



Evaluation of exceptional circumstances – SBT 2025

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Abstract

The meta-rules adopted with the CCSBT Management Procedure (MP) provide a process to determine whether exceptional circumstances exist and a process and guidelines for action to address issues when identified. The aim is to identify exceptional circumstances where stock or fishery indicators, the MP input data, population dynamics, fishing or fishing operations are substantially different from the conditions under which the MP was tested or if catches are greater than the recommended Total Allowable Catch (TAC). If there is evidence for exceptional circumstances, then the next step in the process is to determine the potential severity of the 'exception' and follow the guidelines for action.

There are several issues that are of concern or that trigger exceptional circumstances. However, none of these are currently considered to have a severe impact on the stock or fishery that would necessitate considering changes to the current MP derived TACs. Therefore, we do not recommend changes to the TAC for 2026 that was adopted when the MP was run in 2022, or the TAC for 2027-2029 recommended from running the MP this year.

The issues of concern are:

1. Changes to the gene-tagging program affect the input data for the MP and are, therefore, an exceptional circumstance. The impact of the changes is high because these changes are not part of the specification of the MP and MSE testing, and therefore require code changes to the current MP, i.e. coding a new MP. Recruitment monitoring data has been shown to be essential for robust performance of the MP, and rebuilding of the stock. Missing data will affect the future reviews of indicators and stock assessment. Recruitment monitoring is especially relevant given the growing uncertainties associated with climate change impacts. If these changes are continued, then the recommended action is that a new MP should be developed and MSE tested to provide a scientifically tested MP for future TAC recommendations.
2. Low numbers of close-kin tissue samples collected in Indonesia for 2021/22, 22/23 and 23/24 seasons. This is an essential dataset for use in the MP. The close-kin adult sampling can be adjusted for low numbers sampled in previous years, and therefore this has not triggered exceptional circumstances. This concern has been addressed by additional capacity building for resumption and rebuilding of the program in 2024 and 2025. Increased numbers of tissue samples were collected in the 2024/25 season, but the number of samples is still below the target.
3. The high CPUE estimates in unfished squares in the GAM index in 2022-2024, which impacts on the standardised CPUE, raises concerns about the interpretation of the CPUE index and use in the MP. There has been a long period of continued contraction in the areas of operation of Japanese longline fishery with the lowest numbers of strata fished in recent years. Recent years in the index also appear to be affected by retention or targeting of small fish. The most recent CPUE estimate in the index is on the outer edge of the range of estimates predicted in MSE testing in 2019. This combination of effects on the CPUE index (high CPUE in unfished

squares, and a higher index from the youngest age classes) leads us to consider the recent point as, or on the edge of, an exceptional circumstance for the purpose of requiring further review. The severity, in terms of impact on the stock status, is low, because these data indicate positive stock sizes. However, impact on the MP TAC recommendation is high. The CPUE series has the dominant impact in the MP for the recommended increase in TAC for 2027-2029. The recommended action is further review of the high CPUE points in the series and impacts of fluctuations in the youngest age classes included in the CPUE analysis.

4. Low numbers of fish tagged in the gene-tagging program in recent years that may affect delivery of abundance estimates or their precision. The most recent abundance estimate is more uncertain, there were fewer matches detected, and the CV of the estimate is above the target. The low numbers tagged may lead to a loss in information for the MP, review of indicators and stock assessment. The increased CV of the estimate is a concern, especially in light of the reduction in the resourcing of the GT program but is not considered an exceptional circumstance at this time.
5. Changes in the Indonesian spawning ground fishery, uncertainty in the length/age frequency, and limited otolith collection from the catch monitoring program in recent years. There is no exceptional circumstance in relation to changes in the Indonesian Fishery and uncertainty in length and age frequency, but additional information is required from Indonesia to reduce these uncertainties and determine whether this shift has sufficient impact on the operating model fishery definitions to warrant an exceptional circumstance.

1 Introduction

The SBT meta-rules encompass the Management Procedure Framework for providing scientific advice for rebuilding the stock and includes the full specification of the Cape Town Procedure (Attachment 8, Anon 2020). The meta-rules' schedule of activities includes an annual process for identifying exceptional circumstances (Anon 2020). Exceptional circumstances are events, or observations, that are outside the range for which the CCSBT MP was tested and, therefore, indicate that application of the total allowable catch (TAC) generated by the management procedure (MP) may be highly risky, or highly inappropriate.

The exceptional circumstances process under the meta-rules involves the following three steps:

1. Determining whether exceptional circumstances exist, by examining whether there were any substantial changes in stock and fishery indicators, inputs to the MP, population dynamics or fishery or fishing operations, and if recent catches and other removals have been greater than the MP's recommended TACs.
2. A "process for action" that examines the severity (and implications) of the exceptional circumstances for the operation of the MP, and the types of actions that may be considered.
3. "Guidelines for action" that determine how recommendations from the MP might be altered, if at all, based on the most recent reconditioning of the Operating Model (OM).

The meta-rules schedule of activities for implementation of the MP specifies frequency of TAC setting using the MP, that the stock assessment is offset by 1 year from MP TAC decisions, timing of an MP review and the consideration of exceptional circumstances. The meta-rules provide a safety-net around the implementation of the MP and TAC recommendations, and transparency in advice from the ESC and decision making by the Commission.

This year we are using the meta-rules process to review the recommended TAC for 2026 that came from running the MP in 2022, and new MP TAC for 2027-2029 from running the MP this year.

2 Examining evidence for the existence of exceptional circumstances in 2025

The meta-rules specify the information that should be checked for evidence of exceptional circumstances. The following have been examined:

2.1 Stock and fishery indicators

The indicators papers (e.g. Patterson, 2025) and available national reports in 2025 do not identify any unusual or recent changes in characteristics of the stock or fishery.

The grid type trolling index (juveniles) has been low in recent years (nearly a decade, 2017-2025), relative to index values in the previous period 2006-2016 (Itoh, 2025a).

2.2 MP input data

The specified data used in the MP are the Close-kin Parent-offspring Pairs (POPs) and half-sibling Pairs (HSP), gene-tagging and Japanese longline CPUE index of abundance.

In 2024, the CCSBT reduced funding for the gene-tagging program and inter-sessionally has adopted changes to the gene-tagging program that change how these data are used in the MP. This is an exceptional circumstance. The impact of the changes is high because these changes are not part of the specification of the MP and MSE testing, and therefore require code changes to the current MP, i.e. coding a new MP. Recruitment monitoring data has been shown to be essential for robust performance of the MP (Anon 2015, Hillary et al 2019), and rebuilding of the stock. Recruitment monitoring is especially relevant given the growing uncertainties associated with climate change impacts. Missing data will affect the future reviews of indicators and stock assessment which are fundamental parts of the MP framework. The future workplan for the gene-tagging program is currently unclear. If the changes to the gene-tagging program are to be continued, then the recommended action is that the ESC work on development of a new MP and full MSE testing to provide a scientifically tested MP for future TAC recommendations.

2.2.1 Close-kin data

The Close-kin data were updated in 2025 (Farley et al., 2025). Only data from juveniles were used to identify new parent-offspring pairs (POPs) and half-sibling pairs (HSPs). There has been several years of disruption to the adult tissue and otolith sampling activities in Indonesia, with low numbers of close-kin tissue samples collected in Indonesia for 2021/22, 22/23 and 23/24 seasons. There has been additional capacity building for resumption and rebuilding of the program in 2024 and 2025. Increased numbers of tissue samples were collected in the 2024/25 season, but the number of samples is still below the target. As discussed in the 2020 review of the metarules, the lack of adult samples in the 2022-2024 seasons does not trigger exceptional circumstances because the MP will still operate with the available data and the close-kin adult sampling can be

adjusted for low numbers in previous years. The close-kin data are essential for operation of the MP and are also a key data set in the stock assessment because these data provide information on adult abundance, mortality and productivity. The number of POPs and HSPs are within the range expected from the OMs updated in 2023 (Figure 1).

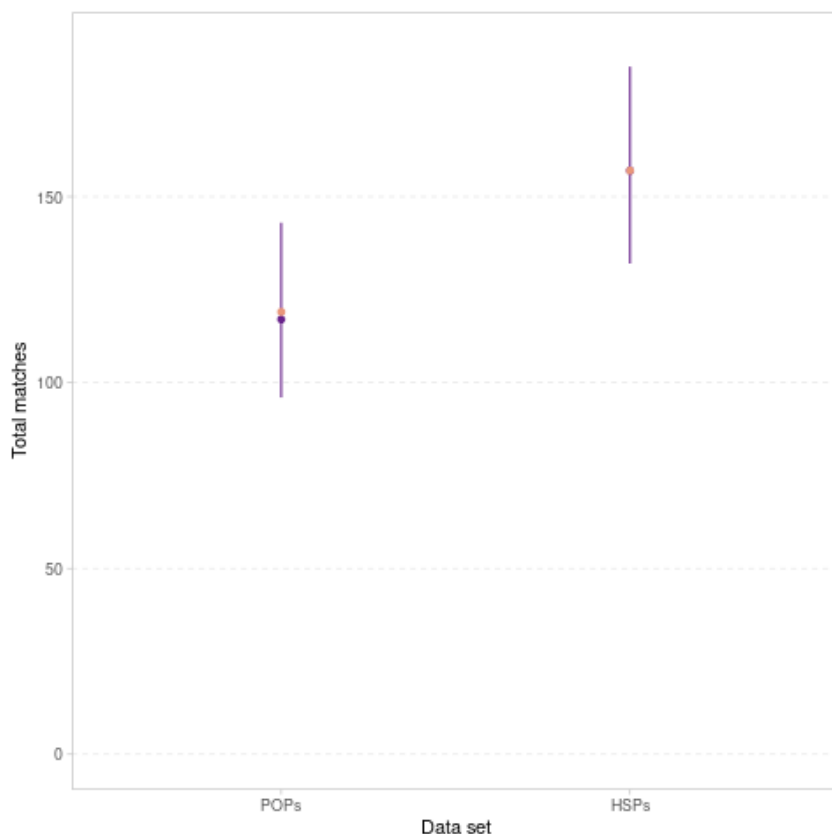


Figure 1 The expected number of POPs and HSPs from the reconditioned OMs in 2023 (purple circle and confidence interval), the available observed data through to 2024 (salmon dot).

2.2.2 Gene-tagging data

The gene-tagging program was developed and adopted as a recruitment monitoring program that provides absolute abundance of 2-year-old fish in the year of tagging for use in the MP. Tissue collection in the tagging and harvest sampling phases of the program have progressed well, however recent numbers of fish tagged have been lower than the target level (Preece et al, 2025). Delays in genotyping the data to estimate abundance for the 2022 age-2 cohort were resolved, and the work to estimate abundance of the 2023 age-2 cohort has also been completed. The 2023 estimate of abundance has a CV that is higher than the target level. The data used in the MP are for the years 2019-2023. In 2020 the tagging field work was cancelled because of poor fishing and COVID19, and therefore the 2020 data point is missing. This is an exceptional circumstance, but the severity and impact are considered low because the MP is designed to continue to operate with missing data. The subsequent recent estimates are indicating a positive trend in recruitment and are well above the limit levels used in the MP, which correspond to the very low recruitments observed in the early 2000s.

There is a concern regarding the low numbers of fish tagged in the gene-tagging program in the recent three years, which may affect delivery of abundance estimates or their precision in future. The most recent abundance estimate (for the 2023 age 2 cohort) is more uncertain, there were fewer matches detected, and the CV of the estimate is above the target. The low numbers tagged may lead to a loss in information for the MP, review of indicators and stock assessment. The increased CV of the estimate is a concern, especially in light of the reduction in the resourcing of the GT program, but is not considered an exceptional circumstance (Takahashi and Itoh, 2025).

2.2.3 CPUE series

A new standardised Japanese longline CPUE series (GAM model) was adopted for use in the MP following additional MSE testing in 2022 (Anon., 2022). The new GAM model resolved exceptional circumstances identified in 2019, regarding the anomalously high CPUE point for 2018. The specified CPUE standardisation has been used to provide an updated CPUE index using data through to 2024 (Itoh and Takahashi, 2025). The index has increased in the recent year and is higher than all years in the series, i.e. since 1969. There are ongoing concerns about the impact of unfished squares on the standardisation (Anon., 2023; Itoh and Takahashi, 2025). The Japanese longline fishery has been contracting over time with fewer strata fished and fewer sets within strata (Itoh, 2025b; Hoyle, 2023). The proportion of time-space strata in which operations took place has decreased over the whole time series, with a plateau in the 1980s and decline since 1990. Itoh and Takahashi (2025) report that high CPUE was predicted in 2022, 2023 and 2024 in strata where fishing was not conducted, and the predictions for the non-fished space-time will require careful interpretation and future monitoring.

The sensitivity tests in 2024 and 2025 comparing age-5 plus index and the age-4 plus base case, indicate the strong impact of age 4 fish on the estimates in recent years (see Figure 34 in Itoh and Takahashi, 2024; Fig31 in Itoh and Takahashi, 2025). This could indicate strong juvenile cohorts or changes in retention practices given increasing quotas (as noted in Itoh and Takahashi, 2025).

Despite these uncertainties, and unresolved uncertainties in CPUE in relation to unreported catches 1989-2005, the CPUE index indicates positive rebuilding of the stock. The recent years in the index show higher inter-annual variation (perhaps related to the retention or targeting of the youngest age class) and are similar to estimates at the start of the series in the early 1970s.

The most recent CPUE index value for 2024 is on the edge of the 95% bound of projected CPUE values from operating models used in the MSE in 2019 (Takahashi and Itoh, 2025). This, and the cumulative concerns with CPUE data described above, leads us to consider this as, or on the edge of, an exceptional circumstance. The trend in CPUE is positive and therefore risks to the stock are currently low. However, impact on the MP TAC recommendation is high as the CPUE series is primarily driving the increase in TAC noted in Hillary et al (2025). The recommended action is further review of the high CPUE points in the series, and impacts of fluctuations in the youngest age classes included in the CPUE analysis.

2.2.4 Population dynamics

There are no substantial changes in our knowledge or understanding of the SBT population dynamics compared to the OM conditioning used to test and tune the Cape Town Procedure in

2019. The 2023 assessment indicated that the probability of rebuilding to the target level of relative Total Reproductive Output (TRO) is slightly higher than the target (51% compared to target of 50%) (Hillary et al, 2023). The estimated TRO in 2035 is on the target at 0.3TRO_0 . The median current level of depletion is 0.23 which is above the initial rebuilding target of 20% of initial TRO. Fishing mortality (F) is less than half the F_{MSY} . The rate of stock size increase is well within the range indicated in the robustness testing of the MP.

2.3 Fishery or fishing operations

There were no major changes in most fisheries and fishing operations in 2024 reported in national reports and the Japanese fishing operation paper (Itoh, 2025b). There has been a shift in areas fished by the Indonesian longline fishery from Area 1 to Area 2, since 2021 (Setyadjia et al 2022, Sadiyah et al 2023) and a large increase in the number of Indonesian vessels reporting SBT catch in 2023 (Anon 2024).

The Indonesian fishery has reported a large increase in catch from area 2, corresponding to a decrease in catch from the spawning ground (area 1). While these changes do not trigger exceptional circumstances, there remains uncertainty in the length composition of SBT landed by the Indonesian longline fishery from statistical area 1 (spawning ground area), which is important for monitoring changes in the spawning population. Farley et al (2021) noted that that the size data from the two sources available (catch monitoring and CDS) provided different age composition results for the five years compared and recommended further work to examine the uncertainties identified and to refine and improve the quality control of the catch monitoring program. Davies et al (2023) provided an updated description of the current issues. There is a need for ongoing improvements in data collection in all fisheries to reduce uncertainties, particularly in catch monitoring programs and provision of accurate length frequency data.

Catch in the Australian longline fishery, operating along Australia's east coast, has steadily risen over the last decade with Australian quota increases. The fishery is catching around 28% of Australia's quota. These fish are larger than the juveniles caught in the Purse Seine fishery in Port Lincoln and are in the juvenile to sub-adult size classes. This fishery is accounted for in the LL1 fishery in the OMs and projections, and no model changes are required.

2.4 Catch relative to TAC

Reported catches for the 2024 calendar year are below the TAC 2024 (Anon., 2025). The recent estimates of potential Un-Accounted Mortality (UAM) from Non-Cooperating Non-Members (NCNM) (Edwards and Hoyle, 2023) are within the range that the Cape Town Procedure has been designed to be robust to (Anon., 2019).

3 Conclusion

In considering the potential for exceptional circumstances, we have examined 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 set of OMs), 3) the fishery or fishing operations have changed substantially, 4) available fishery indicators have concerning trends, 5) total removals are greater than the MP's recommended TACs and UAM accounted for in MP testing, and 6) if there are likely to be impacts on the performance of the SBT rebuilding plan as a result. It is possible that additional exceptional circumstances may be identified at the ESC's annual review of stock and fishery indicators.

The review has identified that changes to the gene-tagging program that affect the input data for the MP is an exceptional circumstance. If these changes are to be sustained, then a new MP should be developed and MSE tested to recommend TACs and provide a high probability of the objectives of the rebuilding program being met.

The combination of high CPUE in unfished squares in recent years, and fluctuation and impacts of retention or targeting of the smallest fish included in the analysis, on the CPUE index leads us to consider this as, or on the edge of, an exceptional circumstance. The trend in CPUE is positive and therefore risks to the stock are currently low. However, impact on the MP TAC recommendation is high as the CPUE series is primarily driving the increase in TAC noted in Hillary et al (2025). Further review of the high CPUE points in the series, and impacts of fluctuations in the youngest age classes included in the CPUE analysis is recommended.

There are other risks to the operation of the MP that have also need to be considered. The close-kin sample collection project in Indonesia is essential to ensure these data are available in future for the CTP. A Commission project to build capacity and resumption of the program has made good progress. Gene-tagging samples are currently low and may affect delivery or precision of estimates in future. Changes in the Indonesian fishery, with a shift from area 1 to area 2, have raised some issues with length frequency data, that still need to be resolved. There is a need for ongoing improvements in data collection in all fisheries to reduce uncertainties, particularly in catch monitoring programs and provision of accurate length frequency data.

Based on this review there are no exceptional circumstances that affect the recommended TAC for 2026 (from running the MP in 2022) and the recommended TAC for 2027-2029 from running the MP in 2025, and therefore these should remain unchanged.

The meta-rules process provides a schedule of activities for the implementation and review of performance of the MP. The thorough and systematic annual examination of exceptional circumstances assists the ESC to provide transparent and clearly reasoned TAC recommendations to the Commission in the context of the objectives of the MP and the conditions under which it was tested.

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