

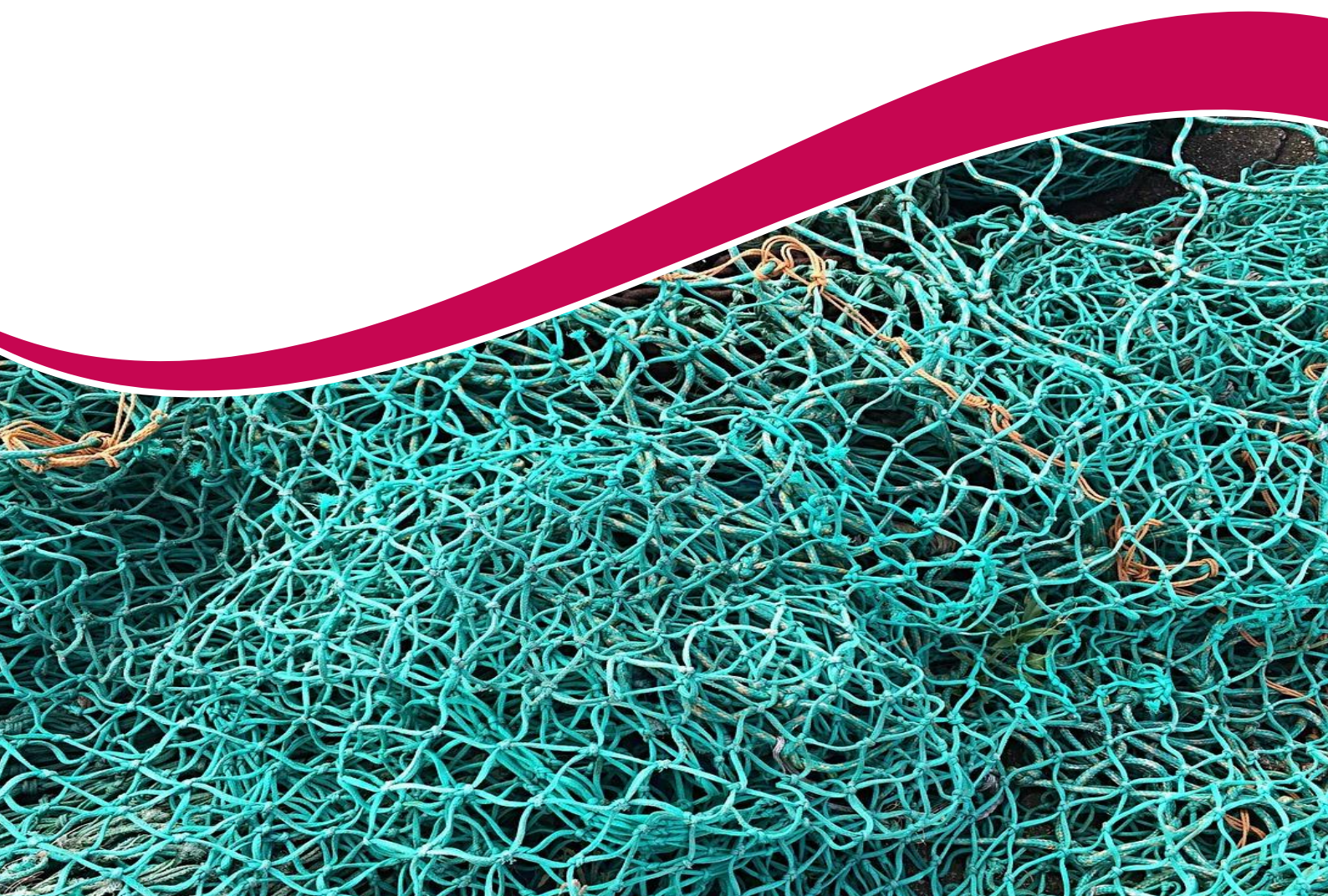


Australian Government

Australian Fisheries Management Authority

Total Allowable Catch Decision Support Tool

**A guide to setting multi-year total allowable catches
in the Southern and Eastern Scalefish and Shark Fishery.**



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1 Purpose

This framework provides direction on how to monitor any changes to a species or stock that is managed as a multi-year total allowable catch (MYTAC) or trigger species within the Southern and Eastern Scalefish and Shark Fishery (SESSF). This is an interim framework, until such time as MYTACs and trigger species approaches are Management Strategy Evaluation tested under a revised multi-species harvest strategy.

2 Background

In 2010, the AFMA Commission agreed to the use of certain criteria and principles to set a total allowable catch (TAC) across multiple years, as outlined within the Harvest Strategy Framework for the Southern and Eastern Scalefish and Shark Fishery (the Harvest Strategy).

The Harvest Strategy stipulated that ‘breakout rules’ were to be applied as appropriate to MYTAC species to identify fundamental changes from the understanding of the stock at the time of the last assessment.

Previously, breakout rules were applied to all MYTAC species as determined by the relevant RAG for that species. Breakout rules were species-specific and required annual analysis of standardised catch-per-unit-effort (CPUE), length frequencies and catch and effort for every species despite, in most cases, little indication that the stock was at risk. This was a time and resource intensive process.

The process was simplified in 2017 with the application of a ‘TAC Decision Support Tool’ developed in consultation with the SESSF Resource Assessment Group (SESSFRAG). Under this approach, only MYTAC species or stocks that are likely to be at risk are subject to further scrutiny, while species considered to be low risk continued to be managed under the previously agreed MYTAC settings.

At its August 2023 meeting¹, SESSFRAG supported the introduction of a ‘trigger species’ group. Species are nominated as ‘trigger species’ and are only subject to updated stock assessments and revised TACs if certain criteria are met.

The TAC Decision Support Tool ([Appendix A](#)) was updated in February 2024 to incorporate criteria and decision rules for trigger species. Further details on how the criteria and decision rules are applied for each of the three species categories using the TAC Decision Support Tool is provided in [Section 3](#).

¹ [SESSFRAG-August-2023-data-meeting-minutes.pdf \(afma.gov.au\)](#)

3 Application of the TAC Decision Support Tool

The TAC Decision Support Tool at [Appendix A](#) has a series of questions designed to identify which category a species belongs to and then which of the decision rules apply.

Trigger species

Criteria

- Stock status is estimated to be above the Target Reference Point (TRP), or $F < F_{MSY}$; and
- TAC is less than 75% caught; and
- Flagged as a non-indicator species under MSHS approach.

Decision rules

- Maintain current TAC if it has been less than six years since the last assessment and set a trigger at 75% of the current TAC (or other lower limit as agreed by relevant RAG); or
- Review fishery indicator data if it has been more than six years since the last assessment and provide advice regarding assessment/TAC options.

A review of fishery indicator data is required if it has been more than six years since the last stock assessment. Trigger species are typically characterised by low catches and are often 'data poor' which means traditional stock assessment approaches may not be possible. The RAG should consider assessment options and provide advice regarding appropriate TACs, triggers and data requirements for the following six-year period.

MYTAC Species

Criteria

- Stock status is estimated to be between the Limit Reference Point (LRP) and TRP; or
- TAC is more than 75% caught; or
- Flagged as a commercial indicator species under MSHS approach².

Decision rules

- Update stock assessment; or
- Maintain MYTAC; or
- Review fishery indicators and provide advice regarding assessment/TAC options.

² Multi-species Harvest Strategy (MSHS) approach – see [FRDC Project Report](#) and [Harvest Strategy Transitional Arrangements](#).

Depleted Species

Criteria

- Stock status is estimated to be below the limit reference point (LRP).

Decision Rule

- Review available data and set annual bycatch TAC in accordance with rebuilding strategy. Prioritise data collection for relevant species and update metier analyses as required.

Prior to the SESSFRAG Data meeting each year, a working group will meet to review each species using the TAC Decision Support Tool and provide advice to SESSFRAG on which of the decision rules should apply. For those species where a review of fishery indicators is required, AFMA (with assistance from CSIRO) will collate the fishery indicator data to support SESSFRAG deliberations at the data meeting.

SESSFRAG is then responsible for:

- a) confirming the working groups application of decision rules for all species, and
- b) reviewing fishery indicators where required (see Section 5) and provide advice regarding assessment/TAC options (See Section 6).

4 What is a fishery indicator?

Fishery indicators are variables used to identify fundamental changes to trends in a species or stock that is managed under a MYTAC during non-assessment years.

Fishery indicators may include:

- catch per unit effort (CPUE);
- total fishing mortality (from total catches, discards, catches in other fisheries or jurisdictions);
- size and age structure; or
- economic factors (for species under calculated economic target reference points)

5 Reviewing Fisheries Indicators

The following review of relevant fishery indicators, using a weight of evidence approach, should be undertaken for a species highlighted as potentially at risk after consideration of the criteria in the Decision Support Tool. Representativeness of the data should be considered in reviewing indicators and potential responses.

For all species

- Relevant operational and management changes
- Data outside historical ranges

Tier 1 species

- Standardised CPUE
- FIS data if available
- Age and length composition (recruitment)
- Discard estimates (to look for recruitment events, failure of recruitment events to eventuate)
- Conflicting data (e.g. age composition between observers, crew collected and FIS)

Tier 3 species

- Age and/or length composition
- Discard estimates

Tier 4 species

- Standardised CPUE
- Discard estimates

Tier 5 species

- Catch versus TAC
- Discard estimates

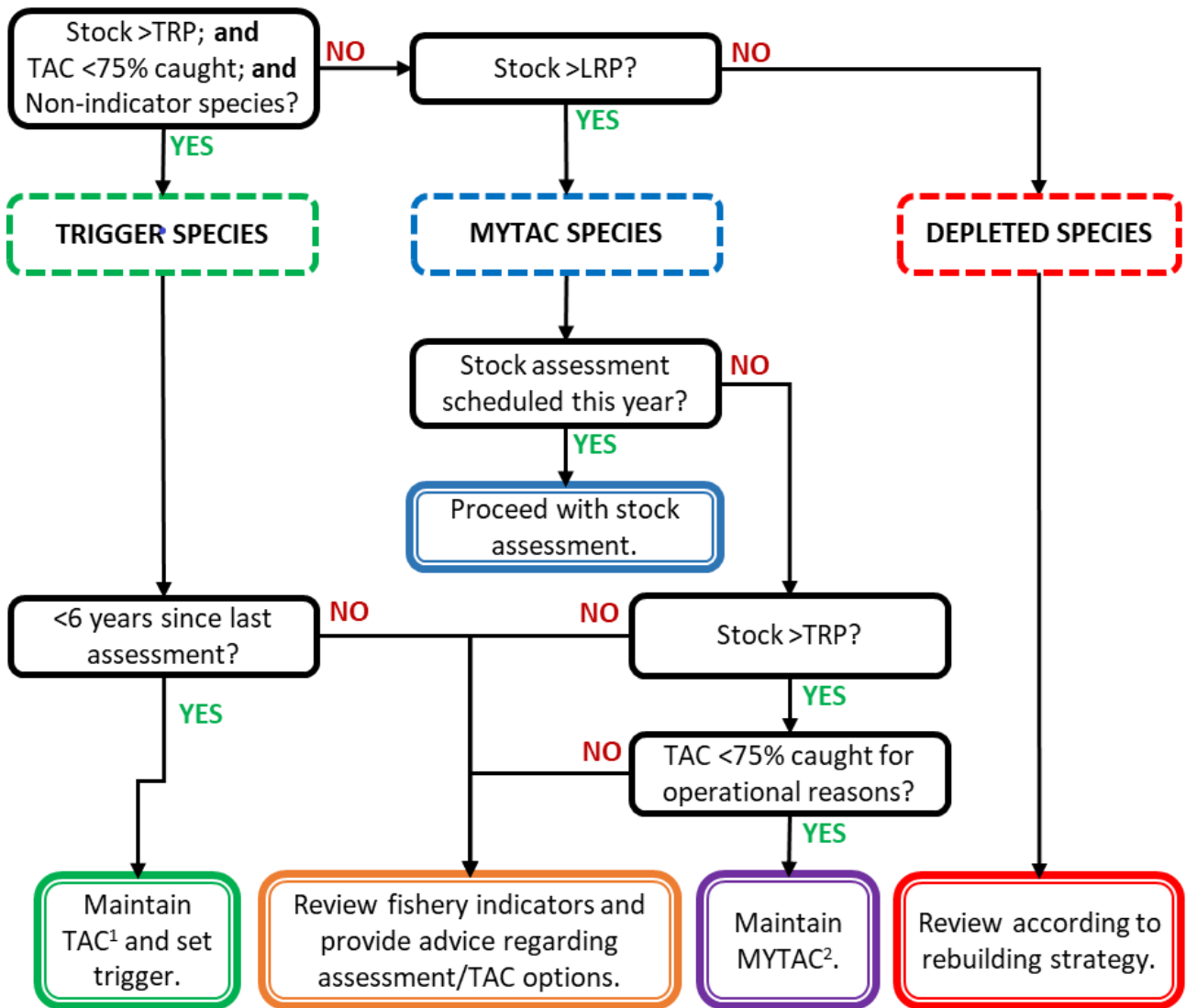
6 Review outcomes

After reviewing fishery indicators, if the RAG is satisfied that a significant change has occurred or that the underlying assumptions of the stock assessment are no longer valid, the RAG should recommend an appropriate management response. The response should be proportionate to the risk identified and might include:

- bringing a scheduled assessment forward for re-assessment and subsequent setting of a revised MYTAC,
- reducing the TAC for the remainder of the MYTAC period,
- implementing a single year TAC, or
- other actions as determined.

Resource capacity must be considered alongside other priorities when deciding what an appropriate response is.

Appendix A: Decision tree support tool for evaluating fishery indicators



¹ TAC is maintained without changes to state catches or discards

² TAC calculated by deducting state catches and discards from RBC.