

Class Notification under the Commonwealth *Native Title Act 1993*

Licence condition variation for Sunset Licences in the Torres Strait Finfish Fishery for the 2019-20 fishing season to enforce catch allowances.

Date of Issue: 16 May 2019

SECTION OF NTA	Section 24HA (7) of the Commonwealth <i>Native Title Act 1993</i>
DEPARTMENT/AGENCY	Australian Fisheries Management Authority (AFMA) on behalf of the Torres Strait Protected Zone Joint Authority (PZJA)
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REFERENCE NO.	Licence condition variation for Sunset Licences in the Torres Strait Finfish Fishery for the 2019-20 fishing season to enforce catch allowances NT2019-05.

The Protected Zone Joint Authority intends to do the following act:

TYPE OF APPROVAL	Licence condition variation under Section 22 of the Commonwealth <i>Torres Strait Fisheries Act 1984</i> (the Act).
NUMBER OF APPROVALS	Licence condition variation for five Sunset Licences.
UNDER WHAT ACT	<i>Torres Strait Fisheries Act 1984</i> (The Act).

The approvals, if granted, will permit the following activity to happen:

NATURE OF ACTIVITY	<p>The proposed management action would vary licence conditions on five Sunset Licences which limit the licence holder to not take more than the prescribed kilogram amounts of catch allowance for Spanish mackerel, coral trout and other reef-line species. In total there are seven sunset licences held by the TSRA.</p> <p>At its 1 April 2019 meeting the Protected Zone Joint Authority agreed that the Torres Strait Finfish Fishery Total Allowable Catch (TAC) limits for commercial fishing in the 2019-20 season, 1 July 2019 to 30 June 2020, will be 82 tonnes for Spanish mackerel and 134.9 tonnes for coral trout.</p> <p>On behalf of traditional inhabitants, each year since 2008-09 the TSRA has leased (temporary transfer) finfish fishery licences, with mackerel and or coral trout catch entitlements, to non-traditional inhabitant fishers. The aim of leasing licences is to maintain market supply and lease out unutilised available catch until the Traditional Inhabitant Boat (TIB) licence sector increase its catches.</p> <p>Sunset licences are granted by AFMA, as PZJA licensing delegate, to provide access to the fishery for a fishing season (1 July to 30 June annually). Each sunset licence is subject to conditions that permit a specified catch allowance to be taken (kilograms of Spanish mackerel, coral trout and other reef-line species).</p>
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	<p>For the 2019-20 Torres Strait Finfish Fishery fishing season beginning on 1 July 2019 the TSRA has recommended that five sunset licences be temporarily transferred with a total catch allocation of 62 tonnes of Spanish mackerel, 31 tonnes of coral trout and 5 tonnes of other reef-line species across all licences.</p> <p>The remaining catch that would be available to TIB fishers for the 2019/20 fishing season would be: 20 tonnes of Spanish mackerel, 103.9 tonnes of coral trout and an unlimited amount for reef-line species across all licences.</p> <p>Currently there is no regulatory limit on catches for the TIB sector. If required, additional measures will be developed to ensure catches do not exceed the agreed TACs.</p> <p>Further information on the proposed management action is provided at Attachment B.</p>
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The above activity will be located within:

LOCATION OF ACTIVITY	The extent of the Finfish Fishery to which the proposed prohibition will apply is described in Item 4, Schedule 2 of the <i>Torres Strait Fisheries Regulations 1985</i> (the Regulations). The Regulations can be accessed online at: https://www.legislation.gov.au/Details/F2016C00633
MAPS/PLANS	Attachment C shows the area of the Finfish Fishery, as described in Item 4, Schedule 2 of the <i>Torres Strait Fisheries Regulations 1985</i> .
NAME OF REGISTERED NATIVE TITLE CLAIMANT GROUP/S OR NAME OF REGISTERED NATIVE TITLE BODY CORPORATE	Cape York Land Council Carpentaria Land Council Aboriginal Corporation Kaurareg People #1 Kaurareg People #2 Kaurareg Native Title (Aboriginal) Corporation RNTBC Malu Lamar (Torres Strait Islander) Corporation RNTBC The applicant for the Torres Strait Sea Claim (Part B)
NAME OF NATIVE TITLE REPRESENTATIVE BODY	Torres Strait Regional Authority

If approved, after consideration of all comments, the management option will be implemented for the following period of time:

DURATION OF APPROVAL	The proposed licences will be authorised from 1 July 2019 to 30 June 2020.
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You are invited to comment upon the class of proposed future acts outlined above within the 28 day response period. If you would like to extend the response period, please contact AFMA within 28 days (14 June 2019) of the date of this notice. Please note extensions to the comment period may only be able to accommodate comments received by 14 June 2019.

Any comments must be **in writing** to:

By mail addressed to:
Australian Fisheries Management Authority
Att: Andrew Trappett
PO Box 376
Thursday Island, QLD, 4875

Or by email to: FisheriesTI@afma.gov.au

Background Information

Total Allowable Catch limits

At its 1 April 2019 meeting the PZJA agreed that the Torres Strait Finfish Fishery Total Allowable Catch (TAC) limits for commercial fishing in the 2019-20 season will be 82 tonnes for Spanish mackerel and 134.9 tonnes for coral trout.

In making its decision the PZJA considered advice from both the Finfish Resource Assessment Group (FRAG) and Finfish Working Group (FWG) advice (**Attachment D**). The Spanish mackerel TAC is a reduction from the present 2018-19 season TAC of 115 tonnes. The reduction is intended to allow the stock to build in size following recent stock assessments showing the stock has likely declined. The response is precautionary and seeks to minimise potential economic impacts on the Fishery.

Spanish mackerel is subject to joint management arrangements under the Treaty with Papua New Guinea. At the 7 March 2019 Torres Strait Treaty Joint Advisory Council meeting, Papua New Guinea and Australia declined to enter into catch sharing arrangements. This means Australia does not need to set aside catches for PNG fishers for the 2019-20 fishing season.

Leasing arrangements background

On behalf of traditional inhabitants, each year since 2008-09 the TSRA has leased (temporary transfers) finfish fishery licences, with mackerel and or coral trout catch entitlements, to non-traditional inhabitant fishers. The aim of leasing licences is to maintain market supply and lease out unutilised available catch until the Traditional Inhabitant Boat (TIB) licence sector can increase its catches.

The TSRA Finfish Quota Management Committee (FQMC) was established to preside over finfish leasing arrangements and provide recommendations to the TSRA Board. The FQMC comprises community representatives from Erub, Masig, Mer and Ugar, the four TSRA Board members for these communities, and an additional TSRA Board member on an annual rotational basis and the TSRA Portfolio Member for Fisheries.

Proposed sunset leasing arrangements for the 2019-20 fishing season

For the 2019-20 Torres Strait Finfish Fishery fishing season beginning on 1 July 2019 the TSRA has recommended that five sunset licences be temporarily transferred with a total catch allocation of 62 tonnes of Spanish mackerel, 31 tonnes of coral trout and 5 tonnes of other reef-line species across all licences (**Table 1**).

Table 1. Proposed leasing for 2019-20 season and agreed TACs.

Species	Available Total Allowable Catch (t)	Traditional Inhabitant Boat Sector available catch (t)	Leased to sunset licence holders (t)
Spanish mackerel	82	20	62
Coral trout	134.9	103.9	31
Other reef-line species	30	Uncapped	5

AFMA monitors catches from sunset licence holders through mandatory daily fishing logbooks (*Torres Strait Finfish Daily Fishing Log – TSF01*) which require accurate recording and reporting of daily catches.

As a condition on all sunset licences, fishing is prohibited within 10 nautical miles of the following islands:

- a. Erub (Darnley) Island
- b. Masig (Yorke) Island
- c. Mer (Murray) Island
- d. Ugar (Stephens) Island

Management arrangements for the TIB sector for the 2019-20 fishing season

Given the PZJA approved TACs for the fishery and the proposed sunset leasing amounts from TSRA, the remaining catch available to the TIB sector would be 103.9 tonnes of coral trout and 20 tonnes of Spanish mackerel available in the 2019-20 season. There is no regulatory limit on catches of other reef-line species for the TIB sector.

The most recent Spanish mackerel stock assessment (2019) reports that the median annual TIB sector harvest estimate from docket books is 9 tonnes from the period 2003 to 2010.

AFMA will publish regular catch-watch reports to the TIB sector to allow fishers to follow how catches are tracking relative to the available catch limit.

If required, additional measures will be developed to ensure catches do not exceed the agreed TACs.

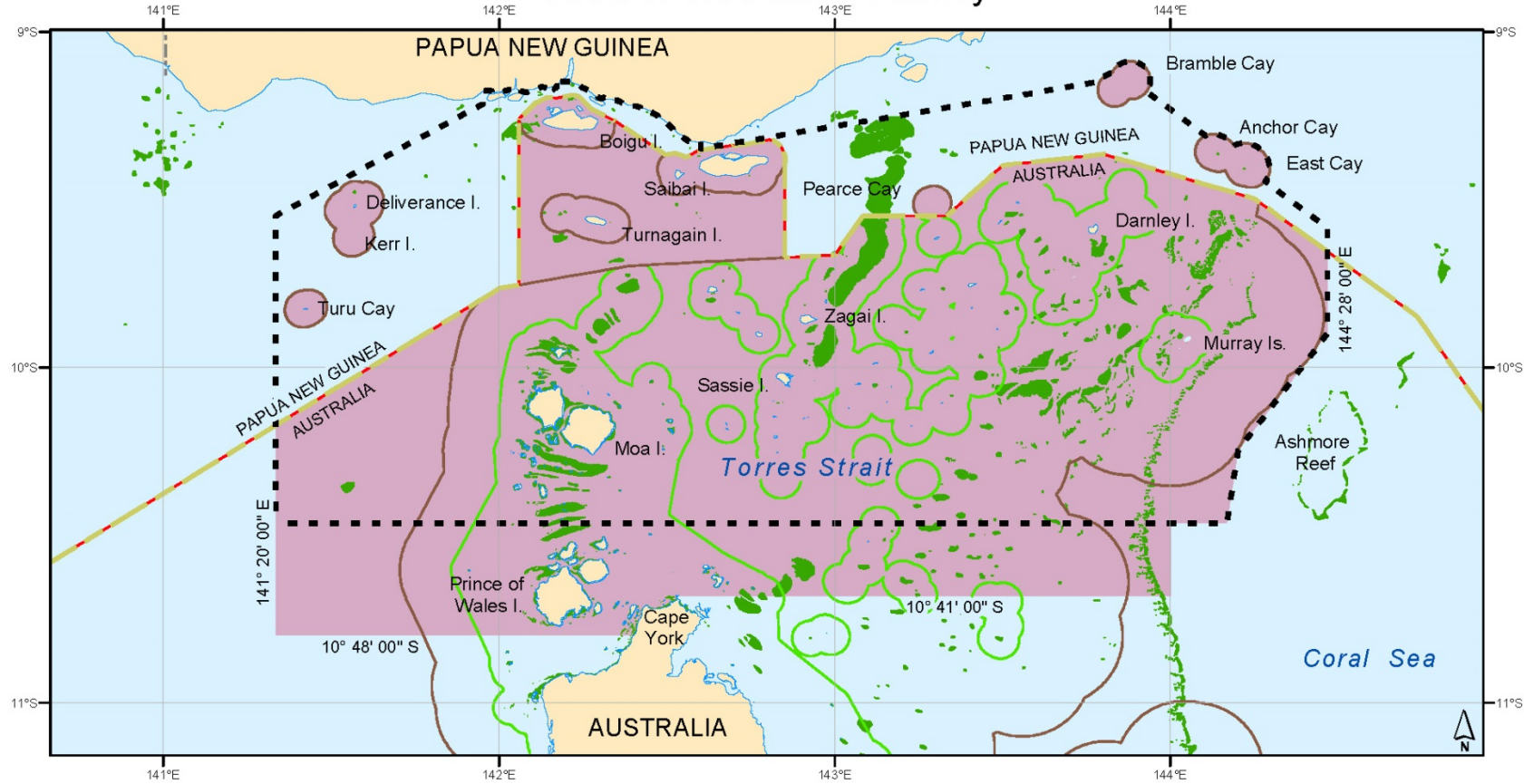
Consultation

The proposed leasing arrangements have been recommended by the TSRA's Finfish Quota Management Committee which comprises of four representatives from Erub, Masig, Mer and Ugar, the four TSRA Board members for these communities, and an additional TSRA Board member on an annual rotational basis and the Portfolio Member for Fisheries.

The Protected Zone Joint Authority's Finfish Working Group and Finfish Resource Assessment Group were consulted and provided advice on the sustainable catch limits for the fishery.

Torres Strait Fisheries

Area of the Finfish Fishery



- Coastal Waters limit (3nm)
- Exclusive Economic Zone limit (200nm)
- Fisheries Jurisdiction line
- Protected Zone Boundary
- Territorial Sea limit (12nm)
- Low tide elevations and reefs
- Torres Strait Fisheries**
- Finfish Fishery



Produced by Geoscience Australia
for the Australian Fisheries Management Authority, August 2006
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Geographic
Datum: WGS84

NOTES:

1. The area of the Fishery is sourced from the Torres Strait Fisheries Regulations 1985
2. Within this fishery, arrangements exist between the Commonwealth and QLD, whereby the Coastal Waters of that State are deemed part of the AFZ
3. The Fisheries Jurisdiction Line and Protected Zone shown on this map are established under the Treaty between Australia and the Independent State of Papua New Guinea. This Treaty entered into force on 15 February 1985
4. The maritime zone boundaries shown on this map are sourced from the "Australian Maritime Boundaries (AMB) v2.0"

GeoCat #: 64844

**Excerpt from Finfish Resource Assessment Group Meeting Record, 13-14 May 2019
Agenda Item 3 – Stock assessments for coral trout and Spanish mackerel**

3.1 Coral trout assessment and Recommended Biological Catch advice for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** maintaining the **134.9 tonne** Total Allowable Catch for coral trout for the 2019-20 fishing season.

1. In making this recommendation the RAG noted that the current notional Total Allowable Catch of 134.9 t has been in place since 2008 and is based on average catches (TIB and TVH) between 2001 and 2005.
2. The RAG noted a presentation of the first formal stock assessment for Torres Strait coral trout from Dr George Leigh (QDAF) and Dr Matthew Holden (UQ) and welcomed the efforts made by the team in performing the assessment. The RAG accepted the assessment as preliminary noting the stage of development of the assessment and the range of uncertainties within the assessment. Further peer review and development is recommended. The RAG strongly recommended that ongoing work be undertaken to ensure the assessment can be developed and made available for future management decisions.
3. The RAG accepted the methodology of the assessment of using biomass estimates from known Great Barrier Reef (GBR) habitats and inferring and scaling these values to Torres Strait habitats based on satellite mapping data to model the population and create an estimate of abundance.
4. The RAG noted that GBR values were an input to the model together with a catch per unit effort data series from the sunset licence sector daily fishing logbooks.
5. The RAG noted that although the values used as inputs to the assessment were estimates from an adjacent fishery and had some uncertainty associated with them, the outputs of the model were still useful in scaling the present level of effort, risk and catches in the Torres Strait Fishery.
6. Through the preliminary assessment, the RAG noted that the outputs suggest that the Torres Strait coral trout stock is presently healthy with around 80 per cent of virgin biomass available and that this outcome was validated by advice from industry members that the stock appears healthy. The RAG noted that all of the model estimates of current spawning biomass were above 65 per cent estimated virgin biomass.
7. In considering the available information and likely risks to the stock from recent catch levels the RAG recommended maintaining the current 134.9 t Total Allowable Catch. The RAG noted that the stock assessment once developed, together with an agreed harvest strategy would provide an effective basis to reconsider the current TAC.

Model methods, inputs and data

8. The RAG noted that the key inputs for the Torres Strait model are from either the Great Barrier Reef (GBR) model or Torres Strait catch data and are:
 - defined habitat areas (GBR values)
 - underwater visual survey data providing a fish density per habitat area (GBR values)
 - virgin fish density estimate (GBR estimate)
 - Catch Per Unit Effort (CPUE) series (from Torres Strait daily fishing logbook data).

9. Harvest data used in the model shows that in recent seasons catches have been low with generally less than 50 t fished.
10. Two bio-regions defined in the Torres Strait model represent most of the Torres Strait harvests with reefs in Region 5 being morphologically similar to the Cairns region in GBR model and reefs in Region 3 being morphologically similar to the northern GBR region.

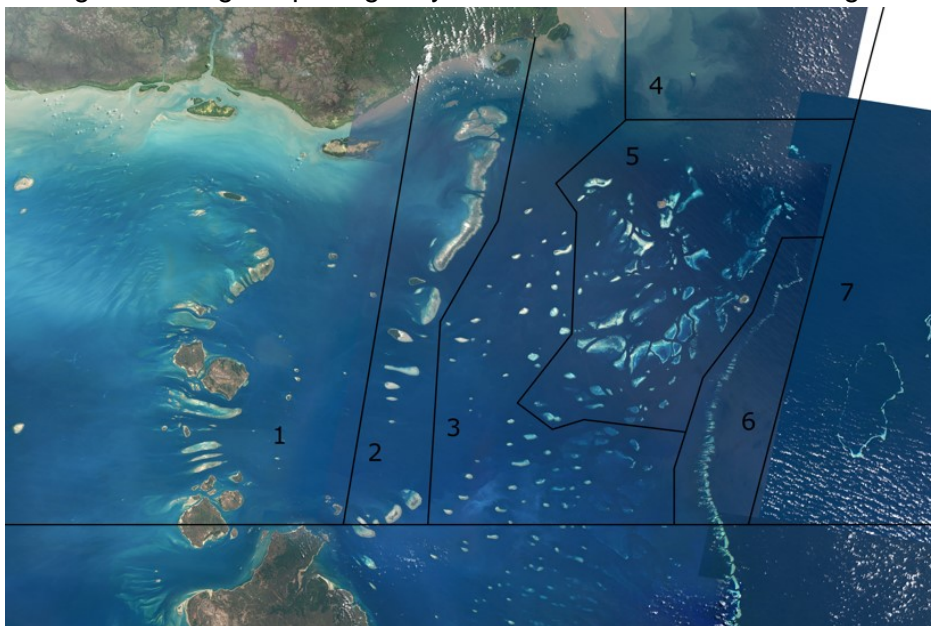


Figure 1. Map showing bioregions used in Torres Strait stock assessment.

11. The RAG noted:

- The model is using only sunset licence logbook data for the CPUE standardisation time series. The RAG noted that Region 3 has a smaller proportion of catch and different pattern of CPUE to Region 5.
- Industry advised that Region 3 may have higher carrying capacity than Region 5 but is not fished as frequently as it is harder to access due to winds, currents and poorer anchorages. Consequently, Region 5 can normally only be fished in calmer weather.
- The biggest uncertainty in the model is TIB sector catches with little available data for assessment.
 - Industry members confirmed that the peak reported TIB catches around the year 2004-05 coincides with the period when a non-traditional inhabitant fisher was operating in the Fishery and supporting local TIB fishers (with fishing gear, processing and buying of product).
 - The RAG agreed with the methodology to use either Islander freezer data or 4.2 times docket book catch for the TIB sector catch size for each year (whichever is higher) in the assessment for years where catches were unavailable.
 - An industry member suggested that certain years did have low catches of coral trout due to fishers switching to beach de mer fishing and lack of supporting infrastructure due to freezer closures. Industry members confirmed that:
 - Masig (Yorke Island) freezer was in operation until around 2009.
 - Mer (Murray Island) freezer closed operations in 2010.
 - 2010 was the last year representative freezer data is available for the assessment team with the Erub (Darnley Island) freezer operating inconsistently in recent seasons with fewer TIB fishers targeting trout.

Coral trout model outputs

12. The RAG agreed that the methods of the assessment are appropriate noting that the values are being used to inform the assessment are assumptions at this stage of development.
13. The RAG noted that the stock status appears to be healthy with most model runs showing the stock biomass to be above 65 per cent of virgin biomass.
14. Scientific members advised that estimates generated by the model may be over or under estimates depending on the influence of tidal current flows within Torres Strait. The RAG noted that Torres Strait is shallower than GBR reefs with strong current flow. Industry members advised that coral trout generally go off the bite with strong current flow and murky water.
15. The model appears to have some areas where it is not able to fit to available catch data. The RAG suggested that the period following the November 2001 and February 2002 pre-buyout investment warning did see an increase in catch records returned to AFMA. Industry members and observers present supported this 'paper-fish' effect in the catch series and confirmed that industry were over-reporting catches to build up catch history through this period.
16. The RAG considered that an issue with assessing coral trout was that a pattern of short-term, localised depletion (or localised overfishing), followed by movement to a new reef, may act to maintain an illusion of high catch rates over time until catch rates suddenly decline. RAG noted that area-based catch limits can be developed to take account of local depletion issues. For example, if a particular zone of the fishery is known to be more easily accessible and will likely represent where the majority of catch will be taken, the likely effort from this zone can be compared to likely effort from the rest of the fishery. This can then be used to scale a Total Allowable Catch from the whole fishery with the correct proportion set to be fully harvested from the key zone.

Future work and research needs

17. The RAG noted:
 - a number of suggestions to increase precision in future coral trout stock assessment work. These will be detailed in the final project report;
 - that future assessment should analyse species split issues. The draft harvest strategy is likely to recommend the species split to be monitored;
 - based on industry advice on the distribution of catches of common coral trout, it was recommended that the southern boundary of the region 5 be moved north to the Cumberland reefs. As currently demarcated, Region 5 splits key fishing grounds for common coral trout; and
 - an upcoming FRDC project on the health of the Great Barrier Reef might result in a rescaling of habitat areas due to carrying capacities changing due to reef degradation. It was noted that the outcomes of this project may have flow on effects for east coast quota and the Torres Strait model.
18. The RAG suggested that the most immediate priority to improve data collection and assessment for the fishery would come from improved catch reporting.

3.2 Spanish mackerel assessment and Recommended Biological Catch for the 2019-20 season

The PZJA Torres Strait Finfish Resource Assessment Group **RECOMMEND** a **94 tonne** Recommended Biological Catch for Spanish mackerel for the 2019-20 season noting a decline in the stock and a need for precaution.

19. The FRAG noted from the harvest strategy work in 2018–2019, results from an updated stock assessment had been undertaken by Dr Michael O'Neil. The Spanish mackerel stock assessment used an annual age-structured model. The assessment uses all available catch-

effort data and fish age-frequency data. The stock assessment update included an additional three years of catch data (fishing years 2015–2016, 2016–2017 and 2017–2018).

20. The RAG noted that the updated assessment accounted for FRAG advice at its meeting on 19-20 November 2018 and intersessional advice from a FRAG data sub-group meeting held 20-21 December. The data sub-group comprised all RAG Scientific members, QDAF, AFMA and CSIRO.
21. The RAG noted the results of the updated stock assessment show:
- a) Biomass is on a down cycle (decline). The standardised catch rate of legal sized Spanish mackerel (the abundance index), using logbook data from sunset fishing operations, had declined since 2010-11. Standardised catch rates have reached near historic low levels in 2017-18.
 - b) The estimated 2017–2018 biomass was between 15% and 45% (B_{15} and B_{45}) of original unfished biomass (B_0) measured in 1940–1941. Four of 39 model scenarios, estimated biomass in the 2017-2018 fishing season to be below B_{20} . B_{20} is the Commonwealth Fisheries Harvest Strategy Policy limit reference point. The RAG considered this situation (4 of 39 scenarios) to be equivalent to the Harvest Strategy Policy guideline for harvest strategies to ensure stocks remain above the limit reference point approximately 90 per cent of the time.
 - c) Recent fishing pressures are unlikely to be exceeding F_{MSY} . This means overfishing is unlikely to be occurring. The biomass decline may be associated with factors other than fishing. The RAG noted advice from scientific members that similar unexplained declines over the last four to five years were reported for other Spanish mackerel stocks in Western Australia, Northern Territory and Queensland suggesting that broader environmental factors could be driving trends in these fisheries.
22. To guide advice on an 2019–2020 RBC, the RAG recommended:
- a) Applying a Maximum Sustainable Yield (MSY) fishing reference point on current 2017–2018 exploitable biomass. This interim management guide recognised that at the status of the stock, that B_{60} is not quickly achievable, and the fishery economic/data needs. A time to build the stock to this target reference point still needs to be evaluated with stakeholders as part of developing a harvest strategy. The RAG noted that the new Harvest Strategy Policy does not specify rates for building stocks that are above B_{LIM} and below B_{TARG} .
 - b) The equilibrium yield approach is no longer used. Equilibrium yields were previously used to calculate RBCs. The equilibrium yield approach is only useful if stock is at an equilibrium reference point or above. Consistent with the Harvest Strategy Policy the recommended approach is to advise on yields for current estimates of spawning biomass.
23. Based on outcomes of the stock assessment and applying an interim reference point of F_{MSY} , the FFRAG recommended an RBC of 94 t for the 2019-2020 season. This setting notes a decline in the stock and need for some precaution. The 94 t represents the average over all 39 model-scenarios.
24. Noting there is no agreed harvest strategy in place for the Finfish Fishery, the FRAG considered fish-population projections for a range of RBCs to evaluate risks (**Figure 2** and **Table 1**). Risk was interpreted as the proportion of scenarios below B_{20} in 2029 (as a percentage of all scenarios). The year 2029 was 2017 plus three times the average age of mature female fish (4 years) – a standard and accepted approach for assessing the timeframe to guide fishery stock status.

25. The FRAG provided advice on best estimates for catches taken outside of the commercial fishery and supported the use of the values shown in **Table 2**.

Other points discussed on the Spanish mackerel assessment

26. The RAG noted that based on advice from FRAG 3 (19-20 November 2018) and the Finfish Data Sub-group Meeting 1 (20-21 December 2018) the updated assessment included analysis of past catch from Taiwanese pelagic drift-net vessels known to be in operation across northern Australian during the late 1970s and early 1980s and guided by investigations by NT Fisheries (Northern Territory) on apparent uncertainties about missing older size class fishes. To account for the potential take from the Torres Strait Spanish mackerel stock, scenarios in the model examined inflated harvests of 100 t of Spanish mackerel for the years 1979 to 1986. The RAG agreed with the inclusion of these scenarios noting that although the true amounts of these catches was not known, 100 t was deemed an appropriate order of catches for investigation. The RAG noted that the inclusion of these catches did act to depress the estimates of stock biomass right through to the present day and that these catches resulted in a number of scenario runs which estimated the present stock biomass as being below the limit reference point (BLIM = B20).

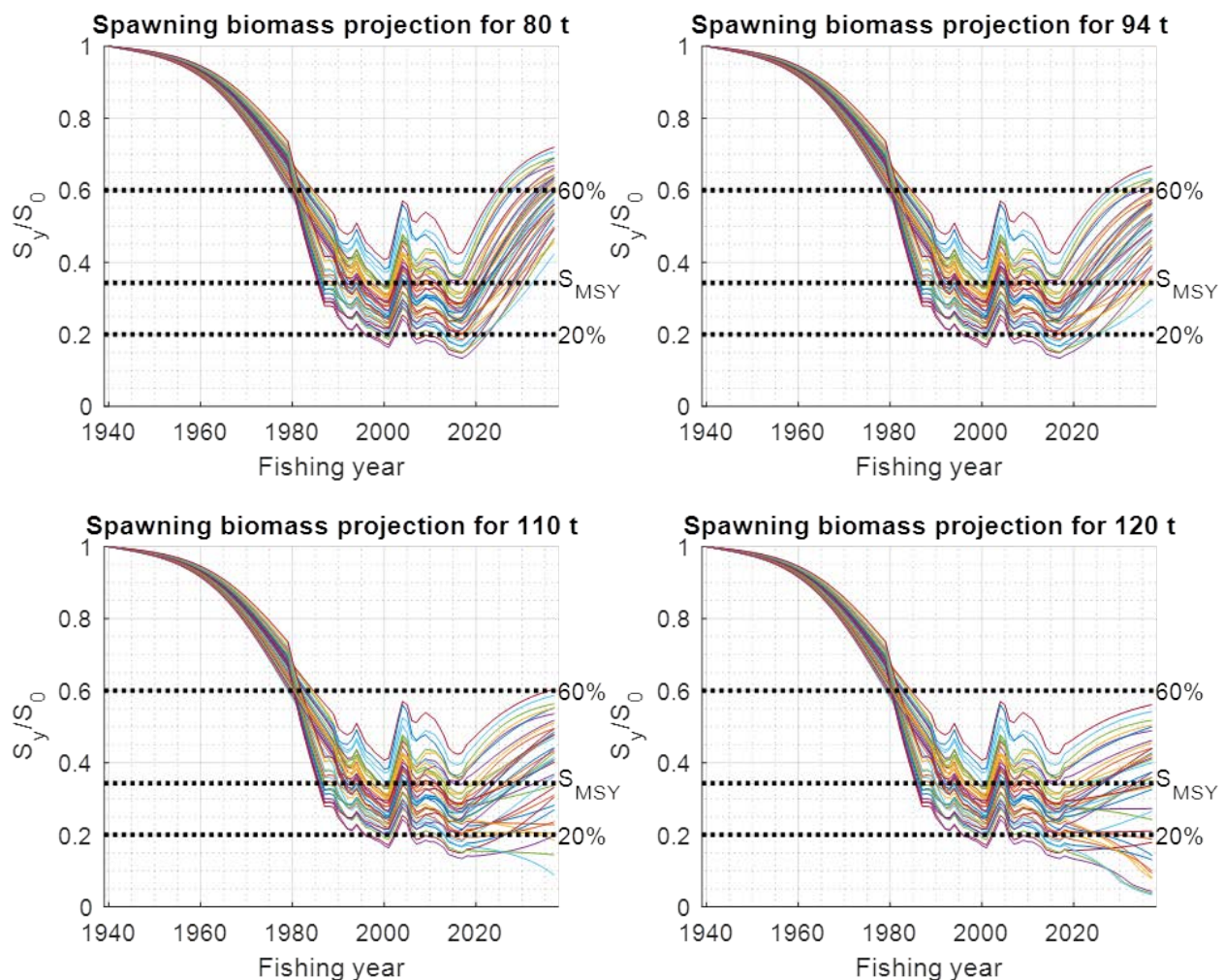


Figure 2 Spawning biomass projections under four different RBC levels.

Table 1 FRAG analyse of risk profiles based on model scenarios outputs for four RBC levels

Risk profile	RBC (t)	Number (and per cent) of runs out of 39 below limit reference point (B ₂₀) in 2029*.	Interpretation
"Low" risk	80	0	Precautionary but some implications for economics
Precautionary risk	94	0	Balancing for sustainability and risk
"Moderate" risk	110	3 (~8 %)	Moderate risk
"High" risk	120	10 (~26 %)	Unacceptable risk

*(B₂₀ agreed interim, 20 per cent of virgin biomass) in 2029 (which is 2017 plus three times the average age of mature female fish (4 years). Last estimate in 2017 + 12 years (3 x 4 years).

Table 2 FRAG recommended estimates of Spanish mackerel catches taken outside the Finfish Fishery

Source of catches	Expected catch (t)	Comments
Subsistence catch (kai kai) by Traditional Inhabitants	10	Based on data from <i>Busilacchi 2013</i> this value includes total of catch estimates for Mer, Masig and Erub Islands. The FWG agreed in July 2016 that the catch figures from the <i>Busilacchi 2008</i> research are the best estimates of traditional take of finfish. While originally reported to AFMA by CSIRO as 12 t this was later corrected to 5.155 t. The RAG recommended that an estimate of 10 t be used for decision making noting data was only from three islands, the number of TIB fishing endorsements has increased and effort creep may be occurring. Noting that anecdotal information presented at the FRAG by some TIB commercial reps infers this number generally may have decreased.
Recreational	2	RAG advised that based on the available evidence from QDAF recreational survey results with a limited number of Torres Strait households surveyed in 2013, recreational catches are likely to be minimal but not a 'zero' value. Two tonnes was used in the assessment noting the confidence intervals associated with estimate varied up to a total of five tonnes.
Charter	Likely to be minimal	Available QLD logbook records show Charter boat line catches are low. Logbook records for the period between 1995 and 2014 report a total of 19.58 tonnes of mixed species taken from Torres Strait waters. RAG has advised based on the available evidence from QDAF logbook data from charter catches are likely to be minimal.
PNG catch sharing	0	PNG-NFA declined to enter into catch sharing arrangements for 2019-20.

Excerpt from Final Finfish Working Group Meeting Record, 15 March 2019.

Agenda Item 3 – Advice on Total Allowable Catches for Spanish mackerel and coral trout *Spanish mackerel total allowable catch advice*

- The Finfish Working Group met on 15 March 2019. Having regard for the FRAG advice the FWG agreed to recommend a Spanish mackerel TAC of 82 tonnes (RBC of 94 tonnes minus

total estimated catch outside the Fishery – 12 tonne (10t for traditional (subsistence) fishing and 2 t for recreational fishing, **Table 2**). The FWG noted:

- a) That the recommended TAC balances the need for stock rebuilding recognising the apparent biomass decline and both modelled and observed CPUE reductions in recent years, with the need to minimise potential economic impacts on the Fishery. The FWG noted that any TAC reduction was most likely to be given effect through reducing the amount of Spanish Mackerel catch leased to sunset fishers;
- b) Industry members at the WG (all being Traditional Inhabitants) strongly supported the proposed RBC and TAC reduction in order to be precautionary and recognising the importance of the fishery to Traditional Inhabitant livelihoods now and in the future; and
- c) Concern that the proposed TAC reduction may reduce available catch information to support future stock assessments at a time when stock is declining and in need of accurate assessments (catch per unit effort provides an index of stock abundance and is used in modelling stock biomass). It was noted that the proposed TAC reduction could reduce the number of dedicated Spanish mackerel sunset licence operators from three to two. This will depend on the allocation process of TAC to fishing operations. The FWG noted that future data needs is an important consideration in setting the RBC and TAC. The stock assessment scientist advised that a reduction to two vessel operations could still be analysed in the catch rate standardisation (identification of dory and skipper data, with VMS would mitigate the risk). However, irrespective of the number of fishing operations (2–5), the fishery dependency of the catch rate data (i.e. the amount of fishing by each fishing operation, locations and times) can influence results. Encouragingly, FRAG and FWG traditional commercial operators discussed how to improve and supply their catch-effort data to support the stock assessment process.

Catches outside the fishery

3. FWG considered available estimates of mortality on the Spanish mackerel stock outside of the commercial fishery and supported the use of 10 t for subsistence take and 2 t for recreational harvest. The FWG noted that although there was uncertainty associated with these estimates they were the best available figures to support decision making and there was no rationale to depart from using these figures.

Coral trout total allowable catch advice

4. Having regard for FRAG advice the FWG agreed to recommend maintaining the 134.9 t TAC for coral trout for the 2019-20 season noting likely stock status and that recent catches have been substantially below the TAC. Assuming current catch levels remain unchanged, the FWG supported maintaining this TAC until it can be reconsidered in light of an agreed harvest strategy and stock assessment. The FWG noted FRAG advice that the current stock assessment is preliminary.
5. In making this recommendation the FWG noted:
 - the current notional TAC of 134.9 t has been in place since 2008 and is based on average catches between 2001 to 2005;
 - an initial stock assessment for Torres Strait coral trout was presented to the FRAG and was welcomed and deemed preliminary by the RAG due to its present stage of development and the range of uncertainties associated with the assessment;
 - the approach of the preliminary assessment was accepted by the RAG. The approach uses biomass estimates from known Great Barrier Reef (GBR) habitats using underwater visual

survey data and infers and scales these values to Torres Strait habitats using satellite mapping data to model the population and infer abundance;

- though deemed an preliminary assessment the outputs do suggest that the trout stock has a healthy level of biomass which is reinforced by industry advice from industry members. The FWG noted the preliminary stock assessment indicates the spawning biomass is around 80 per cent of virgin biomass with the lowest model estimate of biomass being around 65 per cent of virgin biomass.