

# **Banded Morwong Fishery Forum**

## **Meeting summary**

**Date: 26 March 2021**

**truwana/Cape Barron conference room  
134 Macquarie Street  
Hobart**

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## Agenda

Agenda item	Presenter	Duration
1. Preliminaries		5 mins (10:00am-10:05am)
2. Review of 2020/21 Banded Morwong fishing season		1.5 hour (10:05am-11:35pm)
2.1 Presentation of fishery performance – 2020/21	Brett Stacy	
2.2. Discussion	All attendees	
3. Other Issues		55 mins (11:35am-12:30pm)
3.1 Opportunity for industry to highlight any issues in the fishery not covered by the fishery performance presentation.	All attendees	
Forum close		12:30pm

## Attendees

Steve Crocker, Shane Bevis, Dylan Munnings, Rob Cunningham, Mick Lovett, Matthew Burns, Dave Blake, Ross Randall, Phillip Millhouse, Randall Lynema, Kevin Bird (Teams), Julian Harrington (TSIC), Nils Krueck (IMAS), Brett Stacy (IMAS), Frances Seaborn (DPIPWE).

Apologies: Brendan Emmett, Ed Lester, Adam Johnson

### Forum opened at 10:10 am

Frances Seaborn (DPIPWE) opened the forum, introduced IMAS and DPIPWE staff present and explained the purpose of the forum — which is an opportunity for information on the banded morwong fishery to be exchanged between DPIPWE, IMAS and industry. It was emphasised that this is not the forum to make recommendations for setting the TAC for 2021/22, however a summary of the forum outcomes would be tabled at SFAC.

## Review of the banded morwong assessment model

Nils Krueck (IMAS) presented information on the review of the banded morwong assessment model (CASAL), the key outcomes so far and the next steps required to complete the review.

### Summary

The initial banded morwong model was simple but was updated over many years (standard procedure)

IMAS started a full review of model structure and parameterisation in 2017 (Bradley Moore). This was continued by Brett Stacy and Nils Krueck (IMAS) in 2020. The current status of the review is the theoretic analyses is almost complete and the research priorities have been identified.

Updates of model in 2019/20 include:

- Revised calculation of growth rates
- Extended period of estimated recruitment for projections into the future (avoiding shifting baselines)

#### **Key sensitivities of the model identified (outcome of the review to date)**

- Two “region” assumption, including migration rates between “regions”.
  - *Industry members present indicated strong support that this assumption is correct.*
- Growth curve fitting with limited data on juveniles
  - More data on juveniles is required to support this assumption.
  - *Industry members suggested it is easy to catch juveniles if you reduce the mesh size to standard “graball” during the biological survey*
- Selectivity assumptions (keyhole size limit mortality and seal interactions)
  - post release survivability is very high (~97%) and seal predation ~20%
- Relative weight of biological survey data and catch rates
  - doesn't propagate properly in the model. Catch rates in the model aren't tracking the same as actual catch rates.
- Stock-recruitment relationship (none implemented)
  - Predicting recruitment, but not quite sure where its coming from.

## Research priorities and next steps

### *Research priorities*

- Two “region” assumption, including migration rates between “regions”
  - Survey selected reefs across depth gradient, pot. tag-recapture studies
    - Have applied for ARC funding to do that – will know if funded in July 2021
    - *Due to the urgency of the required research, TSIC suggested that IMAS leverage some of the \$4M SMRCA contingency to kick off this research in 2021 rather than waiting to start the project in 2022.*
  - Dispersal model – significant recruitment coming from the west coast
    - Map the habitats and try to estimate the proportion that seeds the fishing grounds
    - *Industry stated that spawning in 20-30 metres and moves in/out with the swell*
    - *Banded morwong are found on deeper reefs ~60m*
    - *Swell/roll has an impact in movement.*
- Growth curve fitting with limited data on juveniles
  - Include more juvenile data from existing and new samples
- Selectivity assumptions (keyhole size limit mortality and seal interactions)
  - Research on impact and spatio-temporal patterns of seal interactions
  - Possibility of a masters student interested in this
- Relative weight of biological survey data and catch rates
- Stock-recruitment relationship (none implemented)

### *Next Steps*

- Address research priorities (ARC Linkage project; MSc student)
- Progressively implement revisions of model structure and parameterization
- Send out for external review when complete, noting IMAS will not be able to complete the model review until the two region assumption has been addressed.

Figure 1 demonstrates the two migration assumption. Figure 2 indicates the impact on model projections if this assumption is removed.

## Structural uncertainty

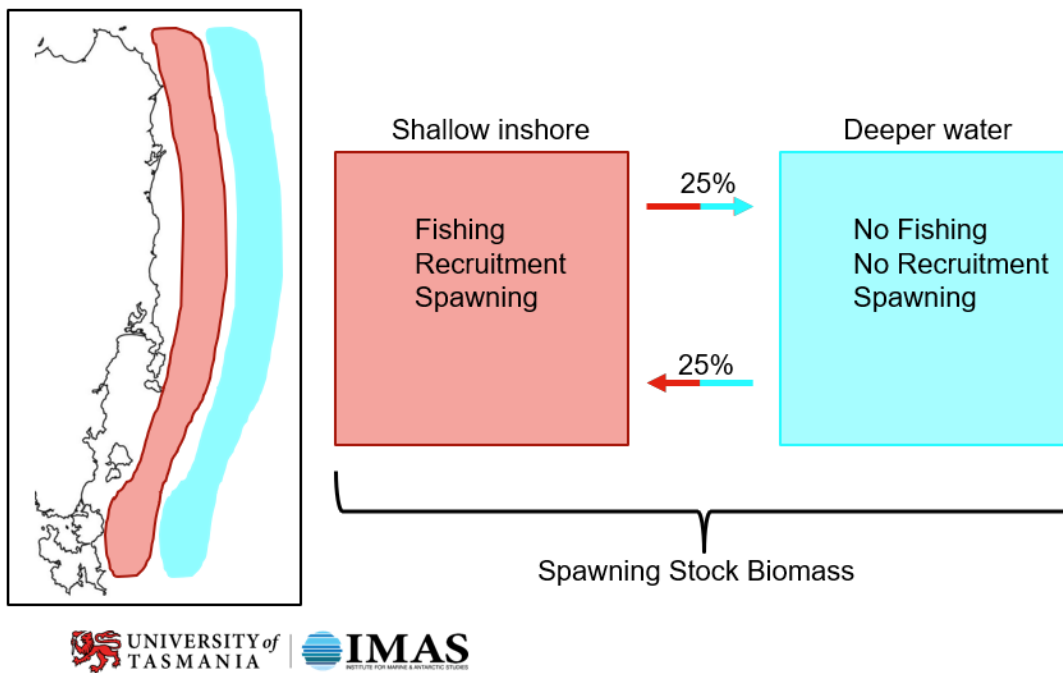


Figure 1: Slide 5 from the IMAS presentation to the Banded Morwong Fishery Forum that shows the two “region” migration assumption.

## Precautionary approach

Remove the two area assumption altogether

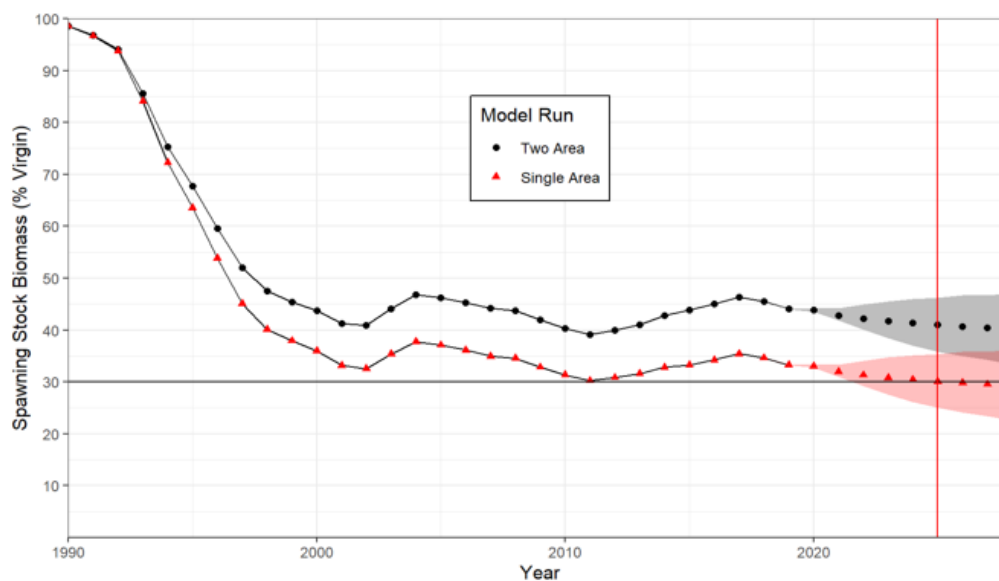


Figure 2: Slide 6 from IMAS presentation to the Banded Morwong Fishery Forum that shows the model projections where the two area assumption is maintained (black data points) and where the two area assumption is removed (red data points).

# Preliminary review of the 2020/21 Banded Morwong fishing season

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Brett Stacy (IMAS) reviewed the catch and effort for 2020/21 and presented preliminary stock assessment results.

## Summary

- Preliminary as waiting on biological survey data due in April and also finalisation of model review.
- State-wide catch of 24.2 t in 20/21, 23.6 from TAC area.
- Catch outside of TAC region ~1.3 t in 20/21.
- Catches decreased by ~23% from the previous season (30.7 t caught in 19/20) in TAC area.
- High proportion of catch and effort in the South East Coast compared to the North East or East Coasts.
- Relative standardised catch rates increased in all TAC areas in 20/21.
- Current TAC (31 t) meets the conditions of the limit reference point, although projected spawning stock biomass is decreasing.
- Rolling over the ~6.8 t of TAC undercatch from 20/21 to 21/22 would have roughly 1% impact on the projected SSB at the 5 year projection mark. Projections approach the limit reference point if rollover is sustained into the future.
- Estimated SSB is subject to change due to biological survey data to be collected in April, 2021 and the ongoing model review.

- Industry members present supported increasing the kg/unit by 4kg to 30kg/unit for the 2021/22 season only.
- Industry members present do not want any potential future increases to be dependent on the development of a harvest strategy due.

## Catch

IMAS indicated in the presentation that there was a sharp decline on total catch landed Statewide since the 2019/20 season. This has been attributed to the impact on markets as a result of Covid-19 the restaurant trade. Non-TAC catch also declined.

Proportional catch also shifted from the east coast, and to a lesser extent the north east coast, to the south east coast (Figure 3).

## Proportional catch in TAC Area

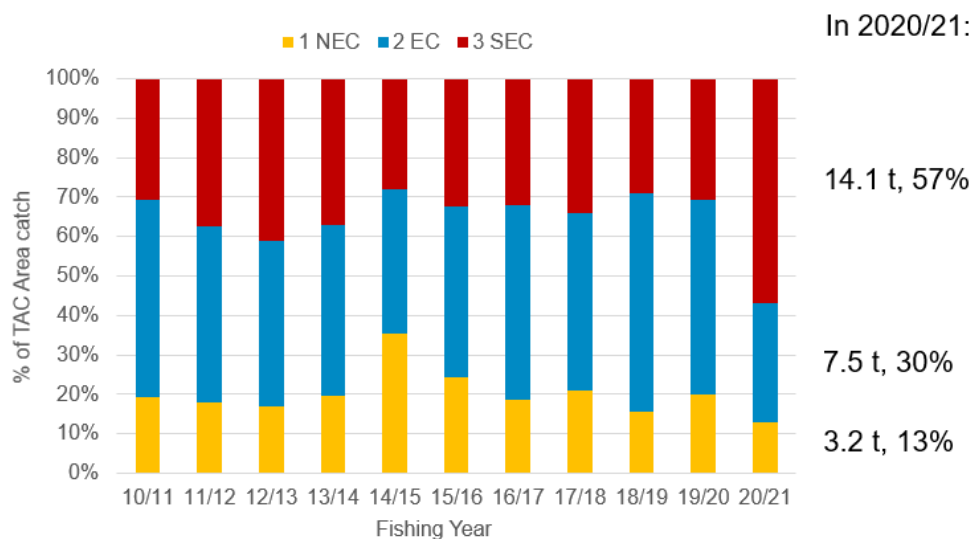


Figure 3: Slide 14 of the IMAS presentation to the Banded Morwong Fishery Forum indicating proportional catch in the TAC area. Yellow = North East Coast, blue = East Coast and red = South East Coast.

Industry suggested the following reasons for declines in catch on EC and NEC

- No fishing due to strong easterly weather (impact of La Niña?).
- Processors were not buying any fish on the NE and east coasts so less fishing activity in those areas.

## Relative regional effort

IMAS summarised the relative regional effort (vessel days) through time relative to 1995/96 levels (Figure 4). Effort in the North East Coast (NEC) and East Coast (EC) decreased dramatically in 2020/21 season in both the TAC and non-TAC areas. Effort in the South East Coast (SEC) remained stable.

## Effort (days fished relative to 95/96)

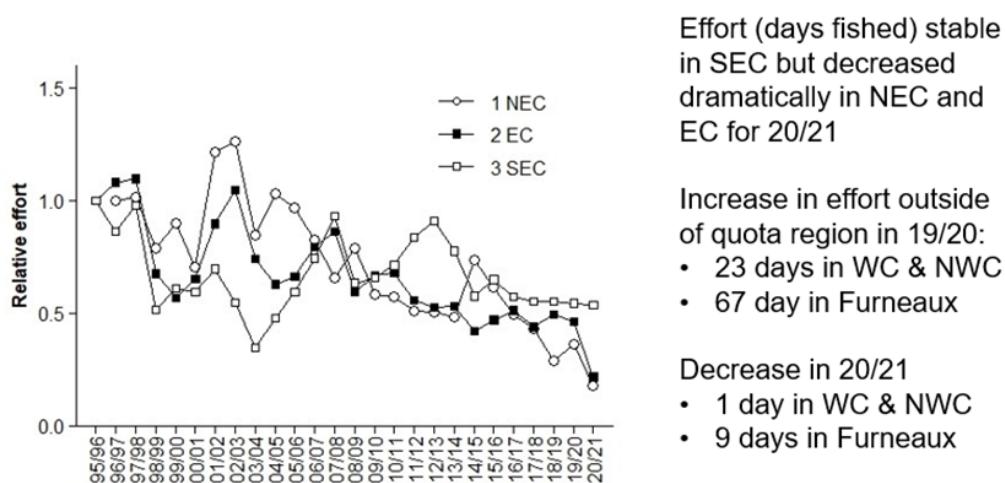


Figure 4: Slide 16 of the Banded Morwong Fishery Forum indicating effort (days fished) relative to 1995/96. Effort in the North East Coast (NEC) and East Coast (EC) decreased dramatically in 2020/21 season in both the TAC and non-TAC areas. Effort in the South East Coast (SEC) remained stable.

Industry comments noted that:

- SEC effort remains fairly stable, but declined in EC and NEC due to impact of La Niña easterly weather as per catch.
- additionally two large catchers stopped fishing on the NEC and EC.
- Would be useful to compare days fished to hours fished if enough effort data to do so.
  - IMAS suggested this may now be possible, as hasn't been done in the past as not enough data.

## Undercatch

The impact of Covid-19 on live fish markets resulted in an undercatch of the TAC by ~27.4% — equivalent to 8.2 tonnes (from Catch Update Table on DPIPWE website). Since 2018 a proportion of undercatch is no longer factored into the model.

**Table 1:** Level of actual undercatch since the 2015/16 Quota year. The policy of factoring in 5% undercatch into the TAC was reviewed in 2018 and is no longer factored into the Banded Morwong model for setting the TAC.

Quota Year	Undercatch (% of TAC)
2015/16	7.6%
2016/17	3.0%
2017/18	10.3%
2018/19	1.7%
2019/20	0.8%
2020/21	27.4%

## Catch rates

IMAS explained that catch rates are an indicator of abundance. The standardisation process accounts for changes or variations in catchability. Seal interactions are factored into the standardisation process. Figure 5 shows that catch rates continue to increase.

Industry wanted to know why:

- the catch rates are not reflected as a predicted increase in biomass.

in response:

- IMAS and DPIPWE also want to know why the catch rates are not reflected as a predicted increase in the biomass
- IMAS suggest biological data is conflicting with catch rate data, which may be the reason for the mismatch.

## Standardised catch rates: 2020/21 assessment

### 19/20

Catch rates stable in NEC, increased slightly in EC and SEC relative to 2018/19 levels

### 20/21

Catch rates in all areas increased relative to 2019/20 leading to an increase in total TAC area catch rate

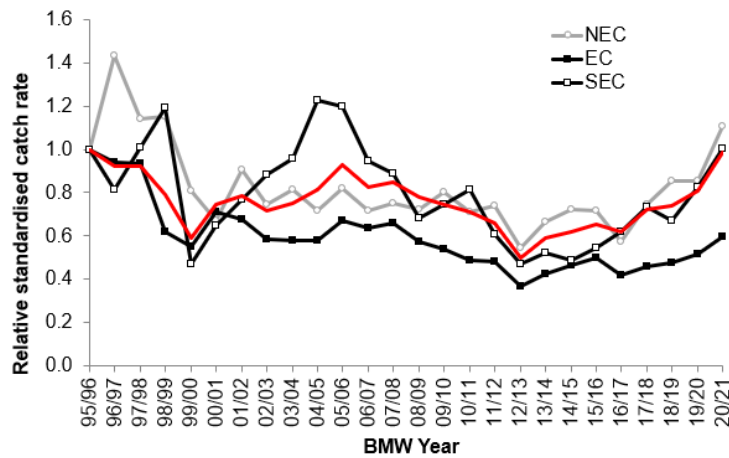


Figure 5: Slide 21 of the IMAS presentation to indicating standardised catch rates for the 2020/21 preliminary assessment.

## Spawning stock biomass model projections

IMAS then explained the preliminary spawning stock biomass model projections. Figure 6 indicates the projections of spawning stock biomass (SSB) if the TAC is maintained at 31 tonnes (26kg/unit). Figure 7 indicates the projections of SSB if the TAC is increased to 37.8 tonnes for the 2021/22 season only and Figure 8 indicates the projections of SSB if the TAC is increased to 37.8 tonnes and this TAC is maintained for all future years.

### Preliminary biomass projection at current management strategy

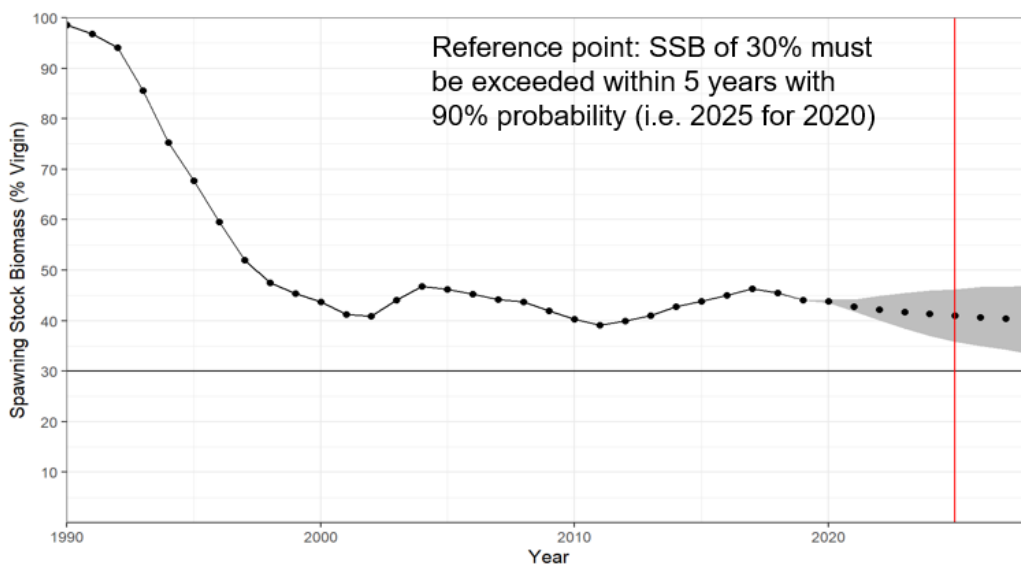


Figure 6: Slide 23 from IMAS presentation to the Banded Morwong Fishery Forum indication the model projections if the TAC is maintained at 31 tonnes.



## **Preliminary biomass projection with rollover of 20/21 TAC undercatch into *only* 21/22**

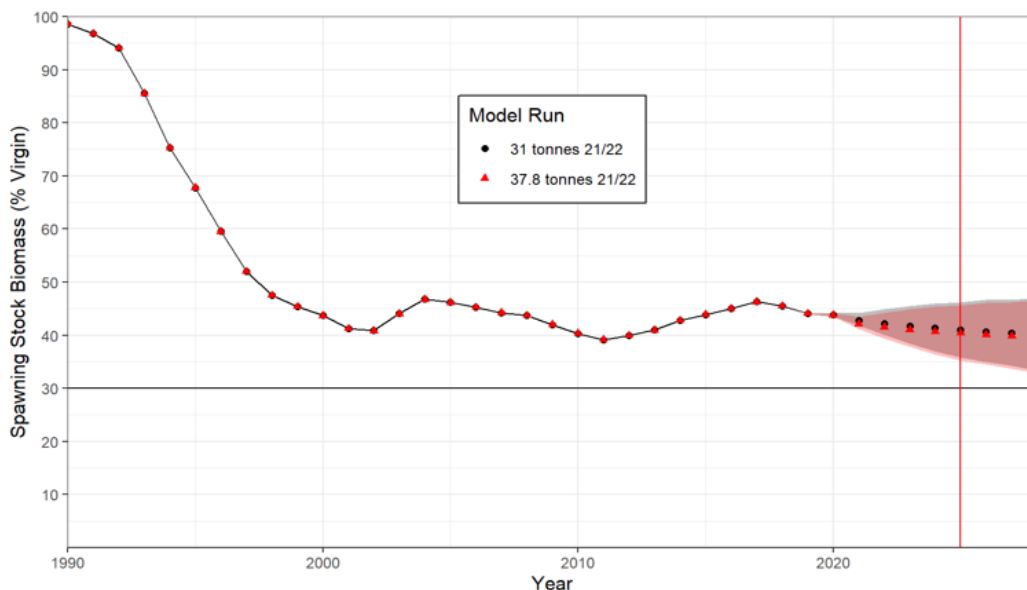


Figure 7: Slide 24 from IMAS presentation to the Banded Morwong Fishery Forum indication the model projections if the TAC is increased to 37.8 tonnes for the 2021/22 season the drops back to 31 tonnes from 2022/23.

## **Preliminary biomass projection with rollover of 20/21 TAC undercatch into *all* future years**

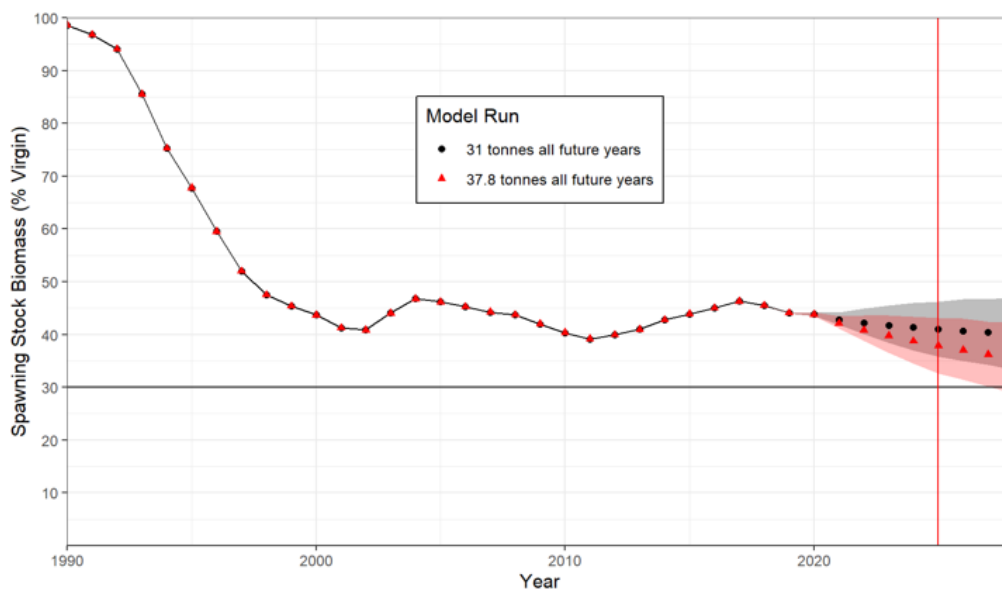


Figure 8: Slide 26 from IMAS presentation to the Banded Morwong Fishery Forum. The red line indicates the predicted impact on the Spawning Stock Biomass if the TAC is increase to 37.8 tonnes for the 2021/22 season and is maintained in future years.

In Summary IMAS noted the following:

- Will look at using recruitment estimates of the last 20 years as a representative period as current using recruitment estimates going back to 1990, which are unlikely to be representative now. IMAS also indicated that using last 5 years is not defensible.
- A a sensitivity analysis could be run on the recruitment variation for the SFAC meeting.

- Confirmed they need to rigorously weight the abundance and biological data appropriately in the model review process (this is a complex and standard practice only recently agreed), and hope to have this weighting reflected in next assessment report.
- Growth rates were recalculated in 2019.
- Highlighted that females are exposed to fishing for their entire adult life as they do not grow beyond the maximum size limit – which means less spawning females as a result of fishing activity.
- Will be completely transparent with the model review. Intend to send model out for independent review when internal review is complete.
- The Limit Reference Point (LRP) is not a target, it is a number that we don't want the fishery to go to — noting when the confidence intervals hit the LRP (e.g., red line in Figure 8), then this indicates potential problems which may result in fishery closure if not addressed.
- There is no target reference point for this fishery. A target reference point of 50% is standard for finfish species

DPIPWE stated that Harvest Strategy Policy and Guidelines are being developed and the intention is to develop a harvest strategy for banded morwong as soon as possible, but this may take up to two years subject to resources.

Industry response:

- Those industry members present indicated appreciation of IMAS' commitment to transparency with the review of the model and will help with sampling where they can.
- Expressed concern that any potential future TAC increases will be hampered by not having a Harvest Strategy due to the potential 2 year timeframe alluded to.

## Markets

DPIPWE asked what the prospect was for the markets to recover this season.

Industry response

- Coral trout has had the biggest impact on domestic banded morwong markets.
- Coral trout price dropped from \$70 down to \$40, where as banded morwong price only dropped \$4.
- Number of China based importers went from 3 to 1, so more coral trout on the domestic market.
- There is section of the market that prefer to buy banded morwong over coral trout.
- Banded morwong markets are likely to improve.

## TAC for 2021/22

DPIPWE reminded those present that the TAC setting process for the 2021/22 season was delayed was to allow the most recent catch and effort data to be included in the model projections. This has meant extremely tight timeframes needed to be met to allow time for the Minister to make a decision and for DPIPWE to apply any new TAC to licences before the start of the season on 1 May 2021. Continuing setting of the TAC this way is not currently sustainable into the future as is subject to the availability of IMAS and DPIPWE resources at the time. It should be noted that the introduction of electronic monitoring in the coming years is likely to alleviate availability of DPIPWE data entry resources.

## Industry comments

After listening to the model outputs presentation and further discussion of model performance over the years, Industry propose increasing the kg/unit by 4kg to 30kg/unit for the 2021/22 season only.

- There was no support for continuing the increase after this season.

- Those present expressed concern that any potential future TAC increases will be hampered by not having a Harvest Strategy. Should be based on science of the day.
- We are only taking fish from a portion of the fishery, and morwong are found on reefs all around Tasmania and the remote islands. Potential for these fish to be feeding/supporting the fished area with settlement into the fished areas subject to currents.
- IMAS should map banded morwong habitat and determine potential areas where unfished banded morwong may be and if feasible that currents move pre settled banded morwong to fished areas.
- Due to the urgency of finalising the review of the model TSIC suggested that as IMAS won't know if the project will be funded by ARC until July if IMAS/DPIPWE accessed some funds from the SMRCA contingency fund (\$4M) then research project could start this year instead of waiting until 2022.

The TAC for the 2021/22 season will be discussed (and a recommendation made) at the Scalefish Fishery Advisory Committee (SFAC) that will be held on Tuesday, 30 March 2021. The summary of this forum will be tabled at the SFAC meeting and will highlight industry views discussed at the forum. The Minister will receive the recommendations from SFAC and DPIPWE, and views from this Forum would also be included in the recommendation to the Minister.

**Forum closed at 12:15 pm**