

Original: English

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

(a proposal from the *Commission Chairs following further discussions on document PA4-03A OCT*)

RECOGNIZING that shortfin mako sharks are primarily caught in association with ICCAT fisheries and that the Commission has adopted management measures for shark species considered vulnerable to overfishing in ICCAT fisheries;

NOTING that shortfin mako is caught in association with ICCAT fisheries and that the 2017 and 2019 SCRS assessments concluded that there is a 90% probability of the North Atlantic shortfin mako stock being overfished and experiencing overfishing, meaning that it is overfished and that overfishing continues;

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;

RECALLING measures adopted by the Commission to improve the status of shortfin mako sharks, including the *Recommendation by ICCAT on the Conservation of North Atlantic Stock of Shortfin Mako Caught in Association with ICCAT Fisheries* (Rec. 17-08 and 19-06), which implemented measures aimed at ending overfishing of the North Atlantic shortfin mako stock with a high probability, as the first step in the development of a rebuilding program;

CONSIDERING that the *Recommendation by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures* (Rec. 11-13) calls for the Commission to immediately adopt management measures designed to result in a high probability of ending overfishing in as short a period as possible and adopt a plan to rebuild the stock taking into account, *inter alia*, the biology of the stock and SCRS advice;

ACKNOWLEDGING the need to establish an effective rebuilding program for North Atlantic shortfin mako, including immediate action to reduce fishing mortality to end overfishing;

FURTHER NOTING that the updated projections conducted by the SCRS in 2019 outline several scenarios, including the scenario where a certain degree of mortality would still allow the recovery of the stock by 2070 with a probability that is in the normal range of recovery plans;

FURTHER RECALLING the SCRS advice that regardless of the TAC (including a TAC of 0 t), 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;

ALSO RECOGNIZING SCRS advice on the need for Contracting Parties and Cooperating non-Contracting Parties, Entities, or Fishing Entities (hereinafter referred to as CPCs) to strengthen their monitoring and data collection efforts in support of future stock assessments, including but not limited to total estimated dead discards and live releases and the estimation of CPUE using observer data;

FURTHER RESPONDING to the need for additional research on methods to reduce shortfin mako interactions in ICCAT fisheries, including identifying areas with high interactions;

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

Rebuilding programme objectives

1. The Contracting Parties and Cooperating non-Contracting Parties, Entities or Fishing Entities (hereinafter referred to as "CPCs"), shall implement a rebuilding programme for North Atlantic shortfin mako shark starting in 2022 to end overfishing immediately and gradually achieve biomass levels sufficient to support maximum sustainable yield (MSY) by 2070 with a probability of at least [60/70%].
2. Toward that end, the rules set out in this recommendation shall be applied by CPCs with the aim to reduce [overall fishing mortality to end overfishing immediately] and then maintain mortality at sustainable levels to rebuild the stock and to establish [a process to determine] whether in any given year there is a possibility for retention.

[2bis. In order to determine whether any retention of dead fish at haulback is permissible, the following rules shall apply:

[...]

- a) Total fishing mortality consistent with this plan shall initially be based on paragraph 1 and subsequently be updated using the most recent Kobe II strategy matrix for North Atlantic shortfin mako projection results (the probability of both $F < F_{MSY}$ $SSF^1 > SSF_{MSY}$).
- b) Any allowable retention for the year 'Y+1' shall be calculated by the SCRS in year Y by subtracting all sources of fishing mortality other than retention for year Y-1 from the figure established by paragraph 2bis, sub paragraph (a). The resulting amount shall be referred to as the dead bycatch retention allowance (hereinafter 'retention allowance'). The mortalities other than retention shall be estimated by the SCRS each year based on the data submitted by CPCs as well as updated scientific evidence and endorsed by the Commission. The required calculation will only take place, and retention will only be possible, if CPCs accounting for at least 80% of the average annual CPC catches over the period 2013-2017 have submitted full data sets for Y-1 (including discards, live releases and where allowed, retentions) and in addition, individual CPCs will only be eligible to retain where they have provided the required data in 'Y-1'.
- c) If the retention allowance established by paragraph 2bis, sub paragraph (b) above, is at or less than zero, CPCs shall prohibit retaining onboard, transshipping or landing, whole or in part, North Atlantic shortfin mako caught in association with ICCAT fisheries.
- d) If the retention allowance established by paragraph 2bis, sub paragraph (b) above is more than zero, CPCs may catch and retain the amount up to their respective share of the retention allowance as set out in 2quinquies.
- e) Following every stock assessment, the SCRS shall advise on the total fishing mortality consistent with the objectives established by paragraph 1 for endorsement by the Commission.

[2bis (alternative) CPCs shall implement a prohibition on retaining on board and landing, whole or in part, North Atlantic shortfin mako caught in association with ICCAT fisheries in 2022 and 2023 as a first step in rebuilding the stock. During this temporary suspension of retention, Panel 4 shall meet intersessionally as needed to develop an approach, to be adopted no later than the 2023 ICCAT Annual meeting, for determining whether any retention of North Atlantic shortfin mako is permissible in any given year during the rebuilding period as well as how a CPC would be eligible to retain this stock. In developing the approach, Panel 4 shall ensure the following:

¹ SSF is Spawning stock fecundity, which is used for Kobe II risk matrix for North Atlantic shortfin mako.

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- a) The total fishing mortality tonnage associated with the probability level established in paragraph 1 shall be based on the most recent Kobe II strategy matrix reflecting North Atlantic shortfin mako projection results (the probability of both $F < F_{MSY}$ and $SSF^2 > SSF_{MSY}$).
- b) Starting for 2024, any allowable retention shall be determined for any given year taking into account all sources of fishing mortality for the previous year, including dead discards and post-release mortality. The SCRS shall develop and provide to the Commission at appropriate intervals estimates of post release mortality and, where needed, estimates of dead discards, taking into account data submitted by CPCs and other relevant information and analyses.
- c) If, in aggregate, the total fishing mortality in any year is above the minimum tonnage associated with the probability level established in paragraphs 1 and 2bis alternative (a) above, CPCs shall prohibit retaining onboard and landing, whole or in part, North Atlantic shortfin mako caught in association with ICCAT fisheries.
- d) If, in aggregate, the total fishing mortality in any year is below the minimum tonnage associated with the probability level established in paragraphs 1 and 2bis alternative (a) above, CPCs may be eligible to retain North Atlantic shortfin mako consistent with the approach to be developed by Panel 4 for endorsement by the Commission. This approach shall take into consideration the contributions to conservation made by CPCs to conserve, manage, and rebuild the stock (including a CPC's performance in reducing its mortality in line with the objectives of Recommendations 17-08 and 19-06) and other criteria as set out in Resolution 15-13, as well as the need to continue to incentivize individual CPC accountability to achieve fishing mortality reductions in line with the objectives of this rebuilding program.]

2ter CPCs whose fishing vessels retain North Atlantic shortfin mako shall prohibit transshipping, whole or in part, North Atlantic shortfin mako caught in association with ICCAT fisheries.

2quater. For each year, total fishing mortality for North Atlantic shortfin mako shall be established consistent with the objectives set out in paragraph 1. In the absence of a retention allowance established by the SCRS, CPCs shall prohibit retaining onboard transshipping or landing, whole or in part, North Atlantic shortfin mako caught in association with any of the fisheries managed by ICCAT.

Commented [A1]: If 2bis alternative is accepted paragraphs 2quater to 2sexies become redundant.

2quinquies If, pursuant to paragraph 2bis retention is permissible, the allowed retention for the following CPCs shall be established using the following formula:

$$\text{CPC total permissible retention (t)} = \frac{\text{(Average of annual CPC catches over the period [2013-2017])} \times \text{(amount established by paragraph 2bis, sub paragraph d)}}{\text{(Average total ICCAT catches [2013-2017])}}$$

Total fishing mortality and the retention allowance shall be reviewed and possibly revised subject to a decision of the Commission based on the advice of the SCRS after each stock assessment as set out in paragraph 12, or at an earlier stage if updated projections are provided by the SCRS.

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Each CPC is responsible for ensuring that their share of dead bycatch retention allowance is not exceeded. Where a CPC exceeds its share of the retention allowance, paragraph 7/X applies.

2sexies For years [2022/2022-202x] and until the next stock assessment the total fishing mortality for North Atlantic shortfin mako shall, consistent with the objectives established under paragraph 1, be [x tonnes]. Consistent with the rules set out above in paragraph 2 this results in a total dead bycatch allowance of [0 tonnes] for year(s) [2022/2022-202x].

* This allocation of retention allowance is without prejudice to future allocations under a management plan.

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3. Any retention permissible in accordance with paragraph 2bis shall be allowed only when the [fins remain naturally attached to the North Atlantic shortfin mako carcass] and the fish is dead on haulback and the vessel has an observer or a functioning electronic monitoring system on board to verify the condition of the sharks and the release. [No more than two specimens of North Atlantic shortfin mako shall be retained by a vessel for any fishing trip]. [For vessels of 15 meters or less, no more than one specimen of North Atlantic shortfin mako shall be retained by a vessel for any fishing trip.] For the purposes of this paragraph, a fishing trip is defined as the time period that begins when a fishing vessel departs from a dock, berth, beach, seawall, ramp, or port to carry out fishing operations and that terminates with a return to a dock, berth, beach, seawall, ramp, or port.
4. Paragraphs 2bis to 3 shall not apply to Norway whose domestic law requires that any dead fish be landed, provided that:
 - a) The fish is dead on haulback;
 - b) Directed fishing for shortfin mako sharks is prohibited;
 - c) The amount of landed North Atlantic shortfin mako is reported in the CPC's Shark Implementation Check Sheet, as required by Recommendation 18-06 and any future successor or revision thereto;
 - d) North Atlantic shortfin mako be landed with their fins naturally attached; and
 - e) Fishermen are prohibited from drawing any commercial value from such fish.

Safe handling and release

5. No later than 1 June 2022, CPCs shall require vessels flying their flag to [implement] [promptly release unharmed, to the extent practicable, all live North Atlantic shortfin mako when brought alongside the vessel, while giving due consideration to the safety of the crew] The minimum standards for safe handling and release of North Atlantic shortfin mako sharks shall apply, as provided under Annex 1 of this Recommendation, in order to promptly release unharmed, to the extent practicable, and to improve survivability of live North Atlantic shortfin mako when brought alongside the vessel. These minimum standards may be revised by the Commission whenever considered necessary and, in particular, when new information following SCRS scrutiny and advice becomes available, but no later than [202X].

Requirements for reporting on implementation

6. In accordance with Rec. 18-06, CPCs shall submit a Shark Implementation Check Sheet to provide information on how this Recommendation is being implemented. If the Compliance Committee determines that any CPC fails to report as required by Rec. 18-06, that CPC shall immediately require its fishing vessels to refrain from retaining or landing North Atlantic shortfin mako sharks until the required reporting is made to ICCAT.
7. CPCs shall report to the ICCAT Secretariat, in accordance with ICCAT data reporting requirements, total catches, including any permissible landings, dead discards and live releases, of North Atlantic shortfin mako. The frequency of reporting shall be, at a minimum, [monthly] for any permissible landings in order to closely monitor the uptake of the retention allowance, and annually for dead discards, live releases and total catches.

7bis Any retention by a CPC in excess of its share of the retention allowance calculated in paragraph 2bis will result in a reduction of that CPC's share for the following year by an amount equal to the excess. Retention by that CPC shall be prohibited until any negative balance is repaid in full.

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7ter As part of their annual Task 1 and 2 data submission to support the stock assessment process, CPCs shall provide all relevant data for North Atlantic shortfin mako, including estimates of dead discards and live releases based on the total fishing effort of their relevant fleets using data collected through observer programs or other relevant data collection programs. Failure by a CPC to report required dead discard and live release data, including failure to submit reports of zero discards and zero releases, is a serious violation, and the Compliance Committee shall consider appropriate actions. In addition, if the Compliance Committee determines that CPCs that authorize their vessels to retain on board and land North Atlantic shortfin mako pursuant to paragraph [2bis/2bis alternative] fail to report their catch data, including dead discards and live releases, the CPCs concerned shall require their fishing vessels to refrain from retaining any quantity of North Atlantic shortfin mako until such data have been reported.

7quater No later than [2022], CPCs shall present to the SCRS the statistical methodology used to estimate dead discards and live releases. CPCs with artisanal and small-scale fisheries shall also provide information about their data collection programs. The SCRS shall review these methodologies and, if it determines that a methodology is not scientifically sound, the SCRS shall provide relevant feedback to the CPCs in question to improve the methodologies.

7quinquies The SCRS shall evaluate the completeness of Task 1 and 2 data submissions, including estimates of total dead discards and live releases. If, after conducting this evaluation, the SCRS determines that significant gaps in data reporting exist, the SCRS shall explore approaches to estimate the level of unreported catches: (1) to include in future stock assessments in order to enhance the basis on which to provide management advice to the Commission; and (2) for possible use in the calculations in sub paragraph (b) of paragraph 2bis in order to ensure that all sources of mortality are reflected in those calculations and accounted for in setting the retention allowance.

Biological sampling and observer coverage

8. CPCs shall gradually increase the observer coverage, including EMS, of all longline fishing vessels in ICCAT fisheries to [10/20%] by [2023] at the latest. This increase in the coverage should be implemented in accordance with provisions of Recommendation 16-14 either by means of the deployment of human observers on board vessels or through the use of EMS, taking into account minimum standards to be agreed by ICCAT, based on advice from SCRS and PWG.

8bis. Collection of biological samples during commercial fishing operations shall comply with the Recommendation by ICCAT on biological sampling of prohibited shark species by scientific observers (Rec. 13-10). CPCs should encourage the collection of biological data and biological samples of North Atlantic shortfin mako that are dead at haulback, such as muscle, vertebrae and reproductive tissues, consistent with the terms of this recommendation and according to the recommendations of SCRS.

[8ter] Notwithstanding paragraph 8, in the context of this Recommendation and only for vessels of 15 meters or less, where an extraordinary safety concern exists that precludes deployment of an onboard observer, a CPC may exceptionally apply an alternative approach as set out in paragraph 4b) of Recommendation 16-14. This derogation from paragraph 8, shall be without prejudice to the overall commitment of all CPCs as outlined in this measure to immediately end overfishing and to reduce mortality levels. Any CPC wishing to avail itself of this alternative approach must: 1) present the details of the approach to the SCRS based on the advice of the SCRS for evaluation and 2) obtain approval from the Commission (as stipulated in paragraph 4b of Recommendation 16-14).

[...]

Scientific and research activities

10. The SCRS shall continue to prioritize research into: identifying mating, pupping and nursery grounds, and other high concentration areas of North Atlantic shortfin mako; options for spatial-temporal measures; mitigation measures (inter alia, gear configuration and modification, deployment options), together with the benefits and disadvantages for the objectives of the rebuilding programme, aimed at further improving stock status; and other areas the SCRS deems helpful both to improving stock

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assessments and reducing shortfin mako mortality. In addition, CPCs are encouraged to investigate at-vessel and post-release mortality of shortfin mako including, but not exclusively through, the incorporation of hook-timers and of satellite tagging programs.

10bis Taking into account that hotspots of incidental catches may occur in areas and periods with specific oceanographic conditions, the SCRS shall launch a pilot project to explore the benefits of installing mini data loggers on the mainline and on the branchlines of longline fishing vessels which participate in the project on a voluntary basis targeting ICCAT species that have potential interactions with shortfin mako sharks. The SCRS shall provide guidance 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.

11. [

- a) The SCRS shall provide to the Commission by 2023, and whenever new information becomes available, updated advice on mitigation measures aimed at further reducing shortfin mako mortality. For that purpose, in 2022, CPCs shall submit to the SCRS [fishery-specific] information on the technical and other management measures they have implemented for reducing total fishing mortality of North Atlantic shortfin mako sharks. The SCRS shall review this information and advise the Commission on which tools and approaches have been most effective at reducing fishing mortality with a view to recommending specific measures that should be considered for adoption by the Commission.
- b) Taking into account the information on the technical and other management measures submitted by CPCs in subparagraph (a) above, the SCRS shall assess the potential benefits of size limits for [live] retention, in particular sex specific sizes at maturity based on the best available science, as well as maximum size limits, particularly when considered in combination with other management measures, and whether they would sufficiently reduce overall fishing mortality to support the objectives of the rebuilding program. The SCRS shall advise the Commission by [2023/2024] whether size restrictions are effective tools, especially when used in combination with other measures, to help meet required mortality reductions.
- c) Based on the SCRS advice relating to subparagraph (a) and (b), the Commission shall at its [2023/2024] Annual Meeting, consider the use of size restrictions and, as appropriate, other technical measures as part of an effective program to rebuild the North Atlantic shortfin mako stock.]

Next stock assessments and review of measures effectiveness

12. The SCRS shall conduct a benchmark stock assessment, including Kobe II strategy matrix that reflects the time frame for rebuilding up to 2070, of North Atlantic shortfin mako by [2024/2026]. Further assessments shall be carried out by [2029 and 2034], with a view to evaluate the stock status and trajectory as well as the effectiveness of actions taken pursuant to this recommendation and subsequent amendments to achieve the objectives of the rebuilding programme.

Implementation

13. Notwithstanding the provisions of Article VIII, paragraph 2 of the Convention, CPCs are strongly encouraged to implement, in accordance with their regulatory procedures, this Recommendation as soon as possible and before the date of its entry into force.

13bis In [2022/2023], an intersessional meeting of Panel 4 shall take place to promote the sharing among CPCs of best practices, to reduce encounters with, and catches and fishing mortality of shortfin mako sharks. Panel 4 shall seek input from fishing operators other relevant stakeholders, and scientists and shall encourage their participation in this meeting. Any recommendations from this meeting for effective technical measures that have the potential to reduce fishing mortality for shortfin mako sharks shall be referred to the SCRS for its review and consideration. Based on that review, [in

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2023/2024] the SCRS shall advise the Commission on the most effective technical measures that should be implemented to reduce fishing mortality for shortfin mako while also providing information and advice on the trade-off for the catches of the target species by fishery.

Repeal

14. This Recommendation replaces and repeals the *Recommendation by ICCAT on the Conservation of North Atlantic Stock of Shortfin Mako Caught in Association with ICCAT Fisheries* (Rec. 19-06).

Annex 1

Minimum standards for safe handling and live release procedures

The following provides minimum standards for safe handling practices of North Atlantic shortfin mako sharks (nSMA) and provides specific recommendations for both longline and purse seine fisheries.

These minimum standards are appropriate for live shortfin mako sharks when released whether under no-retention policies, or when released voluntarily. These basic guidelines do not replace any stricter safety rules that may have been established by the National Authorities of individual CPCs.

Safety First: These minimum standards should be considered in light of safety and practicability for crew. Crew safety should always come first. At a minimum, crew should wear suitable gloves and avoid working around the mouths of sharks.

Training: The Secretariat and SCRS should develop materials to support the training of fishing operators to implement this safe handling protocol. These materials should be made available to CPCs in the three ICCAT official languages.

To the greatest extent practicable, all sharks being released should remain in the water at all times unless it is necessary to lift sharks for species identification. This includes cutting the line to free the shark while it is still in the water, using bolt cutters or dehooking devices to remove the hook if possible, or cutting the line as close to the hook as possible (and so leaving as little trailing line as possible).

Be prepared: Tools should be prepared in advance (e.g., canvas or net slings, stretchers for carrying or lifting, large mesh net or grid to cover hatches/hoppers in purse seine fisheries, long handled cutters and de-hookers in longline fisheries, etc., listed at the end of this document).

General recommendations for all fisheries:

- If operationally safe to do so, stop the vessel or substantially reduce its speed.
- When entangled (in netting, fishing line, etc.), if safe to do so, carefully cut the net/line free from the animal and release to the sea as quickly as possible with no entanglements attached.
- Where feasible, and while keeping the shark in the water, try to measure the length of the shark.
- To prevent bites, place an object, such as a fish or big stick/wooden pole, in the jaw.
- 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.

Longline fisheries specific safe-handling practices:

- 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 break could shoot hook, weights and other parts toward the vessels and crew at high 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.
- If hooked, and the hook is visible in the body or mouth, use a dehooking device or long-handled bolt cutter to remove the hook barb, and then remove the hook.
- If it is not possible to remove the hook or the hook cannot be seen, cut the line of the trace (or snood, leader) as close to the hook as possible (ideally leaving as little line and/or leader material as possible and no weights attached to the animal).

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Purse seine fisheries specific safe-handling practices:

- *If in purse seine net:* Scan the net as far ahead as possible to spot the sharks early to react quickly. Avoid lifting them up in the net towards the power block. Reduce vessel speed 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 in brail or on deck:* Use a purpose-built large-mesh cargo net or canvas sling or similar device. If the vessel layout allows, these sharks could also be released by emptying the brail directly on a hopper and release ramp held up at an angle that connects to an opening on the top deck railing, without need to be lifted or handled by the crew.

DO NOT (all fisheries):

- To the greatest extent practicable, do not lift sharks from the water using the branchline, especially if hooked unless it is necessary to lift sharks for species identification.
- Lift sharks using thin wires or cables, or by the tail alone.
- Strike a shark against any surface to remove the animal from the line.
- Attempt to dislodge a hook that is deeply ingested and not visible.
- Try to remove a hook by pulling sharply on the branchline.
- Cut the tail or any other body part.
- Cut or punch holes through the shark.
- Gaff or kick a shark, or insert hands into the gill slits.
- Expose the shark to the sun for extended periods.
- Wrap your fingers, hands or arms in the line when bringing a shark or ray to the boat (may result in serious injury).

Useful tools for safe handling and release:

- Gloves (shark skin is rough; ensures safe handling of shark and protects crew's hands from bites).
- Towel or cloth (a towel or cloth soaked in seawater can be placed on the eyes of the shark; used to calm sharks down)
- Dehooking devices (e.g., pig tail dehooker, bolt or plier cutters)
- Shark harness or stretcher (if needed)
- Tail rope (to secure a hooked shark if it needs to be removed from the water)
- Saltwater hose (If anticipated that it may require more than 5 minutes to release a shark, then place a hose into its mouth so seawater is moderately flowing into it. Make sure deck pump has been running several minutes before placing it in a sharks mouth)
- Measuring device (e.g., mark a pole, leader and float, or a measuring tape)
- Data sheet for recording all catch
- Tagging gear (if applicable)