Good Practices for Responsible Tuna Purse-Seining

The good practices below are aimed at improving tuna purse-seining fleet's practices in every ocean across the world. They reflect the practices implemented by the OPAGAC/AGAC fleet to make tuna purse-seining more selective and sustainable, for a responsible approach to fishing that minimises the impact of tuna purse-seining on the marine ecosystem and makes possible the management of sustainable tuna purse-seining. This code was first signed in 2012 and is revised annually to include improvements based on the latest scientific findings. The agreement is based primarily on the following points:

1. The design and use of FADs (fish aggregating devices) that do not entangle sensitive associated species (primarily turtles and sharks).
2. The development and application of releasing techniques that minimize risk to associated species and optimise their survival. This includes materials and equipment provided specifically for releasing associated species.
3. The application of a FAD management system through the implementation of a FAD logbook and requirement for a responsible use of FADs during their lifetime.
4. 100% observer coverage, including support vessels.
5. Training for fishing masters, crew and scientific observers.
6. Scientific verification of activities related with good practices and continuous revision by a steering committee.

1. Non-entangling FAD Design

Since 2012, work has been conducted to arrive to alternative FAD designs that minimise impacts on non-target species, especially turtles and sharks.

The results set the foundation for gradual phasing out of traditional FADs used by the OPAGAC/AGAC fleet with new, non-entangling models with the agreed basic characteristics, in the premise that these features will be the minimum requirements and that each company can further develop and apply designs and materials that do even more to minimise impact on non-target species and the marine environment.

COMPONENTS OF NON-ENTANGLING FADS: MANDATORY MATERIALS AND FEATURES.

RAFT

It is agreed that the raft structure that keeps the device afloat must:

- be free of elements (uncovered)
- or be covered with a non-entangling material (such as hessian or thickly woven cloth)

- or be covered with netting whose mesh size is below 7 cm (2.5 inches), which ISSF has approved as a low entangling risk material.
- If more stringent requirements than those described here are implemented for construction of the raft at Regional Fisheries Management Organizations (RFMO) level, those new criteria will be adopted in the area of competence of the RFMO.
- In the visits to FADs that are followed by a change of beacon in ownership of the fleet, the substitution of entangling materials by non-entangling will be carried out in the raft, following the criteria defined in the code, whenever it is required.

TAILS/UNDERWATER PART

All items hanging from the raft must be non-entangling. These items may be made of:

- simple ropes,
- or netting with a mesh size below 7 cm,
- or netting with a mesh size of over 7 cm but tied into coils or "sausages",
- or any other non-mesh material (such as canvas).
- Submerged structures may present additional pieces and dangling attractors (e.g., palm leaves, netting panels), provided that their mesh size is below 7 cm.
- If more stringent requirements than those described here are implemented for construction of the tail or underwater structure at RFMO level, those new criteria will be adopted in the area of competence of the RFMO.
- In the visits to FADs that are followed by a change of beacon in ownership of the fleet, the substitution of entangling materials by non-entangling will be carried out in the submerged structure following the criteria defined in the code, whenever it is required.

2. Associated Species Release Manoeuvres

Sharks

While the number of sharks incidentally caught by purse seiners is not significant when compared to the number of individuals caught by other gears, it can be reduced by applying suitable handling and release protocols.

If any sharks are discovered when the catch is being hauled on board, and following RFMOs recommendations[1], they must be released from the deck (provided that a single person can handle and release them), as quickly

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[1] ICCAT: Rec 03-10, Rec 04-10, Rec 09-07, Rec 10-06, Rec 10-07, Rec 10-08, Rec 11-08, Rec 14-06, Rec 15-06, Rec 16-12, Rec 16-13
IOTC: Res 12/09; Res 13/06; Res 17/05
IATTC: Res C-04-05; Res C05-03, Res C11-10, Res C15-04, Res C16-01, Res C16-04, Res C16-05, Res C16-06; C-19-05
WCPFC: CMM 2010-07; CMM 2011-04; CMM 2013-08

and carefully as possible, to avoid harming the animals. The necessary precautions must always be taken to keep crew safety during the release process of dangerous animals. Crew must particularly avoid grabbing sharks only from the tail or the gills, to avoid injuring the animal and to protect the crew from dangerous reactions. Nooses or poles may not be used to release sharks appearing on the water surface. If sharks are found inside the seine, crew must attempt to get them out of the net using the brailer employed to bring the catch on board, even if a certain amount of fish (2-3 tonnes) is lost, or else must use some other cradle-like device, to avoid the possibility of injury. Likewise, if sharks cannot be released immediately from deck, it is recommended to keep the animals wet, in the shade and if possible, breathing freely. The fleet is very strict and totally rejects shark finning practices. Shark finning is strictly forbidden on all vessels of the fleet.

Ships are obligated to have a net carrier, a stretcher or a tarp on board and/or similar equipment alongside the brailer, so sharks found on deck can be handled more easily. Also, it is recommended to have hopper or ramps installed in the fishing deck for quicker and easier release of animals.

Once the animal has been released, the crew must check if the animal is behaving normally and must record the operation in the fishing logbook. If any strange behaviour is observed, this must be recorded in the fishing logbook too.

Sea Turtles

Following the recommendations of the RFMOs on sea turtles[2], crew must attempt by all means to release every turtle entangled in floating objects or encircled by the purse seine net. If an entangled turtle is found, the net hauling operation must be stopped immediately so that the animal does not go through the powerblock. Whenever possible, the crew must release all turtles they find inside the net, trying to prevent any injury. If an animal is accidentally injured in any way during the operation, it must be kept on board in a wet, cool place, and it must be completely recovered before it is released. If the turtle is carrying any plastic items or bits of nets on it, or if it has any longline hooks embedded, the foreign items must be removed and/or disentangled, even if these materials do not originate from that vessel. Likewise, if crew find an entangled turtle when visiting a FAD without setting on it, it must disentangle the turtle and release it using the same procedure. To handle a turtle, crew must hold the animal by the shell but avoiding just the head area, to protect from catching their hands if the turtle should draw its head in. It is extremely important not to hold the animal by its flippers, because turtle's flippers are sensitive and could become dislocated. If a turtle appears not to respond to stimuli or is inactive, it is recommended if necessary, to place it in the resuscitation position to help it recover more easily. To place a turtle in the resuscitation position, crew must

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[2]ICCAT: Rec 03-11; Rec 05-08; Rec 10-09; Rec 13-11
IOTC: Res 12/04; Res. 15/01
IATTC: Res C-04-05; Res C-04-07; Res-C-O7-03; Res C-16-01; C-19-04
WCPFC: CMM-2008-03

lift the animal by its rear legs about 15 cm, with its head pointing downwards, and place something beneath it to maintain the turtle in this position. The crew must wet the turtle from time to time and keep it out of direct sunlight.

Thanks to these practices, the mortality rate of sea turtles in the OPAGAC/AGAC purse seine fleet is practically null.

Once the animal has been released, the crew must check that the animal is behaving normally and must record the operation in the fishing logbook. If any strange behaviour is observed, this must also be recorded in the fishing logbook.

Skates and Rays

Although very few skates and rays are involved in purse seine sets, a very simple and safe protocols are in place for their release, in line with RFMOs[3] recommendations. This procedure is based on trying to get the animal out of the purse seine either using the brailer employed to bring the catch on board, even if a certain amount of fish (2-3 tonnes) is lost, or using some cradle-like device or specific equipment, to minimise any possible injury.

If the animal is not detected or cannot be released before it is brought on board, it must be released from the deck. The recommendation is to have a carrier, tarps and/or similar equipment alongside the brailer for handling large individuals more easily when they are found on deck, and to release them with the aid of the crane. There are also methods such as the cargo net or rigid grills with wide slots, which are placed over the fish hatch so the fish can be unloaded while the animal stays on top, which is then released with the crane. If on the other hand skates or rays are released by hand, it is recommended that crew avoid handling the animal by its tail, gills or the cephalic lobes, to prevent injury and dangerous reactions. It is particularly recommended that crew avoid handling the rear part of rays, as many have a poisonous spike at the end of their tail. It is therefore preferable to handle these animals from the front, grabbing them from the pectoral fins.

Once the animal has been released, the crew must check that the animal is behaving normally and must record the operation in the fishing logbook. If any strange behaviour is observed, this must be recorded in the fishing logbook as well.

Whale Sharks and large Cetaceans

Most RFMOs (IOTC, IATTC, WCPFC)[4] have implemented measures prohibiting fishing practices that intentionally target setting on whale sharks. However, these animals may end up in the net unintentionally, because they often swim well below the surface, making it difficult for fishers to detect them before setting the net. Although the whale shark release manoeuvre is somewhat complex, crew must take all precautions to avoid

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[3] IATTC: Res C-15-04; Best handling Practices for the safe release on Mantas & Mobulids

[4] IOTC: Res. 13-05
IATTC: C-19-06
WCPFC: CMM-2012-04

injuring the animal. In the same way, cetacean bycatches are regulated by the EU[5], some RFMOs[6] and private agreements for intentional sets to these species' groups. The interaction with cetaceans, principally baleen whales, is rare and non-intentional. Mainly, interactions occur with large cetaceans (e.g. humpback whale; *Megaptera novaeangliae)* which generally escape the net before its closure or by breaking the net.

Following recommendations established, with the objective of minimizing impacts on accidentally trapped individuals, and despite the inherent difficulty of the release manoeuvre, if a whale shark or a whale is found in the purse seine, the crew must take the all actions to prevent damage to the animal. The crew should haul the net carefully to isolate the animal in a small area of the bunt. After this, crew may take the following measures, depending on the sea conditions and the animal's behaviour. At all times crew safety must be guaranteed.

A) When the animal is floating on the surface

A.1. The fishermen must gradually haul the net to bring the animal towards the closest cork line. The net must always be pulled from the animal's tail toward its head, along its belly, attempting to make the fish move towards the cork line.

A.2. If the animal is small (2 metres long minimum), it may be released carefully using the brailer.

A.3. Partially sink the cork line to enable the animal to leave over the net.

A.4. Wait for the animal to freely swim out of the net.

A.5. The catch may be brought on board only after the animal has been released from the net.

B) When the animal does not appear on the surface

Crew may begin bringing the catch on board until the animal appears on the surface. At this point crew must cease brailing the tuna and follow the procedure in point A.

C) When the animal pushes the net with its head before the corks go down

Sometimes the animal will nudge or push the net before the crew can submerge the cork line, and it is difficult to get the animal to move backwards. In this case, the crew must work from the boat to submerge the cork line by maneuvering the net or with the aid of weights or poles to enable the animal to get its head free above the cork line.

D) When the animal is trapped in the bunt with its head facing sternward

In this case, the release manoeuvre to get the animal out over the cork line becomes very difficult, and the most effective manoeuvre known is this: Once the animal is in the bunt, the crew must locate the purse line closest to the animal's head and cut a couple of fathoms of net from where the purse

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[5] EU: EC - No 520/2007 (Art. 29)

[6] IOTC: Res. 13-04
WCPFC: CMM-2011-03

line is attached, to make a window through which the animal can escape, lowering the net a little to place the window underwater.

No matter what the circumstances to release the animal, crew must check that the animal is behaving normally and must record the operation in the fishing logbook. If any strange behaviour is observed, this must be recorded in the fishing logbook too.

3. FAD Management System

OPAGAC-AGAC agree to comply with the FAD management system and plan developed and implemented by the pertinent authorities. This includes the collection of certain information about the activities associated with FAD fishing.

4. 100% Observer coverage, including support vessels

The agreement considers it necessary and mandatory to have 100% coverage of fishing activities as of 1 January 2015 and extends the 100% coverage to supply vessels as of 1 January 2017. This coverage rate complies with the requirements of the WCPFC and the IATTC and goes well beyond the current requirements set by the ICCAT (10%) and the IOTC (5%). The information gathered during fishing trips to verify good practices compliance is recorded by specifically trained scientific observers, and more recently, also by electronic monitoring systems (EMS) validated and approved by scientific bodies. Either way, the purse seiner fleet must still maintain the minimum required human observer coverage required by each RMFO. The coverage for auxiliary vessels may be provided entirely by electronic observers due to the reduced space in these vessels.

5. Training for fishing masters, crew and scientific observers

The professional fishing crew (both officers and deck crew) and the scientific observers on board are all trained specifically on the items covered in this code of good practices. They are especially taught on the manoeuvres for handling and releasing marine species and the correct construction and use of FADs. Similarly, the code encourages the training of scientific observers to collect high-quality data, and thus it works to develop appropriate local and third-country observer training. Training periods are also used as follow-ups to evaluate each programme and learn about any difficulties that may have arisen.

6. Scientific verification of activities related with Good Practices and continuous follow-up by a steering committee

All activities mentioned in this document are verified by an independent and trusted scientific organisation that tries to guarantee the program's correct

functioning. The scientific organisation works to gather and compile the data collected by all the different observer organisations involved and process that information so it can be analysed on a per-vessel and per-trip basis. The results are used to make biannual compliance reports and provide specific advice when necessary. The results are utilized to continuously improve the good practice code, by specific advice and decisions agreed by a Steering Committee. This Committee will meet half-yearly to examine how the code is applied, find practical solutions for both punctual or structural problems and keep the programme updated, always following the recommendations and suggestions of the scientific advisors.

This text is the revised version agreed to by the signatories of the Agreement of 20 February 2012 on the Good Practice Code, and it replaces the Agreement of 20 February 2012, its revision of 2015, and its revision of 2017.

Sukarrieta, 4 September 2019.

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