



CCSBT-EC/2110/10

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. TAC Determination;
3. Research Mortality Allowance for 2022; 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) TAC Determination

At CCSBT 27, the EC agreed that the global TAC for 2021-2023 would be 17,647 t as calculated by the Management Procedure and recommended by the ESC. This is the same TAC as for 2018 to 2020.

The EC needs to confirm whether there are any exceptional circumstances that should cause the TAC for 2022 to be revised. The “metarule” process³ agreed for the Management Procedure (MP) specifies that “*The need for invoking exceptional circumstances provisions should only be evaluated at the ESC based on information presented and reviewed at the ESC*”.

The evaluation of meta-rules by the Extended Scientific Committee (ESC) is shown at paragraphs 84 to 90 of the Report of the Twenty-Sixth Meeting of the Scientific Committee (SC 26). These paragraphs are reproduced at **Attachment A** for convenience.

The overall conclusion of the ESC in relation to exceptional circumstances is provided in paragraph 94 of the Report of SC 26, which states that:

94. The 2021 review of Exceptional Circumstances (agenda item 9.1) did not identify any new issues that affect implementation of the MP. The existing Exceptional Circumstance associated with the issue with the CPUE standardisation, identified in 2019, is being addressed through development of a new CPUE series, which will be available for the next TAC recommendation in 2022. There is no new information on unaccounted mortality. An update on the estimates of potential non-Member catches is planned for 2022. The CTP⁴ has been designed to be robust to a level of non-reported catch that is higher than the current estimates ([Report of ESC 24](#), para 92).

In relation to confirming the TAC for 2022, paragraph 95 of the SC 26 report states that:

95. Given the review of Exceptional Circumstances, which did not identify any new issues, and planned actions under the meta-rules process to develop a new CPUE series to be used in the CTP, the ESC recommends that the global TAC in 2022 should remain at 17,647 t.

(3) Research Mortality Allowance

CCSBT 27 agreed that an allocation of 6 t per year would continue to be made for Research Mortality Allowance (RMA) within the TAC for 2021 to 2023 calculated by the MP.

The ESC has endorsed the provision of the following amounts of RMA to cover research projects in 2021/2022:

- 1.75 tonnes for the CCSBT Gene Tagging Project;
- 0.5 tonnes by Japan for trolling surveys of age-0 SBT in North West Australia and age-1 SBT in South West Australia;
- 3.0 tonnes by Australia for a project to trial the use of stereo video technology to determine the weight of catch taken in Australia’s Southern Bluefin Tuna farming sector; and

³ The Metarules for the Cape Town Procedure can be found in Section 7 of the [Specifications of the CCSBT Management Procedure](#). Members are also encouraged to read the Introduction (Section 1) and the Non-Technical description of the Cape Town Procedure (Section 2) in these specifications.

⁴ Cape Town Procedure.

- 0.75 tonnes by Australia in the event that a small number of popup satellite tags are released in 2021-22 to examine localised GAB movement and behaviour over the summer.

The EC should confirm whether it approves these requests for Research Mortality Allowance, totalling 6.0 t for 2021/2022.

(4) Allocation of the TAC

The allocations and effective catch limits to Members and Cooperating Non-Members (CNMs) for 2021 were agreed at CCSBT 27 as specified below⁵:

Member	(1) Nominal Allocation	(2) Nominal Catch Proportion	(3) Effective Catch Limit
Japan	6165.068	0.355643	6197.4 ⁶
Australia	6165.068	0.355643	6238.4 ⁷
New Zealand	1088.273	0.062779	1102.5
Korea	1240.631	0.071568	1256.8
Taiwan	1240.631	0.071568	1256.8
Indonesia	1001.705	0.057785	1122.8 ⁸
European Union	10.883	0.000628	11
South Africa	422.741	0.024387	455.3 ⁹

The effective catch limit for Indonesia in the above table for 2021 includes a special temporary allowance of 80 t. CCSBT 27 agreed that this special temporary allowance may also be provided to Indonesia for 2022 and 2023, based on an annual review, if Indonesia complies with its payback plan starting from 2022 and no further over-catch occurs each year. CCSBT 27 also noted that this is a temporary arrangement that does not affect the nominal catch level or nominal catch percentage levels within the Annex of the Resolution on the Allocation of the Global Total Allowable Catch.

The EC will decide whether to continue Indonesia's special temporary allowance of 80 t for 2022.

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⁵ This assumes that there are no exceptional circumstances that cause the TAC to be revised.

⁶ Includes a deduction of 21 t for Japan's voluntary transfer to Indonesia and a further 27 t for Japan's voluntary transfer to South Africa.

⁷ Includes a deduction of 7 t for Australia's voluntary transfer to Indonesia.

⁸ Includes voluntary transfers to Indonesia of 21 t from Japan, 7 t from Australia and a special temporary allowance of 80 t.

⁹ Includes a voluntary transfer of 27 t to South Africa from Japan.

Extract of Agenda Item 9.1 from the Report of SC 26

9.1. Evaluation of meta-rules and Exceptional Circumstances

84. Paper CCSBT-ESC/2108/13 presented a summary of the role of the meta-rules in MP implementation and a review of Exceptional Circumstances for 2021.
- The meta-rules adopted with the CCSBT MP provide processes to determine whether Exceptional Circumstances exist and for action to be taken to address issues when they are identified. The aim is to identify Exceptional Circumstances where stock or fishery indicators, the MP input data, population dynamics or fishing operations are evidently substantially different from the conditions under which the MP was tested, or if catches are meaningfully greater than the recommended TAC. If there is evidence for Exceptional Circumstances, then the process is to determine the severity of these and to follow the guidelines for action.
 - In 2021, the only Exceptional Circumstance identified was the very high Japanese longline CPUE estimate for 2018, which is used in the MP. This issue was first identified in 2019, with the severity of the impact on the TAC recommendation considered to be low, and a process for action is currently underway through agreement in the ESC to develop a new standardised CPUE series. An alternative interim CPUE series was used in the 2020 stock assessment. There are some small differences in the rate of projected rebuilding, but differences in the population dynamics are not substantial. The OMs have not been updated in 2021, hence there is no new information with which to evaluate the population dynamics.
 - The gene-tagging data and close-kin data used in the MP are unchanged. The close-kin dataset has been updated and there is a new gene-tagging abundance estimate for 2019 that will be used in future TAC recommendations. Both these updates are within the expected range of values from the 2019 OMs used in MP testing. Review of other indicators of the stock and fishery has not identified any unusual conditions, and no substantial changes in fishing operations were evident. Total reported catches are below the TAC and there is no update on estimates for potential non-Member catches, which are taken into account within the OMs used to test and tune the CTP.
 - In summary, the paper concluded there is no evidence for Exceptional Circumstances other than the issue identified in 2019 with the CPUE series used in the MP, and an agreed process for action is underway to develop a new CPUE series for use in 2022. The paper concluded that no further action is required under the meta-rules and no changes to the 2022 TAC are recommended.
85. Japan presented paper CCSBT-ESC/2108/32. In this paper, the authors examined input index data (longline CPUE, gene-tagging estimate, 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 OMs. Regarding the input index/data for the CTP, therefore, there is no evidence to support a declaration of Exceptional Circumstances. Accordingly, regarding a decision on implementation of the recommended TAC (17,647 t, calculated by the CTP in 2020 to be applied to the 2021, 2022, and 2023 fishing seasons) for the 2022 season, the paper concluded that no modification of the value of this TAC is required because: 1) there is no conclusive evidence to support a declaration of Exceptional Circumstances from the viewpoints of a check against the OM predictions and other potential factors (the extent by which the total reported global catch exceeds the TAC, unaccounted mortality and results of the stock assessment conducted in 2020); and 2) no unexpected change has been detected in the fisheries indicators examined.

86. The ESC recalled that the high 2018 data point in the Base CPUE series used in the CTP had been identified as an Exceptional Circumstance in 2019, and a process for action was agreed at that time ([Report of ESC 24](#)). The initial assessment was that the impact on the MP TAC calculation was low and action has been in progress to develop new standardised series for use in applying the CTP in 2022 to recommend the TAC for the 2024-2026 TAC block (CPUE WG report and Item 5 this meeting).
87. Figure 2 (from Figure 2 of CCSBT-ESC/2108/13) compares the estimates of 2-year-old abundance from the gene-tagging program (2016-2019), the corresponding estimates for recent cohorts in the OM and the mean predictions taken from the stock-recruitment estimates in the Reference Set of OMs as reconditioned in 2020. Note the estimate of 2-year-old abundance in 2019 was not available for inclusion in the 2020 OM conditioning. The figure demonstrates that the four gene-tagging estimates are within the range of abundance from the OM.

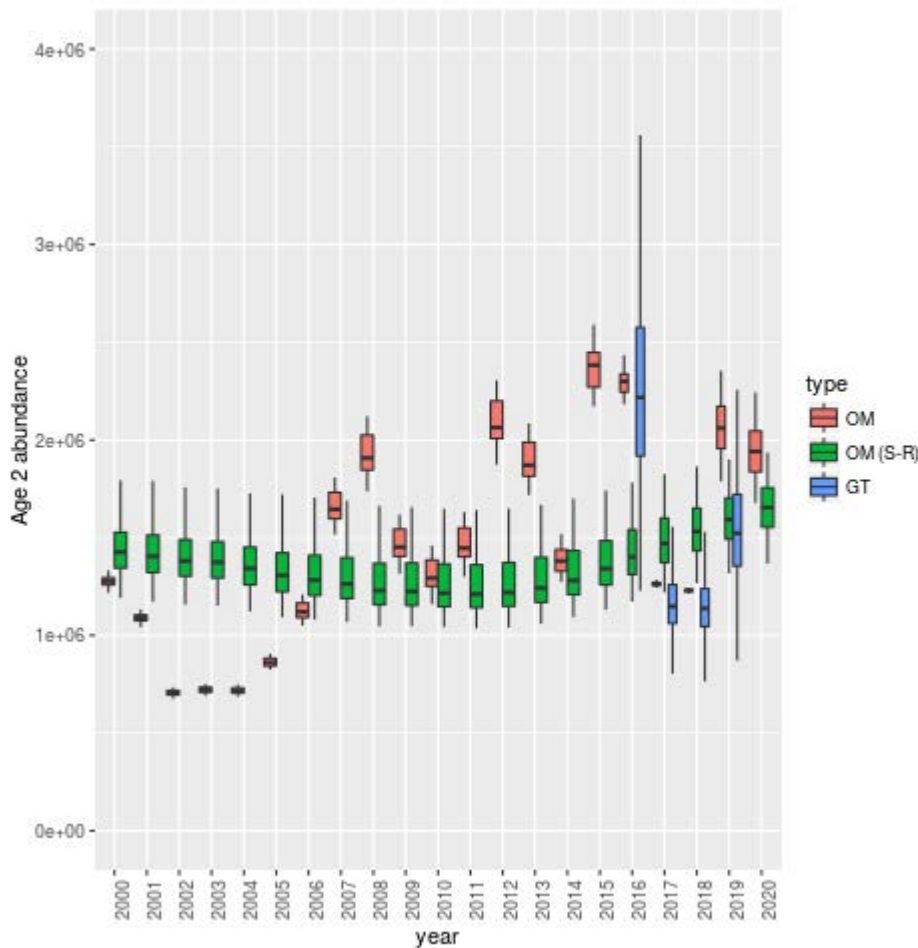


Figure 2: Comparison of 2016-2019 gene-tagging age-2 abundance estimates (blue) with recent age-2 estimates from the 2020 reconditioning of the OM (red) and those predicted from the stock-recruitment function (OM-(S-R)) (green). The 2019 gene-tagging abundance estimate was not included in the OM reconditioning.

88. Figure 3 (from Figure 2 of CCSBT-ESC/2108/32) presents the four gene-tagging estimates and the projected 2-year-old abundance using the 2019 OMs used in MP testing. The ESC noted that the 2016 and 2017 data points were included in the conditioning of the OMs used to tune the MP in 2019 and, therefore, could not be considered in projections for Exceptional Circumstances; only the 2018 and 2019 GT estimates of 2-year-old abundance are relevant to compare with the expected range from the 2019 MP projections for the purposes of evaluating whether Exceptional Circumstances apply.

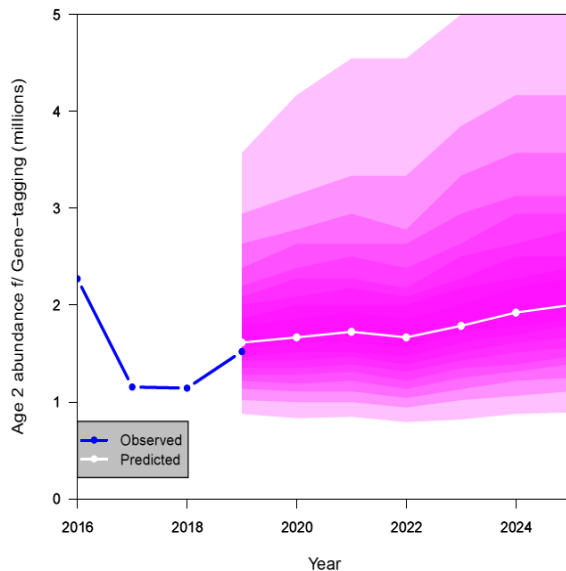


Figure 3: The age-2 SBT abundance estimate for 2019 from this year's (2021) gene-tagging (GT) analysis, and the future estimates of abundance as projected in 2019 from 2019 to 2025 for the Reference set of OMs, where the white lines with points are the medians, and the purple shading represents percentiles from 2.5% to 97.5% in increments of 5%.

89. The ESC concluded that the four estimates of abundance from gene-tagging, including the new 2019 GT data point, were consistent with the range expected from the testing of the CTP.
90. The ESC noted the value of the meta-rule process and the annual review of Exceptional Circumstances in the orderly implementation of the MP. The case of the unusually high 2018 estimate in the CPUE series used in the MP, originally identified in 2019, is a good example. This prompted further investigation, which subsequently identified that this estimate was generated due to a prediction bias in the GLM standardisation method being used, which generated anomalously high estimates for cells with no effort ([Report of OMMP 11](#), paras 11-24 and [Report of ESC 25](#), paras 94-100). The ESC agreed that, even though the 2018 estimate was within the bounds of the range for which the MP had been tested and the immediate implications for the current TAC recommendation were small, this technical bias needed to be addressed through the development of a CPUE standardisation method that more effectively dealt with the spatial-temporal variation in the CPUE data. The meta-rules process provides a structured basis for consideration of Exceptional Circumstance which allows for assessment of the severity of the issue for the TAC recommended by the CTP, and a process for the action required to be agreed and to be implemented in a systematic way.