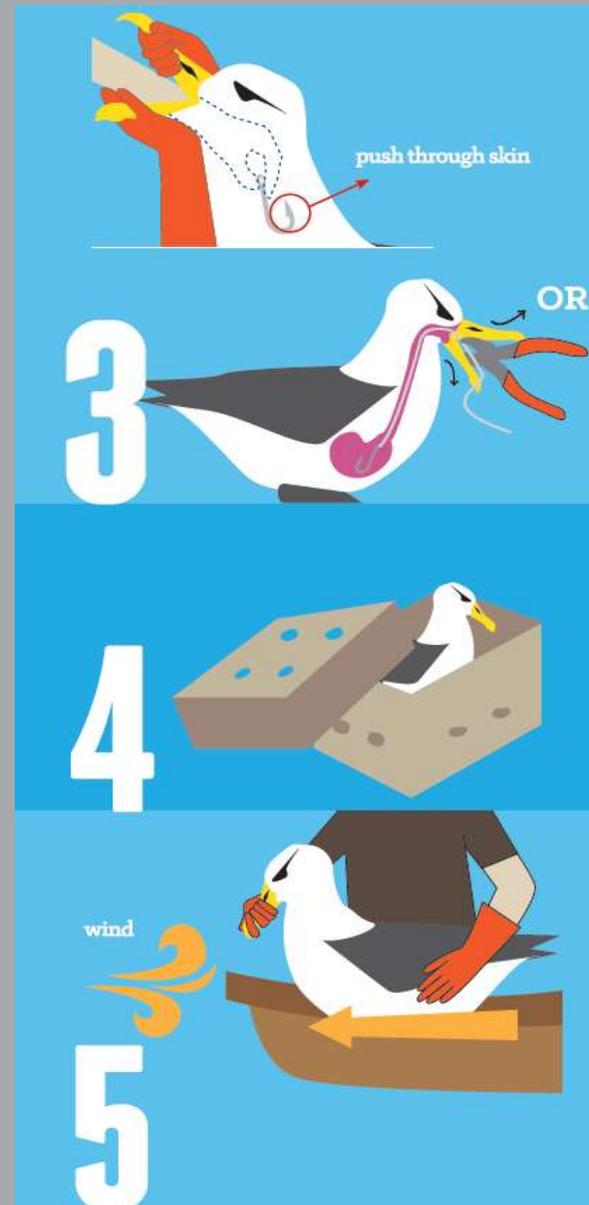
- a. the species of the individual
- b. a short description of the interaction, including details of how and why the interaction occurred, if possible
- c. the location of the interaction
- d. the steps taken to ensure safe release;
- e. an assessment of the life status of the animal on release
- f. comments on the respect of IOTC good practices by the crew



CapMarine  
Capricorn Marine Environmental



# Best Practices for Seabird Handling





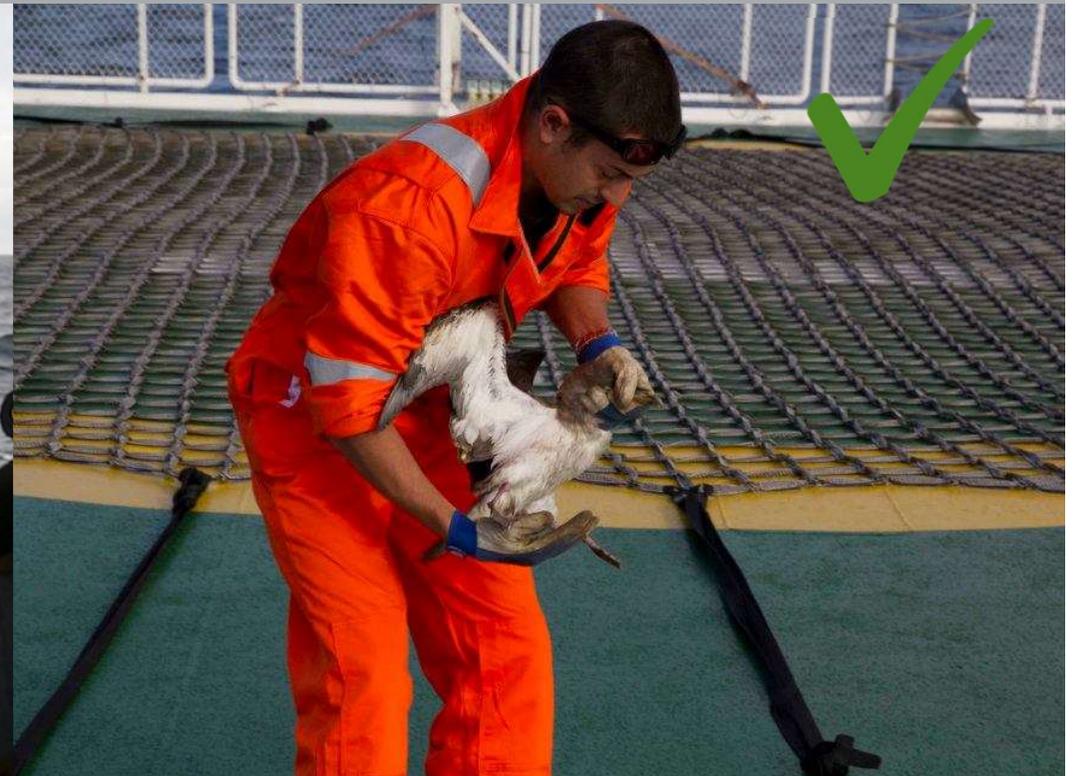
Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Best Practices for Seabird Handling



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

iotc ctoi

# Best Practices for Seabird Handling



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## OBSERVER TASKS

- Observe, record and report fisherman's actions concerning the following of IOTC best practices;
- Identify the bird and provide an size estimation
- Photograph the bird and its interaction with the gear
- If needed explain to the crew how to follow best practices for seabirds handling.
- Help the crew to dehook the bird (if necessary)
- Photograph, measure and collect samples if needed
- Request crew to allow the bird to recover by placing it on a box with wholes for breeding
- Advise the crew to release the bird against the wind.



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

## OBSERVER TASKS

Observers to “report the incident with the following information:

- a. the number of individuals;
- b. a short description of the interaction, including details of how and why the interaction occurred, if possible;
- c. the location of the interaction;
- d. the steps taken to ensure safe release;
- e. an assessment of the life status of the animal on release
- f. comments on the respect of IOTC good practices by the crew



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

# ANY QUESTIONS?



*send us a message via Talents LMS*

*Icons by the NounProject (<https://thenounproject.com/>)*



CapMarine  
Capricorn Marine Environmental