



CCSBT-EC/2010/10

Total Allowable Catch and its Allocation

PURPOSE

To provide relevant background information to support the Extended Commission's (EC) deliberations on:

1. Attributable SBT Catch;
2. Total Allowable Catch (TAC) of southern bluefin tuna (SBT) for 2021-2023;
3. Research Mortality Allowance for 2021 - 2023; and
4. Allocation of the TAC.

(1) Attributable SBT Catch

The Attributable SBT Catch is that part of a Member's or Cooperating Non-Members' (CNM) catch that is counted against its allocation. CCSBT 21 agreed on a common definition for the Attributable SBT Catch as follows:

“A Member or CNM's attributable catch against its national allocation is the total Southern Bluefin Tuna mortality resulting from fishing activities within its jurisdiction or control¹ including, inter alia, mortality resulting from:

- *commercial fishing operations whether primarily targeting SBT or not;*
- *releases and/or discards;*
- *recreational fishing;*
- *customary and/or traditional fishing; and*
- *artisanal fishing.”*

Since the 2018 quota year, Members have been required to implement this definition of the Attributable SBT Catch. Members are expected to report on the total SBT mortalities counted against their national allowance for each sector² in their annual report to the Compliance Committee and the EC. The EC will consider Members' reports and provide any necessary recommendations.

¹ Except where a vessel is chartered to a person or entity of another Member or CNM, and if a catch is attributable to that Member or CNM.

² e.g. commercial longline, commercial purse seine, commercial charter fleet, commercial domestic fleet, recreational fishing, customary and/or traditional fishing, and artisanal fishing, including any releases and/or discards

(2) Total Allowable Catch (TAC) of southern bluefin tuna (SBT) for 2021 - 2023

The TACs for 2021 to 2023 inclusive are scheduled to be set in 2020.

The CCSBT has used a Management Procedure (the “Bali Procedure”) to guide the setting of the TAC since 2011. At CCSBT 26 (October 2019), the EC adopted a new Management Procedure (the “Cape Town Procedure”) together with an updated [Resolution on the Adoption of a Management Procedure](#). The Cape Town Procedure includes the following parameters:

- (i) The MP shall have at least a 70% probability of rebuilding the stock to an interim rebuilding target reference point of 20% of the original spawning stock biomass by 2035;
- (ii) The MP shall have a 50% probability of achieving a biomass level of 30% of the original spawning stock biomass by 2035;
- (iii) The minimum increase or decrease TAC change shall be 100 tonnes;
- (iv) The maximum increase or decrease TAC change shall be 3000 tonnes; and
- (v) The TAC shall be set for three-year periods.

It is worth noting that according to the 2020 stock assessment, the stock is estimated to be 20% of the initial Total Reproductive Output (TRO) and that the current depletion level is approximately equal to the CCSBT’s interim rebuilding target of 20% of initial TRO.

Paragraph 2 of the Resolution on the Adoption of a Management Procedure states that “*The MP shall be used to guide the setting of the global total allowable catch (TAC) for 2021 and beyond*”. The ESC ran the Cape Town Procedure to recommend a TAC for 2021 to 2023. **The MP recommended TAC for 2021-2023 is 17,647 t, which is the same as the TAC for 2018-2020.**

CCSBT 26 noted that “*The decision on the TAC should also consider other information such as the sustainability of the SBT stock and fisheries as well as the papers and proposals that Australia will provide on SV and Japan will provide on markets.*”. Furthermore, at CCSBT 26, “*New Zealand and the EU advised that at CCSBT 27, they would need to see that there had been real and measurable progress towards resolving current farm uncertainties and satisfactory progress on the market study proposal to investigate uncertainties before they could agree to any increased TAC that may be recommended by the MP*”.

In accordance with Paragraph 1 of the Resolution on the Adoption of a Management Procedure, the ESC has tailored the meta-rule process for the new Cape Town Procedure. The updated meta-rules are provided in **Attachment A. The Extended Commission should consider and endorse these meta-rules for them to take effect.**

The ESC evaluated the meta-rules to determine whether there are any exceptional circumstances that should cause the MP recommended TAC for 2021-2023 to be revised. The evaluation of meta-rules by the ESC is shown at paragraphs 127 to 141 of the Report of ESC 25. These paragraphs are reproduced at **Attachment B** for convenience.

The overall conclusion of the ESC in relation to exceptional circumstances is provided in paragraph 165 of the Report of ESC 25, which states that:

165. *In 2020 the ESC evaluated whether there are events, or observations, that are outside the range for which the CTP was tested, and the implications of this for TAC setting. The scope of this evaluation covered (i) all input data (gene-tagging, CPUE, and POP and HSP) used by the CTP to calculate a recommended global TAC; (ii) changes in estimates of the population’s dynamics and productivity incorporated*

into the 2020 stock assessment; (iii) the shift in size distribution towards small fish in the Indonesian spawning ground fishery since 2013; and (iv) the potential for fishing mortality (from Members and non-Members) to be greater than that used to calculate the TAC recommended by the MP. Following the meta-rule review of exceptional circumstances, the ESC concluded there was no reason to declare exceptional circumstances, and hence to perhaps modify the TAC recommended by the CTP.

(3) Research Mortality Allowance for 2021 - 2023

There are two decisions to be made by the Extended Commission (EC) in relation to Research Mortality Allowance (RMA): (i) the amount of RMA that is to be deducted from the TAC each year from 2021 to 2023; and (ii) Whether to approve all or some of the RMA requests for research projects in 2021.

- (i) The EC needs decide on the amount of Research Mortality Allowance (RMA) that is to be deducted from the TAC each year from 2021 to 2023. Background information to consider in making this decision includes:
 - CCSBT 20 agreed that an allocation of 10 t per year would be made for RMA within the TAC for 2015 to 2017. CCSBT 23 agreed that a slightly smaller allocation of 6 t per year would be made for RMA within the TAC for 2018 to 2020.
 - The amount of RMA usage sought and approved each year from 2015 to 2017 ranged between 5.7 t and 7.7 t, and from 2018 to 2020 it ranged between 3.1 t and 5.2 t.
- (ii) The following requests have been made for RMA to cover research projects in 2021:
 - 2 tonnes for the CCSBT Gene Tagging Project;
 - 0.1 tonnes by Japan for a trolling survey of age-0 SBT in North West Australia; and
 - 0.9 tonnes by Japan for a trolling survey of age-1 SBT in South West Australia.

The ESC has endorsed the provision of RMA for these projects.

The EC should confirm whether it approves these requests for Research Mortality Allowance, totalling 3.0 t for 2021.

(4) Allocation of the TAC

The allocations of the TAC to Members and Cooperating Non-Members are set in accordance with the CCSBT's [Resolution on Allocation of the Global Total Allowable Catch](#) (Allocation Resolution).

The agreed global TAC for southern bluefin tuna (SBT) for 2018-2020 was 17,647 t and within the global TAC, the EC agreed that:

- 306 t would be set aside to account for IUU catch by Non-Members; and
- 6 t would be set aside for research mortality allowance (RMA).

However, the Cape Town Procedure incorporates plausible IUU catches (unreported catch of up to 1000 t of small SBT, 1000 t of large SBT and 20% of the surface fishery³) within the reference set of operating models used for testing and for tuning the Cape Town Procedure to the EC's management objectives. Consequently, providing that unreported catch is no more than these amounts, the MP-derived TAC can be implemented as calculated, without setting aside part of the TAC to account for IUU catch.

Consequently, if the EC agrees with the MP recommended TAC of 17,647 t and an RMA of 6 t for each year from 2021 to 2023, then there are at two options for allocating the TAC:

1. In accordance with paragraphs 2 and 7 of the Allocation Resolution, allocate 17,641 t⁴ (17,647 t minus 6 t) between the Members based on Members' nominal catch percentage levels.
2. Leave Members' allocations unchanged in accordance with paragraph 3 of the Allocation Resolution, which states that *"If there is no change to the TAC, each Member's allocation will remain unchanged"*.

The second option above is the result of a technicality where the Allocation Resolution did not make specific allowance for a situation where the deductions from the TAC change, but the TAC itself remains unchanged.

The allocations for Members according to the two above options are shown in the table below.

Member	Option 1 (Allocation of 17,641 t)	Option 2 (unchanged allocations)
Japan	6274	6165
Australia	6274	6165
New Zealand	1107	1088
Korea	1263	1240.5
Taiwan	1263	1240.5
Indonesia	1019	1002
European Union	11	11
South Africa	430	423

All Members' allocations of the TAC increase under Option 1. However, the voluntary transfer that Japan was providing to Indonesia (21 t) and to South Africa (27 t) ceases after 2020. Consequently, the Effective Catch Limits of Indonesia and South Africa will decrease by 4 t and 20 t respectively with Option 1, and by 21 t and 27 t respectively with option 2.

Once the allocations to Members have been agreed, the Secretariat recommends that technical updates of CCSBT's Resolution on Allocation of the Global Total Allowable Catch as indicated in **Attachment C** be adopted.

Prepared by the Secretariat

³ Smaller levels of potential unreported catch apply prior to 2013 for small/large SBT (i.e. ramping up linearly from zero in 1990 to these levels in 2013, then keeping the same level) and prior to 1999 for the surface fishery (i.e. from zero in 1992 to 20% in 1999, then keeping the same level).

⁴ Which is an increase of 306 t over that amount available for 2018-2020.

Metarules for the Cape Town Procedure
(extract from Attachment 8 of the Report of SC 25)

Preamble

Metarules can be thought of as a set of conventions for the implementation of the Management Procedure (MP). This includes “rules” which prespecify how to proceed in the event that exceptional circumstances arise when application of the total allowable catch (TAC) generated by the MP is considered to be highly risky or highly inappropriate. Metarules are not a mechanism for making small adjustments, or ‘tinkering’ with the TAC from the MP. It is difficult to provide very specific definitions of, and be sure of including all possible, exceptional circumstances. Instead, a process for determining whether exceptional circumstances exist and whether the implication(s) arising from them is sufficiently severe to warrant revising the TAC advice from the MP is described below. The need for invoking exceptional circumstances provisions should only be evaluated at the ESC based on information presented and reviewed at the ESC.

All examples given in this document are meant to be illustrative and are not meant as complete or exhaustive lists.

Process to determine whether exceptional circumstances exist

Every year the ESC will:

- Review stock and fishery indicators, and any other relevant data or information on the stock and fishery; and
- Consider and examine whether the inputs to the MP are affected
- Consider if the population dynamics are potentially substantially different from those for which the MP was tested (as defined by the 2019 Reference set of operating models, OMs)
- Consider if the fishery or fishing operations have changed substantially
- Consider if recent catches and other removals have been greater than the MP’s recommended TACs

On the basis of this review, determine whether there is evidence for exceptional circumstances.

Examples of what might constitute an exceptional circumstance include, but are not limited to:

- A gene-tagging juvenile abundance estimate outside the range (95% probability intervals for projections)⁵ for which the MP was tested (i.e. the 2019 reference set of OMs);
- A CPUE result outside the range for which the MP was tested;
- Substantial improvements in knowledge, or new knowledge, concerning the dynamics of the population which would have an appreciable effect on the operating models used to test the existing MP; and
- Missing input data for the MP⁶, resulting in an inability to calculate a TAC from the MP (i.e. consistent with the manner in which it was tested).

Every three years (not coinciding with years when a new TAC is calculated from the MP) the ESC will:

- Conduct an in-depth stock assessment; and

⁵ The “range” refers to 95% probability intervals for projections for the index in question made using the reference set (“grid”) of the OMs during the testing of the MP (i.e. 2019 OMs).

⁶ Missing years of gene-tagging data have zero weight in calculation of 5-year weighted average.

- On the basis of the assessment, indicators and any other relevant information, determine whether there is evidence for exceptional circumstances (an example of exceptional circumstances would be if the stock assessment was substantially outside the range of simulated stock trajectories considered in MP evaluations, calculated under the reference set of operating models).

Every six years (not coinciding with years when a new TAC is calculated from the MP) the ESC will:

- Review the performance of the MP; and
- On the basis of the review determine whether the MP is on track to meet the rebuilding objective or a new MP is required.

If the ESC concludes that there is no or insufficient evidence for exceptional circumstances, the ESC will:

- Report to the Extended Commission that exceptional circumstances do not exist.

If the ESC has agreed that exceptional circumstances exist, the ESC will:

- Follow the “Process for Action”.

Process for Action

Having determined that there is evidence of exceptional circumstances, the ESC will in the same year:

- Consider the severity of the exceptional circumstances (for example, how severely “out of bounds” is the CPUE) and, where possible, examine its potential impacts on the performance of the MP;
- Follow the Guidelines for Action if TAC change is considered necessary (see below);
- Formulate advice on the action required (for example, there may be occasions when the severity and impacts of the ‘exceptional circumstances’ are deemed to be low, so that the advice is not for an immediate change in TAC, but rather a trigger for a review of the MP or collection of ancillary data to be reviewed at the next ESC); and
- Report to the Extended Commission that exceptional circumstances exist and provide advice on the action to take.

Guidelines for Action

If there is a risk associated with TAC being too high, then consider TAC changes where:

- a) The MP-derived TAC should be an upper bound;
- b) Action should be at least an x% change to the TAC, depending on severity.

If there are risks associated with TAC being too low, then consider TAC changes where:

- a) The MP-derived TAC could be a minimum;
- b) Action should be at least an x% change to the TAC, depending on severity.

An urgent updated assessment and review of indicators will take place, with projections from that assessment providing the basis to select the value of the x% referred to above.

The Extended Commission will:

- Consider the advice from the ESC; and
- Decide on the action to take.

Extract of Agenda Item 10.2 from the Report of SC 25

10.2. Evaluation of meta-rules and exceptional circumstances

127. At its Eighteenth annual meeting in 2011, the CCSBT agreed that an MP would be used to guide the setting of the SBT global total allowable catch (TAC). The CCSBT also adopted the meta-rule process as the method guiding the implementation of the MP and for dealing with exceptional circumstances in SBT fisheries (ESC 2013). The meta-rule process (updated for the new CTP, **Attachment 8**) describes: (1) the process to determine whether exceptional circumstances exist; (2) the process for action; and (3) the guidelines for action.
128. Exceptional circumstances are events, or observations, that are outside the range for which the MP was tested and, therefore, indicate that application of the total allowable catch (TAC) generated by the MP may be inappropriate.
129. Paper CCSBT-ESC/2008/14 provides an overview of the meta-rules of the CTP and reviews the evidence for exceptional circumstances for the calculation of the 2020 TAC. The annual review of the CCSBT MP input data series, and stock and fisheries indicators, is intended to identify conditions and/or circumstances that may represent a substantial departure from conditions under which the MP was tested, termed “exceptional circumstances”, and where appropriate recommend action. In 2020, the ESC is to use the new Cape Town Procedure to calculate the recommended TAC for the 2021-2023 TAC block. In considering the potential for exceptional circumstances, the paper examines whether: 1) the inputs to the MP are affected, 2) the population dynamics are potentially significantly different from those for which the MP was tested (as defined by the 2019 Reference and Robustness sets of OMs), 3) the fisheries or fishing operations have changed substantially, 4) total removals are greater than the MP’s recommended TACs, and 5) if there are likely to be impacts on the performance of the SBT rebuilding plan as a result. The following current and historical issues are addressed:
- The high 2018 CPUE data point in the Base CPUE series used in the CTP is of concern (although not in the stock assessment where an interim series is being used), and the recommended action is to work on a new CPUE series in time for review and possible retuning of the MP before the TAC recommendation for the 2024-2026 quota block in 2022. The review of performance of the CTP adopted will need to be reconsidered when a new CPUE standardisation is agreed for use in the MP prior to the 2022 ESC. There are no concerns regarding the gene-tagging and close-kin mark-recapture inputs to the MP.
 - Small changes in the estimates of the population’s dynamics in the reconditioned OMs for the 2020 stock assessment do not affect running of the MP or the recommendation for the 2021-2023 TAC.
 - Concerns in previous years about the impacts of catches above the recommended TAC, have been effectively dealt with by the Extended Commission. Members have a common definition for accounting for attributable catches, and the MP TAC recommendations are robust to the level of estimated non-cooperating non-Member catches.
 - A potential change in selectivity in the Indonesian fishery, a concern in previous years, has been resolved. New data have been provided for 2015-16 to 2018-19 to identify which fish were caught in area 1 and the MP has been tested and tuned using OMs that included the updated data in 2019.

Based on this review, the authors concluded that no actions to change the 2020 TAC are required.

130. CCSBT-ESC/2008/24 reviewed observations of input index/data (longline CPUE, gene-tagging estimates, and close-kin mark recapture data) for the CTP by comparing to the 2019 OM predictions. These examinations indicated that all the observations are consistent with the predicted ranges from the 2019 OM. Regarding the input index/data for the CTP, therefore, there is no evidence to support a declaration of exceptional circumstances. Accordingly, the conclusion is reached that there is no major problem regarding use of the CTP for recommending TACs for the 2021-2023 season because: 1) there is no conclusive evidence to support a declaration of exceptional circumstances from the viewpoints of a check of the OM predictions and other potential reasons (the Indonesian small/young fish catch, the extent by which the total reported global catch exceeds the TAC, unaccounted mortality, results of stock assessment conducted in 2020); and 2) no unexpected change has been detected in the fisheries indicators examined. However, cause(s) of the projection result not achieving the interim management objective of median 30% relative TRO by 2035 with a 50% probability using the CTP needs to be further investigated at the ESC.
131. Based on the review of fisheries indicators (paragraph 91) and papers (CCSBT-ESC/2008/14 and 24), the ESC noted that the following four issues needed consideration in the context of the meta-rules for the TAC recommendation for the 2020-2022 quota block:
- Inputs to the MP, in particular the high 2018 CPUE data point and issues identified with the standardised Base CPUE series;
 - Changes in population dynamics as indicated by the reconditioned OMs for the 2020 full stock assessment;
 - The small/young fish in the Indonesian size/age data (2012/13 to 2014/15 seasons); and
 - The potential scale of unaccounted mortalities.

Inputs to the MP

132. The ESC noted that the very high estimated CPUE value for 2018 had been of concern. As it was included in the 2019 reconditioning of OMs used in the MP testing, and the OMMP 11 meeting had agreed that it could still be used as input to the CTP for calculating the TAC in 2020. In light of the issues identified with the Base CPUE standardisation, a new CPUE series will be developed that is more robust to spatial and temporal variation in the distribution of catch and effort for the LL1 fleet. It is expected that a revised series will replace the current Base series before the CTP is implemented in 2022. A program of work has been developed to address this issue (C-R CPUE under SRP).
133. The gene-tagging (CCSBT-ESC/2008/06) and close-kin (CCSBT-ESC /2008/BGD07) input data series were reviewed and no issues were identified.
134. The ESC agreed that all three input data series could be used in the CTP to calculate the TAC.

Updated estimates of population dynamics

135. The ESC has completed a full stock assessment in 2020. All of the key stock status statistics are more optimistic than when the last full assessment was completed in 2017, and the results are generally consistent with projections made at that time (Figure 3). Projections using the CTP and the reference set of OMs resulted in relative TRO by 2035 of 0.29 (0.19-0.43) – slightly below the previously tuned median value of 0.30 from the 2019 MP testing. Under the same projections the target (median 30% relative TRO) is projected to be achieved in 2037. The probability of the relative TRO being above 20% by 2035 is 0.86, which is greater than the previous interim rebuilding

probability objective of 0.70. The probability of the relative TRO being above 30% by 2035 is 0.47 which is below the target of 0.50 but considered acceptable, given that the difference is small when compared to the 90% probability interval for relative TRO which the adopted CTP is estimated to achieve by 2035, which is (0.18 – 0.48). The ESC agreed that there were no substantial changes in understanding of the SBT population's dynamics or the projected rebuilding relative to the OM conditioning used to test and tune the CTP in 2019.

Indonesian size/age data

136. The ESC noted previously that the increase in the frequency of smaller and younger size and age classes in the spawning ground catch monitoring had been identified as an issue that influences the conditioning of the OMs. The ESC noted further that this issue has been addressed for more recent years, through use of VMS data to identify catches in Area 1 (CCSBT-ESC/2008/SBT Fisheries-Indonesia).
137. The ESC also noted that the CTP does not use these data directly, and that the MP testing in 2019 used the updated data from Indonesia in conditioning of the the OMs. The ESC concluded that this issue no longer needs to be considered under the meta-rules.

Unaccounted mortality

138. The reference set of OMs used in the testing of the CTP included UAM1 scenario (paragraph 120) and, hence, should be robust to unaccounted mortalities less than those included in this scenario. The best information available to the ESC indicates that potential unaccounted mortalities are less than those included in the UAM1 scenario used in MP testing; consequently, there is no need to modify the recommended TAC from the CTP for this reason.
139. Overall, the ESC concluded that there was no reason to take action to modify the 2021-23 TAC recommendation from the CTP in relation to these four possible exceptional circumstances.
140. The ESC reiterated the need to take urgent steps to quantify all sources of unaccounted mortalities, as well as the request to Members, the CC and EC to provide information that will assist the ESC in quantifying estimates of these mortalities and reviewing their plausibility in time for the 2022 ESC meeting when the MP will next be used to calculate the TAC.
141. The ESC recommended action to develop a new CPUE series in time for running the MP in 2022 for the next quota block (paragraph 132).

Attachment C

Resolution on the Allocation of the Global Total Allowable Catch

(updated at the ~~Twenty-Fourth~~ **Seventh** Annual Meeting – ~~9-12-15~~ **October 2020~~17~~**)

The Extended Commission for the Conservation of Southern Bluefin Tuna

Seized by the need to ensure the conservation and optimum utilisation of southern bluefin tuna based on the best available scientific advice,

Recalling agreement reached on nominal catch levels at the 16th annual meeting of the Extended Commission meeting and the Resolution on the Total Allowable Catch and Future Management of Southern Bluefin Tuna adopted at that meeting,

Further to the Resolution on the Adoption of a Management Procedure adopted at the annual meeting of the Extended Commission in 2011,

Noting that the Management Procedure is the basis for setting the total allowable catch since 2012,

Taking into account the desirability of a transparent and stable process for allocating total allowable catch to Members and Cooperating Non-Members, which provides greater certainty to Members and Cooperating non-Members, in particular for their fishing industries, and facilitates the administration of national allocations,

Recalling the Extended Commission agreed at its special meeting in 2011 to principles that would apply to the distribution of any increase in the global total allowable catch under the Management Procedure,

Further recalling the changes to nominal catch proportions agreed in 2016,

In accordance with paragraph 3(a) of Article 8 of the Convention for the Conservation of Southern Bluefin Tuna, the Extended Commission decides as follows:

1. The total allowable catch (TAC) set on the basis of the Management Procedure (MP)¹ shall be allocated among Members and Cooperating Non-Members according to this Resolution.
2. Unless this Resolution provides otherwise, the TAC shall be allocated among Members and Cooperating Non-Members based on Members' nominal catch percentage levels set out in the Annex and paragraph 6 of this Resolution.
3. If there is no change to the TAC, each Member's allocation will remain unchanged.
4. If there is an increase to the TAC, the additional tonnage will be allocated amongst the Members based on the nominal catch percentage level as set out in the Annex to this Resolution.

¹The Management Procedure agreed to under the Resolution on the Adoption of a Management Procedure adopted at the annual meeting of the Extended Commission in 201~~9~~⁴, and any subsequent revisions to that Resolution.

Attachment C

5. If there is a decrease to the TAC, each Member's allocation will decrease consistent with its nominal catch percentage level. However, the European Union's allocation will not decrease below 10 tonnes.
6. Each Cooperating Non-Member shall receive a fixed amount of the TAC, subject to the annual review of their status as a Cooperating Non-Member.
7. The Extended Commission may decide on an amount of the TAC to set aside for Research Mortality Allowance and for IUU catch by Non-Members. These amounts will be deducted from the TAC before allocation of the TAC to Members.
8. The allocation of the TAC may be revised with the entry of new Members and Cooperating Non-Members. The nominal catch levels will remain unchanged with the entry of new Members or Cooperating Non-Members, but the nominal catch percentage levels may change.

Attachment C

Annex

Members' Nominal Catch and Percentage Levels

<i>Member</i>	<i>Nominal Catch Level (tonnes)</i>	<i>Nominal Catch Percentage Level</i>
Japan	6,165.068	35.5643%
Australia	6,165.068	35.5643%
Republic of Korea	1240.631	7.1568%
Fishing Entity of Taiwan	1240.631	7.1568%
New Zealand	1,088.273	6.2779%
Indonesia	1001.705	5.7785%
South Africa	422.741	2.4387%
European Union	10.883	0.0628%

Commented [Sec1]: The highlighted figures in the table will be used if the allocations are unchanged according to Option 2 in the main text of section 4 of the paper. If Option 1 is chosen, these figures will become:
6,273.895
6,273.895
1,262.531
1,262.531
1,107.483
1,019.387
430.203
11.075