
LIVE RELEASE HANDLING PROCEDURES FOR MOBULIDS

Mobulid ray safe-handling and live release procedures

The primary aim of the following Minimum Standards for Safe Handling and Live Release Procedures is to ensure the highest level of survival of mobulids and that, whenever possible, prompt, and effective action will be taken to return the mobulid to the sea and prioritising that the life and safety of the crew is not compromised and that crew members shall endeavour to avoid hazards in the safe handling and release operations for mobulid.

Safety first: These minimum standards should be considered in light of safety and practicability for crew. Crew safety should always come first. Also minimising manual handling and using appropriate technical release devices instead is preferable to ensure safety of the crew and the animals at the same time.

General principles applying to all gears

- Mobulid rays shall be released as soon as possible. Reducing the release time is the principal factor in determining survival of the released individual – survival is drastically reduced after more than 3 minutes of handling
- Prohibit the use of gaffes, hooks, or ropes to move or lift mobulid rays.
- Prohibit lifting, dragging, carrying or holding mobulid rays by the horns ("cephalic lobes"), tail, gill slits, mouth, wing, eye or spiracle (opening behind the eye) even by hand. Prohibit dragging by the wings but lifting by the wings is allowed when no other option is available.
- Prohibit the punching of holes through the bodies of mobulid rays (e.g. to pass a cable through for lifting the mobulid ray).
- Minimise direct contact with the skin of mobulid rays to prevent damage to their protective mucus layer and epidermis; handling should be avoided where possible and, if necessary, conducted with wet, non-abrasive materials.

Best Practices for live release from Purse seiners

- If brought onboard, do not allow the ray to go through the loading chute to the lower deck.
- **Small and medium sized rays** shall be released using stretchers to facilitate release in cases when a stretcher is not available, manual release should include:
 - 2 or 3 crew who carry the animal belly-down. The ray should be held far away from the tail to avoid contact with the barb (one mobulid species has a barb near the base of its tail).
 - Do not lift the animal by the tail
 - Do not drag, carry or hold an animal by its cephalic lobes ("horns") or in its gill slits.
 - Do not expose the ray for long to air or sun.
 - Do not insert your hands in the mouth or gill slits to carry
- **Large and medium sized rays** shall be, to the extent possible, directly released from the net using the brailer or directly from the brailer (see methods recommended in document [IOTC-2012-WPEB08-INFO7](#)).

- If a release from the brailer or the net is not possible, it is recommended to either:
 - Release using a purpose-made mobulid sorting grid with a rigid frame that allows the animal to lie flat during release (see document [IOTC-2025-WPEB21\(AS\)-INFO8](#) for construction instructions). The grid can be placed over the unloading hatch or on the hopper. A crane can be used to lift the grid and release the mobulid over the side of the vessel. Instructions for fabricating the grid can be found later in this document.
 - release using a cargo net, a canvas sling, or a similar device lifted with the crane. Try not to allow the animal's wings to bend significantly.
 - A seawater hose placed in the animal's mouth is helpful to keep water running over its gills.
- Each vessel must have the following release equipment accessible on deck at all times:
 - Mobulid sorting grid
 - Stretcher
 - Cargo net, canvas sling, or any similar device that can be attached to the crane

Best Practices for live-release for gillnetters

- Mobulids should not intentionally be hauled aboard. Before the net is hauled onboard, maintain the animal in the water and use the body of the net to bring the ray alongside the side of the vessel, disentangle it by manoeuvring the net or using tools e.g. a long-handled line cutter and, if necessary, cut the net. Care should be taken to minimise stress and/or injury to the ray
- For entangled animals, secure excess tangled area in the net with the long-handled gaff while other crew members remove the ray from the entangled areas of the net. The net cutter should be used to remove the animal from the tangled area of the net. Do not use the gaff on the animal.
- Do not let the mobulid pass through or above the net/line hauler, rather heave the net/line from the 'tuna door'/net hauling 'door' or haul by lifting through the gunwale.
- If it is not possible to disentangle the ray while keeping it in the water (such as in larger vessels where deck height doesn't allow it), carefully bring the ray on board, while ensuring that the ray may not pass above or through the net hauler and making every attempt to support the ray's weight by at least two points (i.e., one point of contact being the midsection, the other being the bottom end of the body near the tail), or preferably have 2 or 3 people carry the ray by the sides of each wing. If feasible, use a crane/cargo net/grid/stretcher...
- Disentangle the ray from the net—if the ray is 'badly' entangled, you may have to section some parts of the net (care should be taken to prevent injury to the animal while doing so). Try to minimise handling time and release it as soon as possible.
- A seawater hose placed in the animal's mouth is helpful to keep water running over its gills.

Best practices for live-release from longlines/ hook and line

- If possible stop the vessel to safely remove gear and release large rays.
- Bring the ray alongside the vessel, if possible. Always leave the animal in the water.
- If the animal is not entangled and can be brought close to the boat, consider attaching a flyback prevention device to the branch line to reduce the risk of a lead (or hook) flyback accident.
- For animals that are hooked or have swallowed the hook, use a long-handled line cutter to cut the line as close to the hook as possible leaving as little trailing line as possible.

- For entangled animals, secure excess tangled line with the long-handled gaff while another crew member uses a long-handled line cutter to remove as much tangled line as possible. Do not use the gaff on the animal.

Annex I – Illustrations⁶

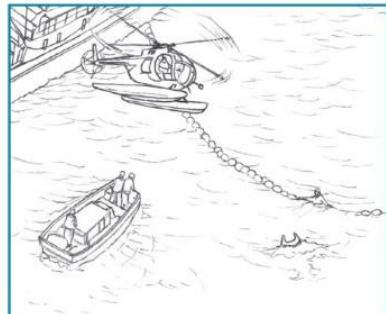
Purse seine

If mobulid rays are detected from the helicopter or by crew this should be reported to the captain so they can avoid encirclement and inform the crew to have a purpose built cradle/stretcher or netting available and ready, to return the animals to the sea as rapidly as possible.

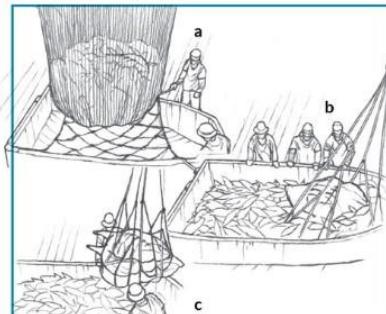
1 Ideally rays should be released while they are still free-swimming (e.g. back down procedure, submerging corks, cutting net).

If captured, do not allow the ray to go through the loading chute to the lower deck. The ray should be released immediately from the upper deck.

3 Small (< 30kg) and medium rays (30–60 kg) should be handled by 2 or 3 people and carried by the sides of its wings or preferably using a purpose-built cradle/stretcher while ensuring the safety of the crew.



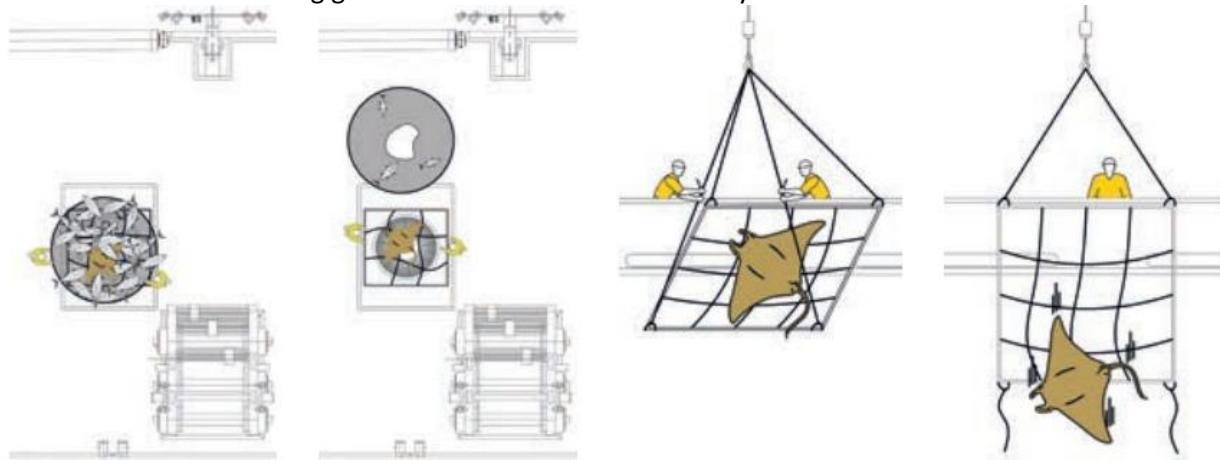
2 Rays that are too large to be lifted safely by hand should be brailed out of the net and released using a purpose built large-mesh cargo net or canvas sling or similar device



4 When entangled in netting, carefully cut the net away from the animal and release to the sea as quickly as possible while ensuring the safety of the crew.



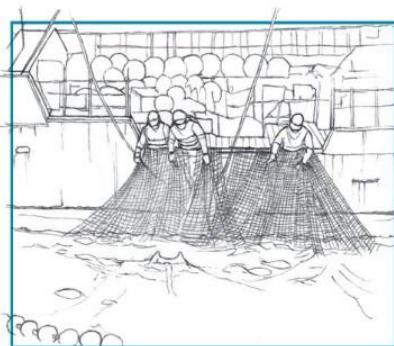
How to use mobulid sorting grids for the release of mobulid rays



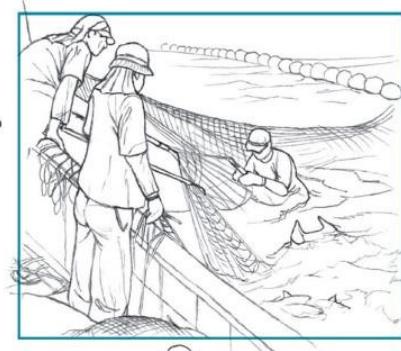
⁶ Illustrations provided by Manta Trust

Gillnets

1 Avoid bringing the ray on deck and try to maintain the animal by the side of the boat in the water. Try to disentangle the ray using i.e. a longhandled line cutter.



2 Use the body of the net to manoeuvre the ray alongside the boat; care should be taken to minimise stress and/or injury to the ray.



3 If it is not possible to disentangle the ray while keeping it in the water, carefully bring the ray on board, making every attempt to support the ray's weight by at least two points (i.e., one point of contact being the midsection, the other being the bottom end of the body near the tail), or preferably have 2 or 3 people carry the ray by the sides of each wing; use crane/cargo net/grid if it's as large ray.



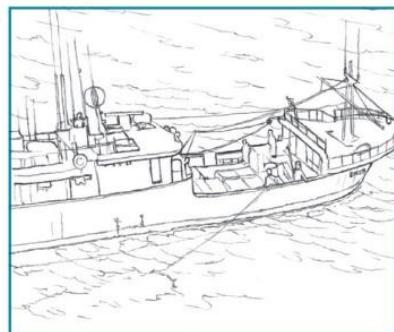
4 Disentangle the ray from the net - you may have to section some parts of the net if the ray is 'badly' entangled (care should be taken to prevent injury to the animal while doing so).

Try to minimise handling time and release ASAP, if possible, get someone to pour water over the animal while you are handling it.



Longline and hook and line

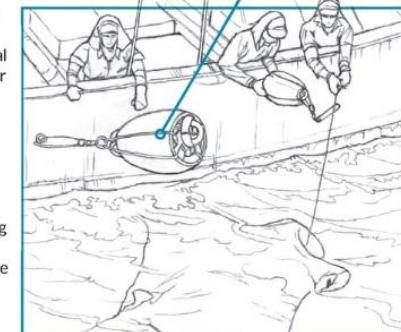
1 Always stop the vessel to safely remove gear and release large rays.



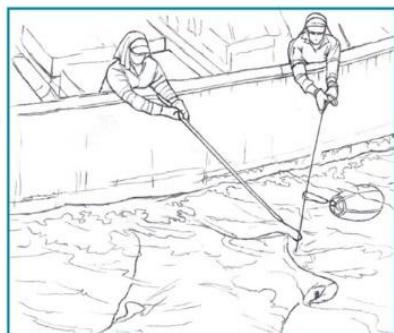
2 Bring the ray alongside the vessel, if possible. Always leave the animal submerged in the water so that its chance of post-release survival will be much higher.

If the animal is not entangled and can be brought close to the boat, consider attaching a flyback prevention device to the branchline to reduce the risk of a lead (or hook) flyback accident.

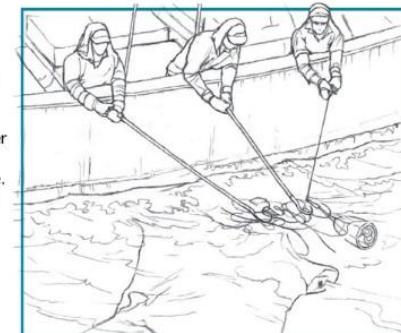
flyback prevention device



3 For animals that are hooked or have swallowed the hook please use a long-handled line cutter, to cut the line as close to the hook as possible.

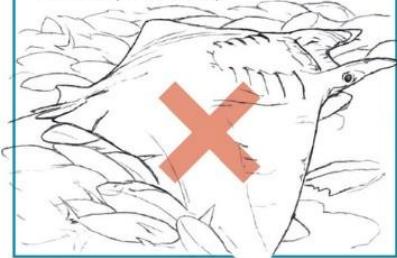


4 For animals that are entangled, secure any excess tangled line with the long-handled gaff, while another crew member uses a long-handled line cutter to remove as much tangled line as possible. Do not use the gaff on the animal.



What not to do – all gears

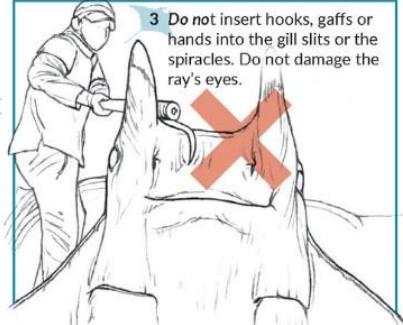
1 Do not leave a ray on deck until hauling is finished before returning it to the sea (release ASAP).



2 Do not gaff, drag, carry, lift or pull a ray by its 'cephalic lobes' or tail



3 Do not insert hooks, gaffs or hands into the gill slits or the spiracles. Do not damage the ray's eyes.



4 Do not punch holes through the bodies of rays (e.g. to pass a cable or line through for lifting the ray).

Do not try to remove a deeply hooked or ingested hook by pulling on the branch line or using a dehooker.



5 Do not cut off tail



6 Do not drop the ray from a great height (>2m) into the water.

