

Original: English

**EXPLANATORY NOTE FOR A DRAFT RECOMMENDATION BY ICCAT ON THE CONSERVATION OF
NORTH ATLANTIC STOCK OF SHORTFIN MAKO CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES**

(Submitted by the European Union)

The European Union acknowledges the specific challenges related to the decision making process in ICCAT this year, and the limited scope to engage meaningfully with ICCAT CPCs to find consensus on ambitious new measures for northern shortfin mako sharks that immediately stop overfishing and set the stock on a trajectory towards recovery. Notwithstanding the challenging circumstances the dire situation described in the 2019 stock assessment calls on ICCAT to take action with a sense of urgency to address the situation and explore potential solutions to rebuild this stock. To this end, the EU has decided to present an ambitious and comprehensive proposal to rebuild the stock of northern shortfin mako, consistent the stated objective of ICCAT (to maintain the stocks at levels which will permit the maximum sustainable catch and which will ensure the effective exploitation of these fish in a manner consistent with this catch).

In order to end overfishing immediately, this proposal introduces the **mandatory release of all fish caught alive in the context of all ICCAT fisheries**, in conjunction with a **Total Allowable Catch (TAC) of 500 t for the fish caught already dead**, and as confirmed by the presence of an observer/EMS onboard. As evidenced by the SCRS projections in its 2019 stock assessment this would (1) end overfishing within one year and would thereby maintain fishing mortality at or below F_{MSY} in line with the Convention objectives while (2) also allowing the recovery of the stock by 2070 with a probability higher than 50%.

This is being proposed while acknowledging that, to be effective, any TAC must also include the mortality related to possible dead discards. Up to now, and in the absence of catch limits, dead discards of shortfin mako have not been an issue. However, with the introduction of a TAC, dead discards could become more prominent. In order to fully account for these potential discards, it is proposed that they must be reported correctly and this information must be analysed by the SCRS, in particular in the context of changes in selectivity of the fleets and of the possible deliberate avoidance of shortfin mako sharks. On this basis, the TAC can then be adjusted by the Commission if this yields conservation benefits.

The European Union is aware that the landing of any shortfin mako remains a contentious issue for some CPCs and for some ICCAT observers, based on the assumption that it can create a market incentive which could lead to the targeting of these fish. This contention has however been put forward without tangible evidence, especially for a species caught as bycatch and not being targeted. In any case, the recent trade measures adopted in CITES, combined with the effects of the introduction of a TAC, would already make necessary for the fleets to deliberately avoid shortfin mako sharks. Furthermore, the requirement to only allow vessels with observers on-board to retain dead fish will further act as a safeguard against the TAC being exceeded or that other than dead fish are being retained. These elements fully address any concerns about creating a marketing incentive to target these fish, and therefore undermine the only real argument put forward to justify a total retention ban which would not tackle the need to lower the mortality levels that this stock currently experiences and would only lead to discarding of dead fish without any conservation value.

In order to further refine the management measures and reduce mortality levels the SCRS will be required to advise at the earliest possible time, on the spatio-temporal identification of nursery areas/pupping grounds and on likely hotspots (areas of high concentration) and areas of permanent or seasonal bycatches and if spatio-temporal closures would be relevant to reduce encounter and mortality rates.

Since SCRS delivered the first signs of the stock being overfished in 2017, **the European Union has decreased its bycatches of shortfin mako by over 40%. This was achieved by proactively seeking the avoidance of shortfin mako sharks by its fleets**, despite the absence of a specific regulatory framework. This highlights the scope for much greater reductions in fishing mortality if this approach can be implemented and coordinated more broadly at the ICCAT level. This requires the full commitment of the fishing operators and their buy-in into the management measures, which cannot be secured under the scenario of full retention ban without justification, or as confirmed during the 2019 ICCAT meeting, without conservation value.

This proposal also introduces a **protocol to ensure that best-handling practices** are being implemented by the fleets in order to maximise the release of fish caught alive.

In addition, this proposal also acknowledges that the reduction of fishing mortality should continue over time in light of new information or advice from the SCRS. In particular, it **promotes the exchanges of relevant information and sharing of best practices between CPCs, with the involvement of scientists, managers, and crucially fishing operators** whose knowledge about shortfin mako distribution and biology has not yet been fully exploited.

In conclusion, this proposal establishes a rebuilding framework, by first reducing fishing mortality to sustainable levels, which alone would over time lead to the slow rebuilding of the stock. Nevertheless, it also acknowledges the importance of more pro-actively rebuilding the stock through measures aiming to further reduce the overall fishing mortality, including through the avoidance of encounters with shortfin mako, and the optimisation of the survival rates of fish released alive, both of which require the active cooperation of the fleets. Finally, this proposal also recognises the importance for ICCAT to collectively address the situation of the stock, through the involvement of all its stakeholders in sharing information and proposing additional solutions. It would also complement the CITES Annex II listing by directly addressing the unsustainable mortality levels the stock is currently experiencing and which only ICCAT can address. This would demonstrate ICCAT relevance in dealing with bycatches issues, consistent with the recently adopted amendments of its Convention, and in striking contrast to a full retention ban, which would result in ICCAT declining its responsibility to sustainably manage the stock and leaving the management of these species to other organisations.

The European Union therefore urges its ICCAT partners to give full consideration to this suggested path towards the recovery of this important stock, in a manner fully consistent with the Convention objectives, and also with previous successful experiences in ICCAT. This would undoubtedly require continuous efforts from the Commission and its members, but would almost immediately stop overfishing and set the stock on a trajectory towards recovery.

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**DRAFT RECOMMENDATION BY ICCAT ON THE CONSERVATION OF NORTH ATLANTIC STOCK OF
SHORTFIN MAKO CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES**

(Proposal submitted by the European Union)

ACKNOWLEDGING the outcome of the stock assessments conducted by SCRS in 2017, which indicates that there is a 90% probability of the stock of North Atlantic shortfin mako being overfished and experiencing overfishing;

FURTHER ACKNOWLEDGING that updated projections, conducted by the SCRS in 2019, emphasize that the stock size will decrease up to 2035, regardless of the management measures implemented;

RECALLING that according to its Convention, the stated objective of ICCAT is to maintain the stocks at levels which will permit the maximum sustainable catch and which will ensure the effective exploitation of these fish in a manner consistent with this catch;

FURTHER NOTING that the updated projections conducted by the SCRS in 2019 also demonstrate that any constant annual catch level equal to or below 500 t will immediately halt overfishing and would thus maintain fishing mortality at or below F_{MSY} in line with the Convention objectives while also allowing the recovery of the stock by 2070 with a probability higher than 50%;

FURTHER RECALLING that regardless of the TAC, the spawning stock biomass will continue to decline until 2035 before any increase can occur, owing to the time it takes juveniles to reach maturity and that even a zero TAC will only allow the stock to be rebuilt and without overfishing (in the green quadrant of the Kobe plot) by 2045 and that consequently due the biology of the stock the recovery period will in any event be long;

TAKING INTO ACCOUNT that complementary management measures such as reduction of soak time (e.g. duration fishing operations, number of deployed hooks, etc.) and time-area closures (e.g. avoidance of hotspot areas, depths, etc.) have the potential to further reduce mortality;

ALSO TAKING INTO ACCOUNT THAT the level of catch and effort data and their coarse spatial discrimination, as currently submitted to the Secretariat, make it impossible at this time to identify the benefits of potential time/area closures and soak time provisions;

ACKNOWLEDGING that the reduction of catches achieved since 2017 through the avoidance by the fleets of areas with high concentration of shortfin mako, as identified by fishing operators, offers evidence of the existing scope for further reduction of the fishing mortality through this approach;

NOTING that these successful strategies to avoid shortfin mako have been based on fishermen's knowledge and that this information is not necessarily available to SCRS or to all CPCs, and that there is therefore a need to promote the sharing of best practices;

ACKNOWLEDGING that in order to be effective a TAC should include mortality related to dead discards, and the fact that this information is currently not available and that it would require additional data under a fixed management regime before SCRS could provide an estimate for the various fleets segments;

NOTING that the existing scientific literature refers to mortality rates at-haulback ranging between 33 and 36% for Atlantic shortfin mako;

RECOGNIZING that the SCRS recommends that CPCs strengthen their monitoring and data collection efforts to monitor the future status of this stock, including but not limited to the estimation of total dead discards and the estimation of CPUE using observer data;

NOTING that the collection of the information required for the monitoring of the stock is contingent on an increase of the observer coverage and on the use of electronic monitoring systems (EMS);

NOTING the SCRS response 19.5 emphasizing that higher resolution spatial catch and effort data would be necessary to identify areas of high interactions that would be practical for the implementation of closed areas with a high probability of protecting mako shark and minimize negative impacts on the target species;

TAKING INTO ACCOUNT that the SCRS has already adopted and recommended the implementation of minimum standards (SCRS/2016/180) for the use of Electronic Monitoring System for purse seine vessels in the tropical tuna fishery;

ALSO NOTING the SCRS response 19.12 for which the available ST-09 data for longline fleets targeting tropical tunas will be used to estimate bycatch from these fleets in 2020 by taking into account 1) a method to raise the available data to represent total bycatch and 2) the taxonomic level for reporting bycatch;

RECALLING the *Recommendation by ICCAT on biological sampling of prohibited shark species by scientific observers (Rec.13-10)*;

FURTHER RECALLING the existing obligations of Contracting Parties, non-Contracting Parties, Entities and Fishing Entities (CPCs) to require the collection of discard data in their existing domestic observer and logbook programs under the *Recommendation by ICCAT on Information Collection and Harmonization of Data on Bycatch and Discards in ICCAT Fisheries (Rec. 11-10)*;

RECALLING the *Recommendation by ICCAT to Establish Minimum Standards for Fishing Vessel Scientific Observer Programs (Rec. 16-14)*;

RECALLING the provisions of *Resolution by ICCAT on Criteria for the Allocation of Fishing Possibilities (Res. 15-13)*, notably the criteria for the allocation of fishing possibilities set out in part III, and the need to ensure that these are applied in a fair, equitable and transparent manner;

SEEKING to ensure that the total catch does not exceed the annual Total Allowable Catch;

THE INTERNATIONAL COMMISSION FOR THE CONSERVATION
OF ATLANTIC TUNA (ICCAT) RECOMMENDS THAT:

Live Release and TAC

1. The Contracting Parties and Cooperating non-Contracting Parties, Entities or Fishing Entities hereinafter referred to as CPCs, whose vessels have been catching northern shortfin mako in the North Atlantic, shall implement a rebuilding plan starting in 2021, with the goal of ending overfishing by 2022, and gradually bringing the stock biomass back to B_{MSY} .
2. All fishing vessels operating in ICCAT managed fisheries shall promptly release all specimens of North Atlantic shortfin mako caught alive in a manner that causes the least harm and that maximizes post-release survival, while ensuring the safety of crew members. In particular:
 - a) CPCs shall ensure that the minimum standards for safe handling and live release procedures, as specified in **Annex I**, are implemented while taking into consideration the safety of the crew; the fishing vessels shall have readily available on deck, where crew can get it quickly, lifting device, bolt cutters, dehooker/disgorger and line-cutter for safely release of individuals caught.
 - b) CPCs shall ensure that captain and crew members of their fishing vessels are adequately trained, aware of and use proper mitigation, identification, handling and releasing techniques and keep on board all necessary equipment for the release of shortfin mako specimens in accordance with the minimum standards for safe handling procedures as specified in **Annex I**. These minimum standards, however, do not replace possible stricter guidelines established by CPCs national Authorities.
3. CPCs may authorize their vessels to catch and retain on board, transship or land North Atlantic shortfin mako, provided that:

- a) The fish are already dead when brought along side for taking on board the vessel;
 - b) The fishing vessel has either an observer or a functioning electronic monitoring system (EMS) on board to certify that only fish caught already dead are retained onboard, to record numbers of specimens by sex (caught, retained, release alive, discard dead) and, where feasible, to also record biometric information;
 - c) The observer collects data on the number of individuals hooked, body length, sex, condition, maturity (whether the individual is pregnant and its litter size) and the weight of products for each shortfin mako caught as well as fishing effort;
 - d) The observer records, inter alia, georeferenced information of the fishing operations allowing also subsequent cartographic restitution at a minimum resolution of 1°x1° and including, *inter alia*, the time of starting/ending the setting of the gear, the time of starting/ending the hauling of the gear, the gear characteristics (e.g. number and type (shape and size) of deployed hooks, bait type, depth of setting, length of mainline, length of branchlines, etc.);
 - e) When shortfin mako is not retained, the number of dead discards and live releases are recorded by the observer or established from the records from the electronic monitoring system;
 - f) The ICCAT Secretariat has not yet issued the notification referred to under paragraph 7 of this Recommendation
4. CPCs shall ensure that recreational and sport fishing vessels release alive all caught specimens of shortfin mako. These operators shall not be entitled to retain onboard, tranship, land, store, sell, or offer for sale any part or whole carcass of shortfin mako. Recreational and sport fishermen shall implement the minimum standards for safe handling and live release procedures as indicated in **Annex I**.
5. A total allowable catch (TAC) of North Atlantic shortfin mako kept onboard, transshipped or landed, shall be set at 500 t. In order to achieve compliance with the TAC, starting in 2021, each CPC shall limit its annual catches according to the following formula:

$$\text{CPC quota (t)} = \frac{(\text{Average of annual CPC catches over the period 2015-2019}^1) * (500\text{t})}{(\text{Average total ICCAT catches 2015-2019})}$$

The annual TAC may be revised subject to a decision of the Commission based on the advice of the SCRS in 2027, or at an earlier stage if enough information is provided by the SCRS.

6. Each CPC shall take the necessary measures to ensure that all catches by vessels flying its flag are recorded and communicated without delay to the competent authority.
7. CPCs shall report on a monthly basis, within 15 days of the end of the period during which the catches were made, to the ICCAT Secretariat the amount of northern shortfin mako caught by vessels flying their flag. These monthly catch reports shall indicate the quantities caught, discarded live, discarded dead and kept onboard. Once the total quantities caught are within 90% of the TAC referred to under Paragraph 5, the Secretariat shall immediately inform all CPCs, who shall consider measures to prevent the occurrence of additional catches.
8. Any quantities of North Atlantic shortfin mako caught in excess of the TAC and/or CPCs quotas in a given year shall be deducted from the TAC and/or CPCs quotas the following year. If the TAC is exceeded for two out of three consecutive years, the management measures for North Atlantic shortfin mako shall be urgently reviewed by the Commission, and consideration shall be given to set the TAC at zero for the subsequent years.

¹ The reference period is centered on 2017, the year SCRS first reported that northern shortfin mako is overfished and subject to overfishing, and ends in 2019, the last year for which catch data are available. Variations in the reference period have only minor incidence on the CPCs final quotas.

Scientific Observers and Electronic Monitoring System

9. Without prejudice to the provisions of paragraph 3-b of this Recommendation, and in order to monitor the implementation of provisions of paragraphs 1 to 5 above, the CPCs shall ensure that all longline fishing vessels, as well as rod and reel recreational/sport fisheries, shall gradually increase their observer coverage to 20% by 2023 at the latest and in accordance with provisions of the Recommendation 16-14. This increase in the coverage, should be supported either by means of the deployment of human observers on board vessels or by means of suitable EMS.

Gear provisions

10. CPCs shall ensure that, from 1 January 2022 onwards, all their longline fishing vessels have installed mini data loggers on the mainline and on the branchlines to record at least the depth, setting/hauling time, and temperature. The SCRS is requested to provide guidance in 2021 on the basic characteristics, minimum number and positions to install the mini data loggers with a view to have a better understanding of the effects of the soaking time, fishing depths and environmental characteristics underpinning higher incidental catches of shortfin mako.

Data Collection, reporting and scientific activities

11. CPCs shall ensure that the skippers of their commercial and recreational/sport fishing vessels record on their fishing logbooks and landing declarations, or equivalent document for the sport/recreational fisheries, the number and weight of the shortfin mako caught, discarded dead, and released alive, by estimated/measured body length and sex during each fishing operation.
12. The data shall be reported to the national or regional/local authorities in accordance with their regulatory procedures and with a timing adequate to monitor the monthly consumption of their fishing opportunities as required by paragraph 7 above.
13. The data collected by the observers or the electronic monitoring system referred to under paragraph 3 of this Recommendation shall be analyzed and submitted by the CPCs to SCRS at the latest 90 days before the ICCAT Annual Meeting.
14. On the basis of fishing logbooks, landing declarations/sales notes, sport/fisheries reporting, and observers/EMS reporting, , starting in 2021 CPCs shall provide to the ICCAT Secretariat, not later than 15 September each year, reports on catches of shortfin mako. The information shall include the actual raw quantities as well as the projected overall quantities, of animals caught, released alive, and discarded dead, by sex, estimated/measured size and by depth ranges over a geographical grid of a maximum 1°x 1°.
15. The ICCAT Secretariat in close coordination with the SCRS shall verify that the current Statistical Forms are adequate to the scope of reporting the information as required by paragraphs 3, 6, 7, and 20 above. Otherwise, revised statistical forms shall be presented for adoption by the SCRS in 2021.
16. In their Annual Reports, CPCs shall inform the Commission of steps taken to implement the provisions of this Recommendation through domestic law or regulations, including monitoring, control and surveillance measures.
17. CPCs are encouraged to investigate at-vessel and post-release mortality of shortfin mako including, but not exclusively, the application of hook-timers and of satellite tagging programs to investigate the effectiveness of this measure.
18. In 2027, the SCRS shall conduct a stock assessment for North Atlantic shortfin mako, and provide stock projections under the various models considered. Following this stock assessment, the SCRS shall advise on the conservation effectiveness of the fisheries management measures established by this Recommendation and provide scientific advice for possible deliberations by the Commission. The SCRS shall also analyze the information on dead discards reported by the fleets and by the observers, with a view to advising the Commission on the level of total fishing mortality and possible requirement for adjusting the TAC.

19. Starting in 2021, the Secretariat shall report annually on the implementation of this Recommendation and on required adjustments by each and every CPC with a history of shortfin mako bycatches.
20. Notwithstanding the reporting and stock assessment calendars established above, the SCRS is required to advise at the earliest possible time, on the spatio-temporal identification of nursery areas/pupping grounds and on likely hotspots (areas of high concentration) and areas of permanent or seasonal bycatches. In particular, the SCRS should explore the association between shortfin mako sharks and preys such as Atlantic horse mackerel (*Trachurus trachurus*) to identify areas and/or periods of high concentration of shortfin mako, establish if there are consistent patterns of association over time in specific areas, and if spatio-temporal closures would be relevant to reduce encounter and mortality rates. Based on this advice, the Commission should consider further refining and integrating the provisions of this Recommendation to enhance the level of shortfin mako conservation and the rate of recovery of the stock.
21. In 2021 and/or 2022, an intersessional meeting of Panel 4 shall take place to promote the sharing between CPCs of best practices, to reduce encounter with, catches and fishing mortality of shortfin mako sharks. Panel 4 shall seek the input from fishing operators and scientists and shall encourage their participation to this meeting, and then provide a set of recommendations to the Commission on the most efficient technical measures likely to reduce fishing mortality for shortfin mako.
22. The SCRS should work with PWG to advise by 2022 at latest on the implementation of minimum standards for the use of Electronic Monitoring System in longline fishing vessels for swordfish as well as for tropical and temperate tuna fisheries.
23. Notwithstanding the provisions of Article VIII, paragraph 2 of the Convention, CPCs shall implement this Recommendation as soon as possible in accordance with their regulatory procedures.
24. This Recommendation replaces and repeals *Recommendation by ICCAT on the Conservation of North Atlantic Stock of Shortfin Mako Caught in Association with ICCAT Fisheries* (Rec.19-06).

Minimum standards for safe handling and live release procedures²

The following steps should be followed to reduce stress and injury to incidentally caught shortfin mako specimens for a maximum probability of shark survival while minimizing the safety risk to the crew. Skippers and crew should always put their personal safety first when releasing sharks, rays and other large fish. Wear gloves and avoid working around the jaws of sharks and tails of rays. These basic guidelines do not replace stricter safety rules possibly established by CPCs national Authorities.

- Stop the vessel or substantially reduce its speed.
- Secure the far side of the longline mainline to the boat to avoid that any remaining gear in the water pulls on the line and the animal.
- Bring the shark as close to the vessel as possible without putting too much tension on the branchline to avoid that a released hook or branchline breaks could shoot hook, weights and other parts toward the vessels and crew at high speed.
- Do not remove the alive shark from the water boatside, while safely removing the hook.
- Do not gaff the fish in the body.
- In case the hook is visible, lightly flicking the branchline to try dislodging the hook.
- Where feasible rig a measuring device so the fish can be roughly measured in the water (e.g. mark a pole, leader and float; mark the gunwale of the boat with measurements marks).
- If the shark is vigorously twisting and spinning making it too dangerous to use a dehooker/disgorger or the shark swallowed the hook that cannot be seen, then use a long-handled line cutter and cut the leader/line as close to the fish as safely possible so that they are not trailing large amounts of line that could reduce post-release survival.
- Help revive the fish by slowly towing it in the water until its color or energy returns (5 minutes or more). Most highly migratory species must keep water flowing over their gills to breathe. With the boat in gear, slowly move forward while keeping the fish's head in the water.
- If hooked, and hook is visible in the body or mouth, use a bolt cutter to remove the hook barb, and then remove the hook.
- In purse seine fishing, some sharks tend to spin and roll themselves in the net. If entangled sharks are lifted up with the net towards the power block, this is dangerous to both the sharks and the crew. Thus, it is important to scan the net as far ahead as possible to spot the sharks as early as possible to react quickly and avoid that are lifted up with the net towards the power block. The speed of the net reel must be reduced to slacken the tension of the net and allow the entangled animal to be removed from the net. If necessary use clippers to cut the net.
- If, for whatever reason, a shark must be brought on the deck then minimise the time it takes to return it to the water to increase survival and reduce risks to the crew.
- Don't wrap your fingers, hands or arms in the line when bringing a shark or ray to the boat – you might get pulled overboard.
- Always approach the shark from behind, particularly if it has been brought on board; remain behind the head.
- Don't lift them using the branchline, especially if hooked.
- Do not lift using thin wires or cables or by the tail alone.
- Lifting should be undertaken with a minimum of two wide slings to support the weight of the animal whilst it is out of the water.
- Do not expose the shark to the sun for extended periods.
- If you anticipate that it will require more than 5 minutes to release a shark, then place a hose into its mouth so seawater is moderately flowing into it.
- It is best to handle medium to large sharks with two persons.

² The guidelines are a reasoned compilation of recognized advices available at <https://www.bmis-bycatch.org/index.php/mitigation-techniques/safe-handling-release>

- Poisson F., Wendling B., Cornella D., Segorb C., 2016. Guide du pêcheur responsable : Bonnes pratiques pour réduire la mortalité des espèces sensibles capturées accidentellement par les palangriers pélagiques français en Méditerranée. Projets SELPAL et RéPAST. 60 pages.
- Poisson F., Vernet A. L., Séret B., Dagorn L. Good practices to reduce the mortality of sharks and rays caught incidentally by the tropical tuna purse seiners. EU FP7 project #210496 MADE, Deliverable 7.2., 30p.
- AFMA (2016) Shark and Ray Handling Practices - A guide for commercial fishers in southern Australia

- You can calm a shark down by covering its eyes with smooth, wet and dark cloth
- To prevent bites place an object, such as a fish or big stick in the jaw.