Tores Strait Finfish Industry Harvest Strategy Meeting

11-12 June 2019
Rydges Plaza Hotel, Cairns

Meeting Outcomes

Note all meeting papers and records are available on the PZJA webpage: www.pzja.gov.au

Australian Government
Australian Fisheries Management Authority

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Preliminaries

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The meeting was opened in prayer at 09:00 and the meeting Chairperson, Mr David Brewer (Finfish Resource Assessment Group) welcomed participants. The Chair acknowledged the traditional custodians of the land on which the meeting was being held.

Adoption of agenda

It was agreed for the agenda to be practically focused on progressing the components of the harvest strategies for coral trout and Spanish mackerel. It was agreed that two opening sessions would focus on:

1) Harvest strategy principles, and
2) Objectives for the Torres Strait Finfish Fishery harvest strategy.

It was agreed that the meeting would then focus on progressing the development of reference points, indicators, assessments and monitoring in relation to scenario based questioning for both Spanish mackerel and then coral trout.

Attendee introductions

Attendees were asked to introduce themselves to the meeting and to describe their background and if they were a fisher, to talk about how they used the Torres Strait Finfish Fishery.

Table 1. Attendance and personal introduction

Attendee	Introduction
Dennis Passi	Mer community, 30 years' experience fishing commercially, runs business mainly working coral trout. Helped develop commercial fishing on Mer through the freezer in the 1990s.
Kenny Bedford	Erub community, previously fished commercially for coral trout. Previous experience working for TSRA, fisheries portfolio member.
Rocky Stephen	Councillor for the Ugar community. Licenced fish receiver. Involved in a commercial fishing business on Ugar working mackerel.
Bert Matysek	Erub community, manager of the Community Freezer. Chairperson of the Erub Fisheries Management Association.
Dan Sailor	Erub community, fishes commercially for mackerel, works at the Erub Community Freezer. TSRA Finfish Quota Management Committee member.
Alan Passi	Mer community, 15 years' experience fishing commercially, working coral trout on Mer.
Mike Passi	Mer community, 20+ years' experience. Mainly fishing beche-de-mer, involved in development of BDM harvest strategy.
Alapasa Panuel	Ugar community, 20 years' experience fishing commercially east coast. Licenced fish receiver.
James Zaro	Mer community, former commercial fisher for beche-de-mer.
Frank Loban	Badu community, fishes commercially for TRL. Serves on several PZJA working groups.

Attendee	Introduction
Jon Tabo, Jr.	Mer community, commercial fisher. PZJA Finfish RAG industry member. TSRA Finfish Quota Management Committee.
Allison Runck	TSRA Fisheries Program.
Liz McCrudden	TSRA project officer, Fisheries Program.
David Brewer	Independent consultant, AFMA invited Mr Brewer to act as an independent chairperson for the meeting.
Trevor Hutton	CSIRO harvest strategy project lead. 11 years with CSIRO.
Andrew Trappett	AFMA, Finfish Fishery Manager, Snr. Fisheries Management Officer, been with AFMA since 2009.

Harvest Strategy Principles

The meeting attendees viewed a short video presentation[1] providing an overview of harvest strategies in use in other Australian fisheries and the Australian Governments Harvest Strategy policy. The group noted the key terms outlined in the video (target and limit reference points) and recommended that similar videos would be welcomed by Torres Strait communities to support understanding of larger fisheries projects such as harvest strategies.

As context, the group noted an overview of the Beche-de-mer and Tropical Rock Lobster fishery draft harvest strategies currently under development. The meeting noted the framework components that needed to be developed for the Finfish Fishery.

The meeting considered and agreed the following **five general principles** for how a harvest strategy should be developed for Spanish mackerel and coral trout:

1. Industry advised that it is acceptable for sustainable total allowable catch limits to vary from year to year.
2. If biomass (number of fish) decreases (based on the outcomes of assessments) industry have advised that a precautionary response is required which may mean a decrease in the total allowable catch to lower fishing mortality. It was noted that other factors may be impacting the stock besides fishing mortality but the impacts of fishing mortality could be controlled to help ease the situation. Fishers provided clear advice that they do not want stocks near the limit reference point of B20 (20 per cent of pre-fishing biomass).
3. If biomass increases industry have advised that a conservative response is required with a preference to “bank” and not take available catch increases, thereby leaving more fish in the water to support future higher catch rates and less travel to take these catches.
4. Industry noted the present biomass estimate of the Spanish mackerel stock abundance and agreed that the short term level of harvests should build the stock in the first instance to a target biomass of B40 (40 per cent of virgin biomass).
5. Note that a longer term target reference point for Spanish mackerel above B40 was not agreed at the present meeting but industry did consider B48 or a higher target noting social considerations such as use of mackerel for subsistence (kai-kai) and the need for a ‘buffer’ should PNG opt to take up catch sharing arrangements.

[1] The Fishwell Consulting harvest strategy video is publically available online here: https://www.youtube.com/watch?v=emtEzavpaGI.

Objectives

The meeting discussed the broad fishery objectives listed in the *Finfish Fishery Management Plan 2013* and broke into small groups to discuss these objectives and whether they could be operationalised in the context of the fishery harvest strategy.

Objective 1:	To acknowledge and protect the traditional way of life and livelihood of Traditional Inhabitants, including their rights in relation to traditional fishing for finfish.
Objective 2:	To ensure that harvest levels are at, or below, levels that maintain biologically viable stocks of target and non-target species.
Objective 3:	To provide for the use and conservation of Torres Strait finfish resources in a way that minimises impact on the marine environment.
Objective 4:	To optimise economic viability of the fishery.
Objective 5:	To provide for optimal utilisation, cooperative management, and for catch sharing to occur with PNG.

The meeting recommended that the harvest strategy has an objective added as follows:

> *"The harvest strategy must have regard to traditional knowledge and the ability of communities to manage fishery resources locally, through acknowledging and incorporating customary and traditional laws, recognising;*
>
> - *Malo Ra Gelar*
> - *Gudumalulgal Sabe*
> - *Maluailgal Sabe*
> - *Kulkalgal Sabe* "

It was considered that the strategy needed to complement traditional laws such as, for example, during fine weather fishers were not to work the home reefs around communities and instead were to fish out wider, saving the catches near home for foul weather and for community members without access to boats.

The meeting also suggested an additional objective for the harvest strategy should be for participation levels of the TIB sector to be measured with consideration given in developing the strategy as to what should occur if participation levels drop. Industry advised that after 10 years of leasing the participation level of the TIB fleet of boats had not increased. Industry advised that before the 2007 buyout it was intended that unutilised Total Allowable Catches (TAC) were to be seasonally leased to sunset fishers only until the TIB sector could expand to fill most of the TACs.

Industry suggested that in line with the implementation of their harvest strategy a cap should be placed on sunset leasing at the present 2019 levels with an aim to encourage the TIB fleet to take more of the TACs and expand their catches to take over and supply the market demand. Industry called on government to work to consider ways to promote engagement of communities in commercial fishing.

It was noted that engagement in commercial fishing was a key employment opportunity in many communities but was also a key way in which traditional ecological knowledge and culture was passed down from one generation to the next. Industry advised that the fishery has strong cultural value as well as economic value to communities.

The key objectives that industry stressed for the development of the harvest strategy were biologically viable stocks (sustainability), economic viability i.e. enough fish in the water to support

commercial take and the correct management settings to protect livelihoods and cultural values.

Industry noted that the PNG catch sharing obligation under the Treaty was a good reason to have a strong harvest strategy to make sure there is always a healthy level of biomass available for Australian Traditional Inhabitants should PNG opt to take their 40 per cent share of the mackerel stock in Australian waters.

Spanish mackerel harvest strategy components

The meeting provided the following advice to the project team to support development of the draft harvest strategy for Spanish mackerel.

HS Component	Industry advice
Limit reference point (B LIM)	**B20 agreed** (20 per cent of pre-fishing biomass) This was suggested as the default proxy from Commonwealth Harvest Strategy Policy and was generally considered appropriate for bony fish species. No information from industry to suggest an alternative. Industry noted that below this limit fishing would cease or stock would move to a rebuilding strategy.
Virgin biomass (B 0)	**1940** is used by the model as the estimated starting point of the commercial fishery. It is assumed that at this point the stock was not impacted by commercial fishing and was at the beginning of that year at unfished biomass.
Target reference point (B TARG)	Noting that present biomass of the stock (B31 is B CURRENT) and the interim B40 target used by management, industry supported the principle of catch levels being set to build the stock to B40 first and gave some consideration to a target level higher than B40 to take into account subsistence and catch sharing with PNG. **B48 or B60** were considered but were not recommended by industry without further discussion.
Indicators	Biomass as per the reference points above is an indicator along with standardised catch per unit of effort (CPUE)
Monitoring	Main monitoring for the fishery will come through fishery dependent daily fishing logbooks (mandatory for sunset, main TIB fishers being encouraged to try a logbook) and catch disposal records noting effort component on these reports is voluntary. Noted that biological monitoring (ageing and length frequency) has been identified as a data need for the fishery and a research project proposal is pending subject to funding.
Assessment	Noted that the assessment uses CPUE as an index of abundance (numbers of fish) and would be used to refer to where the biomass was now (B CURRENT) versus the target reference point (B TARG) and set a RBC accordingly. It was noted that consideration was needed on the frequency of assessments, noting that some fisheries had a rule that if two consecutive indicators points (e.g. CPUE, biomass) were below an agreed set level of that indicator an assessment was triggered.
Harvest control rule	Full support from industry that if the stock is below the target reference point, catches should be set at a level aiming to build the stock towards the target within 12 years (with 10 and 8 year scenarios to be explored). Industry agreed that if the stock assessment outcomes suggested increases in RBCs (and in turn the TACs), these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low

	level of utilisation. Industry advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock.

Other points discussed on Spanish mackerel harvest strategy components

It was noted that should participation in the TIB sector be boosted by additional primary-tender operations entering the fishery or community freezers coming online (for mackerel and trout), there would be a sudden increase in catches. It was considered that the strategy needed to be adaptive to this to allow increases in TACs when the assessments suggest this is possible.

Industry considered that harvest control rules should be setup to generally increase RBCs (and thus TACs) in a conservative manner based on assessment outcomes or indicators if the assessment indicators show an increase. It was considered that over the short to medium term, increasing TACs would not benefit the TIB fleet noting the low levels of present utilisation. General advice from industry was to 'bank' fish where appropriate i.e. not take TAC increases and leave these fish in the water to breed to provide higher biomass, higher future catch rates and help maintain subsistence catches.

It was agreed for the project team to investigate another option of 'banking' catch would be to examine building rates for the stock. While 12 years is used now as a timeframe now to build the stock it was noted that a shorter timeframe would act as a conservative measure to lower harvests and effectively leave more fish in the water. It was agreed for the project team to investigate 10 and 8 year timeframes and how these might function to build the stock.

In the absence of an adopted B TARG the meeting noted that a B TARG of 60 per cent of virgin biomass (B60) was used for the past few seasons as a 'triple bottom line' target, taking into account ecological, economic and social factors (including subsistence usage and catch-sharing option with PNG). It was advised that a change had been recommended by the RAG and Working Group, in line with best practice and economic impacts on the fishery, to use a B40 target for the interim. This target was used noting the present biomass estimate of the stock was around B31 (B CURRENT) and the B60 level may be a more aspirational target under the current draft harvest strategy with further exploration of building rates.

Coral trout harvest strategy components

Component	Industry advice
Limit reference point (B LIMIT)	**B20 agreed** (20 per cent of virgin biomass (1940)). This was suggested as the default proxy from Commonwealth Harvest Strategy Policy and was generally considered appropriate for bony fish species. No advice to suggest an alternative. Industry noted that below this limit fishing would cease or stock would move to a rebuilding strategy.
Virgin biomass (B0)	**1950** is used by the model as the estimated starting point of the commercial fishery. It is assumed that at this point the stock was not impacted by commercial fishing and was at the beginning of that year at unfished biomass.
Target reference point (B TARG)	**B60 target reference point** suggested with the following rationale: • B MSY, was estimated in preliminary assessment but given uncertainty (and it is preliminary) the estimated value is not used to set an RBC. • Commonwealth Harvest Strategy Policy (HSP) suggests that a proxy B TARG of B48 or 1.2 times the biomass at BMSY. • HSP suggests B40 is used for a proxy for BMSY. • CSIRO advice is that there is a case for using B50 as a proxy for BMSY, rather than B40, based on trout being a longer lived species, managed as a basket of four species. • Therefore 1.2 times the B50 BMSY proxy equals a B60 target reference point. Industry were supportive of a conservative B TARG for the stock and in general managing the fishery at a level which leaves more fish in the water than a straight MSY target rate. The group were supportive of a target that can take into account the patchiness of the stock (small areas with good trout catch rates separated by large areas of desert), the preliminary nature of the stock assessment, the risk of localised depletion, the basket of four species and that a proportion of the stock is not available (e.g. catchability issues; fish present on grounds but not biting).
Indicators	Aside from fishery dependent monitoring data (catch disposal record data and daily fishing logbook catch and effort data) industry suggest that other indicators for the health of the stock may include **size of fish** being captured and **spatial changes** in where good catch rates are occurring. Industry advice it is that more feasible for their businesses to catch a smaller number of larger sized fish than large numbers of smaller fish.
Monitoring	Main monitoring is through fishery dependent daily fishing logbooks (mandatory for sunset, main TIB fishers being encouraged to try a logbook) and catch disposal records noting effort component on these reports is voluntary. Given the high level of abundance now, the meeting strongly recommend that a **baseline underwater visual survey** should be funded soon to estimate absolute abundance. It was noted that this would be expensive immediately but would have ongoing benefits for understanding over future years and may have more benefit than funding a stock assessment. Industry noted the need for monitoring on species composition of catches to validate reporting.
Assessment	Assessment (preliminary, with work to improve) agreed to be **run every three years** to measure the biomass of the stock relative to the target and adjust the level of Total Allowable Catch. In the intervening years catch and effort data are to be examined (raw or standardised) relative to the long term fishery average. The basket of four species to be assessed together for now. Industry have committed to move towards collecting data on

	the four species (codes for each species) with a view to supporting ability to individual assess each species in future.
Harvest control rule	Agree that if the stock is below the target reference point, catches (TACs) should be adjusted downwards, aiming to build the stock towards the target. Work is to be done on these harvest control rules with suggestions noting a rule is to be further developed to suggest whether the new value departs from an agreed norm e.g. if catch rates drop to 50 per cent of long term fishery average catch rate or the average of the last three seasons or a reference period. As per mackerel, industry agreed that if assessment outcomes suggested increases in TACs, these increases should only occur slowly through some kind of change limiting rule, noting that an increased TAC would likely not affect the TIB sector with a low level of utilisation. Industry advised a preference for 'banking' these fish to contribute to the biomass and future catch rates rather than harvesting this extra stock. Meeting noted present harvest level of 134.9 t (constant catch) and suggested this level of harvest would be too high and may need a large number of boats to fill, potentially damaging catch rates, causing localised depletion issues.

Other points discussed on coral trout:

- Industry were open to the idea of spawning closures to protect coral trout stocks if necessary e.g. close fishing for a when trout are spawning (noting there is a barramundi spawning closure in place in Torres Strait) though this was not recommended.
- Industry advised that it is challenging to assess and report on coral trout due to commercially sensitive nature of spatial catch data catches occur and the small number of operators fishing commercially for trout, noting AFMA's Information Disclosure Policy and five boat rule.
- The nature of the TIB fishing fleet was noted with varied use of the resource; some fishers work more like full time commercial fishers, others part-time/semi-regular i.e. they might have a job during the week with trout fishing as a second job, other fishers are more opportunistic i.e. may work trout for a spell to make money to pay a bill or just fish the odd weekend or two a year for extra cash.
- Noted that two key areas were used in the trout stock assessment (Zone 3 and Zone 5, **Attachment A**) and industry noted that it would be important to consider the relatively fragile nature of the Torres Strait coral trout stock with small patches of good catch rates surrounded by large areas of poor fish abundance.
- Concern raised by industry that based on AFMA catch-watch report issued 17 May 2019, only a fraction of the Total Allowable Catches available to the TIB sector have been harvested in the 11 months of the season to date. Concern that a total harvest in the order of 134.9 t would impact the sustainability of the stock, would cause localised depletion with lower catch rates and may take up to 30 boats fishing hard to fill this TAC. CSIRO advised that the assessment is preliminary and has not been accepted by management to set TACs noting work is required to refine this assessment. CSIRO advised that the assessment may be over-estimating the numbers and productivity of the resource. Future research should also be consider the observed 'patchiness' of abundance on evaluating the estimates of productivity when assessing the Torres Strait stocks.
- The meeting noted the draft Torres Strait Coral Trout Species Identification Guide (**Attachment B**) and provided some suggested changes to AFMA ahead of circulation to industry. It was noted that this guide is intended as quick reference to support reporting to

the level of the four main commercial species of trout via newly created codes, rather than reporting ‘coral trout’ as a basket.

Other general points discussed

The group noted that it is challenging to form a harvest strategy based on the current status of the stock against aspirations for how the TIB fleet might want to use the stock in future.

TIB Industry Members expressed a desire to have more opportunities to share knowledge with non-traditional inhabitant fishers accessing the fishery under Sunset Licences. This was noted in the context of reports to the Finfish Resource Assessment Group about mackerel catch rates at Bramble Cay. It was advised that sunset industry member and an invited participant would be attending the next PZJA Finfish Meeting on 27-28 June 2019.

Concerns were raised from TIB sector over the take of barramundi cod from Sunset licence holders. It was suggested that as this is a high value product it could be maintained for the benefit of the TIB sector only. TSRA advised that fishers wishing to lease a sunset licence do pay a premium lease price per kilo for barramundi cod as part of the other reef-line species basket.

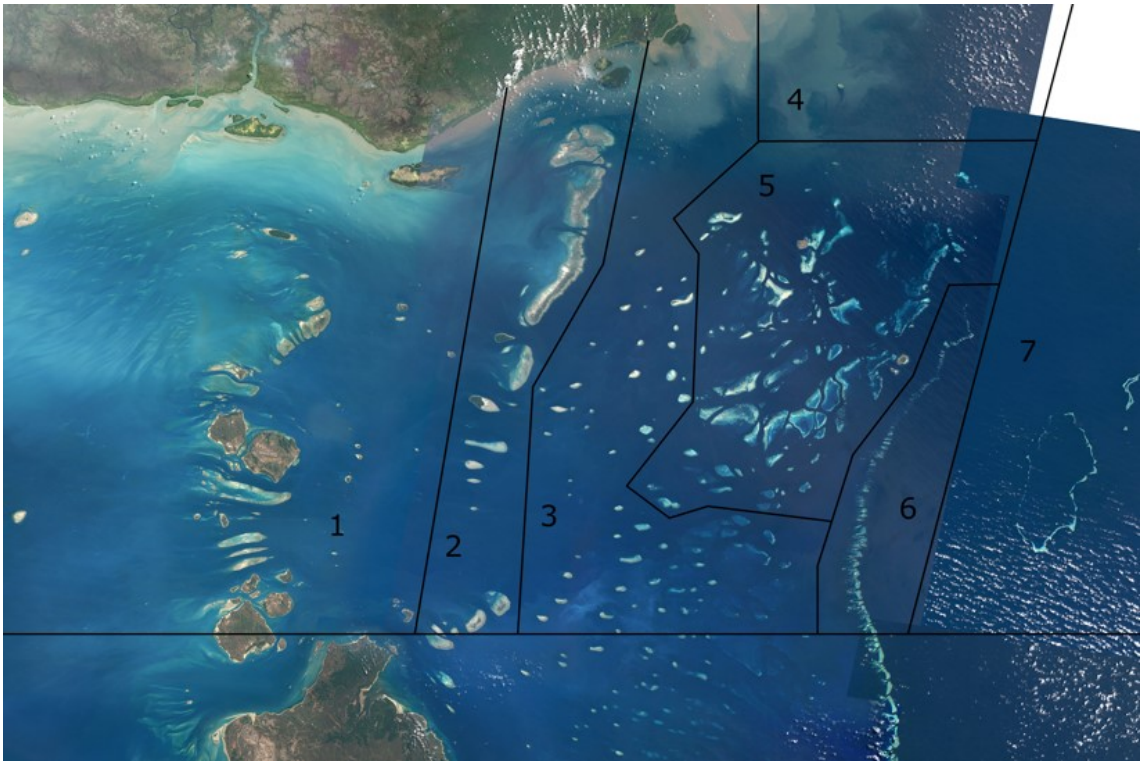
Industry advised that future consideration needed to be given to optimising economic viability of other reef-line species, noting the harvest strategy was to apply to the key economic drivers (trout and mackerel). Industry advised they wanted consideration given to how fishing for reef-line species could be developed through market access and investigating trap fishing methods.

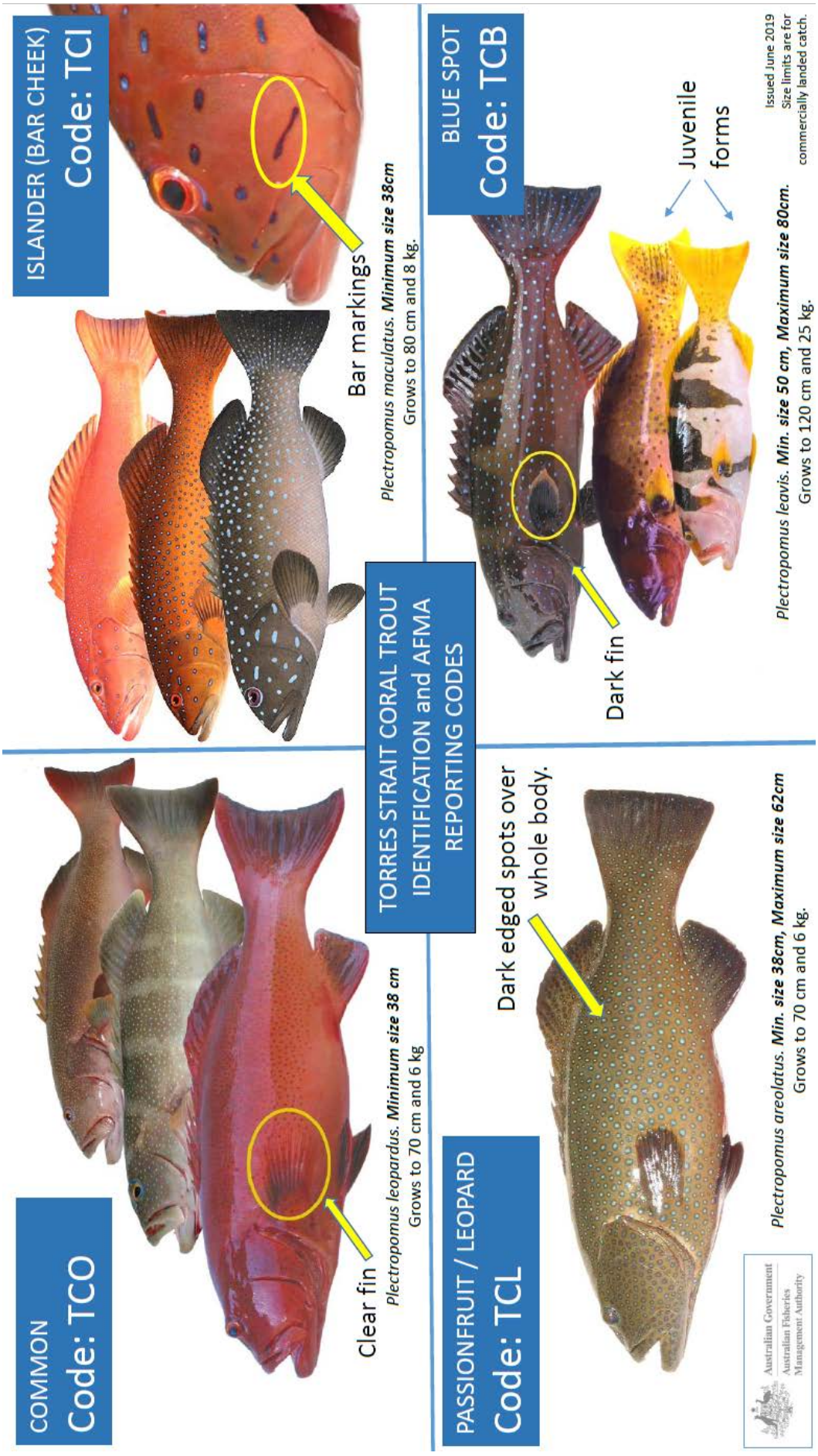
Actions arising

Ahead of the next meeting (27-28 June 2019) it was agreed for the project team to take the following suggestions from industry away for further development:

- Explore 15 per cent change decision rules in other fisheries where there is asymmetry (the rule applies when the recommendation is to decrease the TAC but not when the recommendation is to increase the TAC) and how these rules might apply to setting TACs in this fishery.(
- Shorter recovery time approach for Spanish mackerel (e.g. 8 or 10 years for Spanish mackerel instead of 12 years used as a timeframe for building when below B TARG but above B LIM).
- In order for the RAG to explore a CPUE trigger rule for conducting a Coral trout assessment, provide the standardised CPUE over the reference period or a shorter time period (e.g. average of last three seasons). This point was discussed during the meeting and the time frame from 2012-2017 (inclusive) was agreed to.

Attachment A – Map of Torres Strait coral trout habitat zones from 2019 assessment.




TORRES STRAIT CORAL TROUT
IDENTIFICATION and AFMA
REPORTING CODES
ISLANDER (BAR CHEEK)
Code: TCI
Bar markings
Plectropomus maculatus. Minimum size 38cm
Grows to 80 cm and 8 kg.
BLUE SPOT
Code: TCB
Juvenile
forms
Dark fin
Plectropomus leavis. Min. size 50 cm, Maximum size 80cm.
Grows to 120 cm and 25 kg.
Issued June 2019
Size limits are for
commercially landed catch.
COMMON
Code: TCO
Clear fin
Plectropomus leopardus. Minimum size 38 cm
Grows to 70 cm and 6 kg
PASSIONFRUIT / LEOPARD
Code: TCL
Dark edged spots over
whole body.
Plectropomus areolatus. Min. size 38cm, Maximum size 62cm
Grows to 70 cm and 6 kg.
Australian Government
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Management Authority