



Australian Government

Australian Fisheries Management Authority

Northern Prawn Fishery Resource Assessment Group (NPRAG)

Meeting minutes

11-12 November 2024

[View Hotel – Brisbane](#)

Meeting held on Turrbal and Jagera Country

Meeting participants

Position	Participant
Chair	Ian Knuckey, Fishwell Pty Ltd
NPRAG members	Ian Boot, Industry member Denham Parker, Scientific member Rik Buckworth, Scientific member Tom Kompas, Economic member (via teams) Éva Plagányi, CSIRO ¹ , Scientific member Phil Robson, Industry member Bryan van Wyk, Industry member Darci Wallis, AFMA ²
AFMA Employees	Sarah Kirkcaldie (Executive Officer) Lachlan Baker Ben Liddell Brodie Macdonald (via Teams agenda items 6 and 9c) Dan Corrie (via teams) Steve Hall (via Teams agenda item 9c only) Jacqueline Lyons (via Teams agenda item 9c only)
Invited participant	Annie Jarrett, NPFI ³
Observers / Presenters	Brooke D'Alberto , ABARES ⁴ Roy Deng, CSIRO Rob Kenyon, CSIRO (Day 2 only) Laura Blamey, CSIRO (Day 2 only) Brandon Meteyard, NPFI Sean Pascoe, CSIRO Beau Anderson, Industry Dwayne Klinkhammer, Industry
Apologies	
Nil	

¹ Commonwealth Scientific and Industrial Research Organisation

² Australian Fisheries Management Authority

³ Northern Prawn Fishery Industry

⁴ Australian Bureau of Agricultural and Resource Economics and Sciences

Agenda item 1. Preliminaries

a. Welcome and apologies

Ian Knuckey, the Chair, opened the meeting with an Acknowledgement of Country at 12:35 AEST⁵. The Chair noted that we were meeting on Turrbal and Jagera Country and acknowledged elders past, present and emerging.

The Chair welcomed members and observers in person and online. Members noted that all interests in the matter being considered, not limited to pecuniary gain, must be declared and that any interests should be disclosed prior to the item relevant to the interest being discussed. The other NPRAG members should then discuss the nature of the interest, decide if there is any conflict of interest, and what action should be taken when that item is discussed. If an interest arises during the meeting, the member should inform the Chair immediately. The Chair further noted that members will sometimes be receiving information before it is publicly available, and members must respect that this is confidential information.

Members noted that the meeting was being recorded, however, the recording will be deleted once the minutes are finalised.

b. Declarations of interest

The RAG discussed potential conflicts of interest and participation under specific agenda items as outlined in FAP12, noting:

- The register of interest is at [Attachment A](#).
- No conflict for researchers or industry identified at the beginning of the meeting, however, members agreed that if a conflict arises during the meeting the conflicted members will be asked to leave.

c. Adoption of agenda

The RAG adopted the draft agenda with no changes, outlined at [Attachment B](#).

d. Minutes from previous meetings

The draft NPRAG minutes from the meeting held on 4-5 June 2024 were circulated to members for comment on 30 July 2024 and revised accordingly. The final minutes were circulated to members out of session and are attached. Members endorsed the minutes as a true and accurate record of the meeting. The RAG noted that they will be published on the AFMA website on the [NPRAG past meetings](#) webpage.

e. Correspondence

The RAG noted the four key pieces of correspondence provided since the June 2024 meeting, including: 2025-26 research proposals, the draft NPF Harvest Strategy, NPF data and monitoring working group and November NPRAG meeting logistics.

⁵ Australian Eastern Standard Time

Agenda item 2. Actions arising from previous meetings

The RAG noted the status of action items from previous meetings provided by the Executive Officer, detailed [Attachment C](#), with specific updates provided on the following actions:

- 1) November 2023 (Action 3): *Tom Kompas and Sean Pascoe to consult with industry to enable a better understanding of the economics of the fishery as a whole to assist in the development of breakeven scenarios, ensuring that both variable and fixed costs are being considered appropriately.*

Members noted that this will be discussed under agenda item 8.

- 2) February 2024 (Action 2): *AFMA to report back to June meeting regarding using alternative sources (such as electronic monitoring) for geolocation data.*

Members noted that geolocation data is currently collected through the electronic monitoring trial and will be discussed under agenda item 9c. NPRAG further noted that the collection of geolocation data will also be discussed under agenda item 8 (NPF Tiger prawn stock assessment).

- 3) June 2024 (Action 2): *CSIRO to discuss the 'on water' observations with industry, with a further update on the status report to be provided at the November NPRAG meeting.*

Members noted that at the June NPRAG meeting members requested that industry 'on water' observation be included in the climate and ecosystem status report produced by CSIRO. Members noted that CSIRO will seek feedback before the next report is due and encouraged industry to contact CSIRO at any time with any relevant information.

- 4) June 2024 (Action 4): *NPFI to include the mid-year prawn prices and fuel costs in the economic survey.*

Members noted that the most recent prices were received last week.

- 5) June 2024 (Action 5): *NPFI/AFMA/NPRAG to confirm the approach to calculate fuel price for the MEY trigger in the future.*

Members noted that NPFI will address this action item at the February 2025 NPRAG meeting.

A list of action items established at this meeting are listed in [Attachment D](#).

Agenda item 3. Out-of-session items

NPRAG noted that the data and monitoring working group was formed and met twice during September and October 2024, with further details on the outcomes of these meetings to be discussed under Agenda Item 9b.

Agenda item 4. Update reports

a. Industry update report

The RAG noted the update provided by industry members and NPFI:

Industry member update

- Summary of the 2024 tiger prawn season:
 - Catch in areas varied significantly with the east of the Gulf of Carpentaria (GoC) below average, with strong tiger prawn catches at north and south Groote Eylandt in areas not fished since the 1980's. The Joseph Bonaparte Gulf (JBG) and Weipa both had low catches.
 - Skippers had commented that the weather was good with higher water temperatures than normal and the presence of brown/green algae in several areas which has previously been an indication of good prawn availability/catches.
 - Both the international and domestic markets continue to be challenging, with the last of the 2023 tiger prawns only recently sold and prices were down. Contracts for the sale of the 2024 catch is difficult, due to competition with a glut of other wild-caught fisheries and aquaculture prawns. The Japanese market is down 25% with a demand for smaller (cheaper) prawns. The NPF are also competing domestically with Queensland-caught prawns. Industry noted that they do not expect to make a profit for the 2024 Tiger prawn season with multiple sellers and no buyers.
 - Industry noted that skippers are leaving the fishery.
 - There are some positive signs with fuel prices down 7% when compared to the end of the previous season.
 - There was a full moon on the 17 October 2024 with catches normally building up during this period. The early closure of the fishery when catches were showing signs of increasing meant a lot of prawns were left in the water.

NPFI update

- Two crew-member observers (CMOs) collected data during the 2024 banana prawn fishing season with 277 shots monitored for ETP and at-risk species interactions. Photos accompanied over 90% of all ETP interactions, which have been provided to CSIRO along with the data.
- A total of 3,642 tonnes of banana prawn was landed over 2,152 fishing and searching days during the 2024 season.
- Eleven CMOs were recruited by NPFI for the tiger season. Eight CMO's (7 new and one returning) attended the 2024 CMO workshop held on 24 July 2024. Three returning CMO's were unable to attend the workshop and were briefed and provided with their data collection kits on their boats.
- NPFI and AFMA collaborated on monitoring the tiger prawn and JBG fishery catch and effort through a combination of e-logs and VMS data. NPFI provided regular updates to AFMA and industry operators from 1 September 2024. There were 2,598 days were spent in the tiger prawn fishery (excluding JBG) from 1 August – 29 September 2024 inclusive. Based on expectations/predictions of fleet behaviour in October, including expected JBG fishing, the number of vessels fishing, predicted non-fishing nights due to mothership/fuel-ups and boats leaving the

fishery early, NPFI submitted a recommendation to AFMA Management that the 4,013 days TAE would approximately be reached on 31 October 2024.

- A total of 3,900 effort days for tigers and 57 fishing days fishing in the JBG during the 2024 tiger season.
- Five FishSOOP water temperature monitoring devices were distributed to industry and deployed for the 2024 tiger season.
- The MSC-funded project titled '*Identify the impact of the Tom's Fisheye BRD on sea snake interactions of individual vessels and between fishing seasons/years. Quantify any percentage reductions of individual vessels and between fishing seasons/years since the adoption of the Tom's Fisheye in 2020*' has been completed and the final report was submitted to the MSC on 30 September 2024.

b. AFMA management update

The RAG noted the update provided by AFMA about key issues relevant to the NPF:

- The new NPF Wildlife Trade Operation (WTO) approval came into force on 5 January 2024, expiring on 6 January 2027 and there are four new conditions that apply to the NPF (other than the standard conditions applied to Commonwealth fisheries):
 - Undertaking a review of the NPF Scientific Observer program (focusing on spatial and temporal coverage distribution), due 30 June 2025.

Progress - A broader review of the NPF Data Collection needs is underway through the development of the NPF Data Strategy. This review will consider all components of the current NPF Data Collection Program and the most appropriate, cost-efficient tools to collect this data into the future;

- Completion of an electronic monitoring (EM) trial in the NPF, due 15 December 2024. Progress (completed) - An EM trial is currently underway in the NPF, concluding at the end of the 2024 tiger prawn season. Further consideration of the EM trial outcomes and proposed timeframes moving forward will be discussed under Agenda Item 9d;
- Develop a sawfish bycatch mitigation strategy for the NPF (considering the current research underway), due 30 June 2026.

Progress - NPRAG approved the formation of a Sawfish Working Group to meet the MSC Sawfish condition and assist in the development of the Sawfish Bycatch Mitigation Strategy. NPFI have also developed a Sawfish Workplan which outlines the timeframes to meet both these conditions, with the RAG working group supporting this process. This will be further discussed under Agenda Item 10c; and,

- Ensuring where possible, all sawfish and sea snakes interactions in the NPF are reported to the species level.

Progress - NPFI continue to provide education to operators regarding species-level reporting, with photos collected by CMOs and some industry and provided to CSIRO for species ID, which feed into the ongoing Bycatch Monitoring Program in the fishery.

- The AFMA Commission considered the NPF Harvest Strategy amendment at its meeting on 9-10 September 2024 in Hobart, approving the revised harvest strategy including the recommendation to revert the wording in section 4.4.1 back the previous wording in the harvest strategy. The NPF Harvest Strategy is now in place and will be published on the AFMA website at:
<https://www.afma.gov.au/fisheries-management/management-tools/harvest-strategies>.

- The review of AFMA's Management Advisory Committee (MAC) and Resource Assessment Group (RAG) consultative framework is complete. At its September 2024 meeting, the AFMA Commission agreed to the MAC & RAG framework review implementation plan. The implementation plan set out several actions to improve the operations of MACs and RAGs. The progress against some of the key actions in the MAC & RAG framework review implementation plan are below:
 - Work is underway to amalgamate Fisheries Administration Paper (FAP) 12 (RAGs), Fisheries Management Paper (FMP) 1 (MACs) and the previous FMP 7 (industry members on committees) into a single "AFMA Committee" guidance document.
 - A review of FAP 16 (Fisheries Research and Science Quality Assurance Policy) will be undertaken to update/streamline these policy documents to ensure they remain consistent with the broader AFMA Research process (including current research review within MAC/RAGs).
 - The current RAG and MAC policies require regular self-assessment of committee performance, which was last undertaken by both NPRAG and NORMAC in 2019. However, it is not proposed to undertake this assessment until further guidance is available on what changes will be made to the MAC and RAG process as part of the current work underway.
- AFMA and the Department of Agriculture, Fisheries and Forestry (DAFF) are collaborating on an FRDC project, *Development of an Indigenous Engagement Strategy for fishing interests with a focus on Commonwealth fisheries*, which is developing a strategy for effective engagement between Indigenous groups and Commonwealth fisheries management agencies. The recommended strategy aims to meet AFMA's operational legislative needs regarding taking account of Indigenous interests in commercial fisheries decisions and any wider implications of DAFF's resource sharing policy. Members noted that the project is nearing completion with key initial findings and suggested approach to engagement as follows:

That government advance a national level engagement structure that includes:

- A national coalition or peak body for Indigenous fisheries and fisheries related Sea Country issues, with its development funded by ILSC in co-operation with other Commonwealth agencies, to support and advance effective Indigenous leadership, through broad nation-to-nation diplomacy and representation between Indigenous nations with relevant fisheries interests and the Australian government.
 - An Indigenous Fisheries Technical Working Group, funded and implemented by DAFF, to facilitate Indigenous expertise into fisheries policy and management processes, by providing focused support to a peak body in developing and advancing its priorities, and to government in meeting legislative obligations under the FMA and EPBC Act.
 - An Indigenous unit inside DAFF and AFMA to advance Indigenous engagement in their day-to-day operations.
- During early 2024, a significant amount of effort went into recruiting and training eight new observers. Despite this and efforts of the coordinators and NPFI, personal circumstances for several of our experienced observers meant that a significant number of seadays during banana season were not met; with only 36 days completed at sea. For Broodstock collections, nine sea days were observed. For Tiger season, observers' personal circumstance in conjunction with competing priorities made deployments early in the tiger prawn season difficult. Once the season commenced, the requirement to provide coverage and data on vessels with electronic monitoring installations emerged, which further reduced our options to board vessels. Fortunately, later in the season, we successfully coordinated five voyages to complete over 100 sea days (with two trips still underway on 25 October 2025) for tiger season and another trip on a vessel targeting scampi (underway).

Over the last 18 months, the observer program has refined its recruitment process and is in the final stages of developing eObserver, a digital data collection application.

NPRAG Recommendation:

NPRAG confirmed their previous advice regarding broodstock (most recently provided in May 2023) of maintaining:

- The individual supply limit for *P. monodon* at 9,000 in the NPF until the next stock assessment is undertaken for; noting that this is unlikely present a risk to stock sustainability and the demand for live *P. monodon* broodstock supply remains low.
- Enhanced data collection and monitoring for *P. monodon* and the Broodstock Sawfish Move-on Provisions, which includes:
 - Shot level reporting of targeted broodstock collection through e-logs (retained and discarded by sex, location, bycatch including other commercial and Protected species);
 - Recording of incidental catches of *P. monodon* by NPF through the daily NPF e-logs; and
 - Scientific observer coverage on broodstock collection trips (20 per cent).
 - Move-on provisions: operators must move more than three nautical miles if four or more Sawfish are caught in a single shot.

c. CSIRO update

The NPRAG noted the update from the CSIRO members and observers on the following topics:

- The Western GoC, Groote Eylandt and Blue Mud Bay inshore juvenile prawn and seagrass field survey is planned for 22 November-02 December 2024. CSIRO are hopeful that the required permits will be issued shortly, and the survey will go ahead as scheduled.
- Rob Kenyon attended the CSIRO Northern Australia Steering Committee meeting.
- The Australian Society for Fish Biology Conference will be held in Newcastle, NSW, from 18-21 November 2024. This year's theme is 'Fish Frontiers' and Éva Plagányi, Laura Blamey and Steph Brodie will be presenting the three talks with relevance to research in the NPF:
 1. *Confronting complex cumulative pressures impacting Australia's northern prawn fishery* - Éva Plagányi
 2. *Preparing fisheries for an unforgiving climate: lessons from the north* - Laura K Blamey
 3. *Supporting climate adaption in Australia's seafood sector: climate and ecosystem status reports* - Stephanie Brodie
- The project '*Monitoring interactions with bycatch species using crew-member observer data collected in the Northern Prawn Fishery: 2020 – 2022*' was completed and submitted to AFMA in June 2024. The contract for the project titled '*Integrating long-term catch trend analysis of bycatch species into ecosystem-based sustainability of the Northern Prawn Fishery: 2023-2025*' will be signed soon and as a result of delay, the first milestone will be shifted to mid-2025. NPF expressed concern that the milestones were being moved to 2025 noting that this project is critical to MSC and WTO conditions and the sawfish workplan.
- Denham Parker gave a presentation on climate adaptation in fisheries at the National Fisheries Plan Coordination Group 5th Meeting on the 10 September 2024. The presentation outlined CSIRO's research toward climate adaption in fisheries and highlighted current projects and associated their outputs being produced to inform adaptive fisheries management including examples specific to the NPF.
- A recent field trip was conducted as part of the DCCEE funded project '*Understanding Freshwater Sawfish populations in Northern Australia*'. This is a project co-designed with Northern Land Council/Timber Creek Rangers to increase capability within First Nations Ranger Groups that will directly assist with developing baseline population estimates for largetooth sawfish (*Pristis pristis*).

Rich Pillans and Denham Parker spent 13 days around Timber Creek/Victoria River undertaking sawfish surveys, training rangers and undertaking consultation with Traditional Owners. Nine sawfish were caught with a few re-captures. The Traditional Owners requested that CSIRO develop educational material for communities that promotes education on sawfish status and encourages sawfish conservation. The same trip was made four years ago, and it was noted that the banks had eroded probably due to flooding and over grazing.

d. ABARES update

- The RAG noted the update provided by the ABARES observer regarding the most recent ABARES Fishery Status Report, released on 16 October 2024, which assesses all key commercial species from Commonwealth fisheries and examines the broader impact of fisheries on the environment, including non-target species. All key NPF stocks (redleg and white banana prawns, brown and grooved tiger prawns and blue and red Endeavour prawns) have been classified as 'Not Overfished or Subject to Overfishing'.
- NPFI questioned the financial status report which showed that the fishery was approximately negative \$5 million in 2021/22 and positive \$9.3 million in 2022/23.
- ABARES confirmed that 31 boats were surveyed and difference in scope between ABARES and NPFI survey is the financial/calendar year variation. ABARES agreed to send a link to concept/methodology of survey to NPFI.

Action Item 1 – ABARES to circulate link to the concept/methodology of survey to NPFI.

Agenda item 5. Climate adaptation

a. Tiger MICE project

Éva Plagányi (CSIRO) provided an update on the project '*Methods to account for climate impacts in fisheries models and management: Case study example of environmental contributors that affect Tiger Prawn population dynamic*', known as the Tiger Prawn MICE project. The following key points were discussed:

- Members noted that the outcomes of the project are currently confidential with a paper submitted on the project as soon as possible.
- Aiming to conduct a workshop (half or full day) on the findings in 2025.
- The NPF is an example of a multi-species fishery with a 50-year time series of data.
- Prawn populations are globally environmentally driven with different species having highly variable sensitivities to SST, river flows, salinity and sediment type.
- 9 regions used in MICE model which are not the same as the stock assessment areas. The regions are spilt as best as possible on environmental criteria.
- As part of the project a field survey will be conducted late in 2024.
- A future paper will be examining what impact the outcomes of this project have on the stock assessment.

NPRAG noted the update from Éva Plagányi (CSIRO) on the redleg banana prawn stock assessment. The following key points were discussed:

- A minimum of 70 days fishing was required for reliability, noting that if there isn't 70 days in the previous season, the second season would still be open, although a stock assessment would not be done.
- Key environmental indicators, including the Southern Oscillation Index (SOI) and mean sea levels, are considered alongside the stock assessment. The January SOI is key indicator, with a negative

SOI indicating lower redleg banana prawn catches and CPUE and a positive indicating good catches and CPUE.

- CSIRO have been tracking SOI. Less than -7 SOI is El Nino and +7 is La Nina.
- There is a connection between SOI and sea level and CSIRO are examining how the information can be used to get a better understanding of the fishery.
- Periods of poor catches of redleg banana prawn have corresponded with low mean sea surface levels.
- Noted that there is not a good monitoring of sea level in the JBG but may be a reasonable connection with the Darwin stations.
- Theory is that redleg banana prawns rely on currents when moving in to nursery grounds to spawn and then again to move back out from nursery grounds.
- CSIRO want to have good 'early' indication of likely stock levels based on environmental factors.
- There is still not enough confidence with the current indicators to add into the stock assessment.

b. AFMA's Climate Risk Framework

The RAG noted the presentation by Dan Corrie on AFMA's Climate Adaptation Program which included that:

- AFMA's Climate Adaptation Program is implementing a range of measures to incorporate climate change information and risks into decision making processes to ensure that management of Commonwealth fisheries is adaptive to the impacts of climate change. Members noted that some fisheries will not require any additional changes (risk is low and the Fishery is well managed) whilst for other fisheries additional management/research may be required.
- The AFMA Climate Risk Framework (CRF) was developed throughout 2023 in consultation with key stakeholders as an approach to integrate climate risks into formal decision-making processes at AFMA. At its November 2023 meeting, the AFMA Commission approved a proposal to proceed with a trial implementation of the CRF across selected Commonwealth fisheries.
- Brown tiger prawn, grooved tiger prawn, and blue Endeavour prawn were identified as species to include in the trial of the CRF throughout 2024.
- The CRF includes a four-step process aimed at:
 1. Assessing the risk to species based on climate risk and estimated stock status.
 2. Identifying whether there is sufficient precaution in the existing science, management or industry adaptation measures to manage that that risk (industry involvement at this step).
 3. Determine the residual risk after considering the adequacy of management in place (RAG and MAC involvement).
 4. Provide advice to the AFMA Commission on any additional measures required manage climate risk.
- AFMA established a Working Group to support the trial implementation of the CRF and provide strategic advice to the AFMA Commission and AFMA management on the development, coordination and implementation of the CRF across Commonwealth fisheries. The Working Group membership includes Dr Beth Fulton, Dr Alistair Hobday, Dr David Smith and Dr Keith Sainsbury, with administrative support from AFMA's Climate Adaptation team.
- The Working Group met with industry representatives, management and scientific stakeholders at a meeting on 1 November 2024 to consider the trial application of the CRF in the NPF. The draft CRF Species Assessment Reports were considered by the working group participants – a summary of the Working Group discussion follows here:

- This process is not intended to be duplicative of work already completed or underway. It serves as a valuable tool for assessing the climate risks facing the NPF and record the extensive research and management strategies implemented that allow the fishery to continuously assess, monitor, and adapt to these risks.
- Additional management will only be required where the existing measures are considered insufficient to manage the risk of climate change on fisheries or stocks.
- The draft CRF Species Assessment Reports need to be updated to include more contemporary research which should allow further refinement of the climate risk score (Step 1) and capture the management arrangements that allow for adaptive responses to climate-driven changes in stock status (Step 2), such as:
 - annual recruitment surveys and biennial spawning surveys;
 - crew member observer program and AFMA's scientific observer program;
 - details of MSE harvest strategy and control rules,
 - seasonal, spatial and temporal closures; and
 - results of 'Models of Intermediate Complexity for Ecosystem assessments' (MICE).
- Noting that there is a substantial amount of work currently underway that will strengthen understanding of climate impacts in the NPF, the CRF assessments are 'living' documents and finalisation doesn't need to be delayed until this work is completed.
- AFMA will work closely with NPF scientists, managers, and industry to gather relevant and up-to-date information before presenting the assessment to the NPRAG as part of the trial. Members stated that the key environmental parameters are monitored and considered by NPRAG as part of the annual stock assessment review process.
- AFMA noted that the climate and ecosystem status report is available on the AFMA [website](#).

NPRAG thanked Dan Corrie for his presentation.

c. IMOS Ocean monitoring

NPRAG noted the presentation by Ian Knuckey on the Integrated Marine Observing System (IMOS) Ocean monitoring project with key information outlined below:

- The initial FRDC project was a trial by industry to collect sub-surface temperature information from sensors attached to their fishing gear.
- The relationship between temperatures at depth and sea surface temperature is not well understood and oceanic data is poor, particularly in remote areas of Australia (such as the NPF).
- The equipment includes a deck box that is solar powered and mounted on the wheelhouse and can transmit to mobile networks. Once installed it is 'set and forget'.
- The data is downloaded to the network when the deck box is in range.
- The data is anonymous with vessels de-identified.
- Vessels will be able to dictate frequency of data provision back to vessel (i.e. daily, fortnightly, monthly etc).
- The project originally focussed on vessels in south east Australia (including Bass Strait scallop and GAB trawl fisheries) but now involved vessels from around Australia, including NPF.
- Data has been collected since May 2023 with over 12,500 fishing sets and 2.8 million data points (1.2 million from remote areas with limited other data). All data until July 2024 is available on the Australian Ocean data Network (AODN).
- Potentially may be able to download information to e-logs in the future.
- IMOS has committed to funding the data collection for the next 3 years.

- Fishwell will continue as a key industry contact.
- The project is part of a global fisheries information system using international best practices.
- A gap analysis has been done so data gaps can be filled.
- The Tiger prawn data has not been downloaded but will be publicly available in January 2025.

Agenda item 6. Commonwealth Harvest Strategy and Bycatch Policies Review

NPRAG noted the update on the Commonwealth Harvest Strategy Policy (CHSP) and Bycatch Strategy Policy (CBSP) reviews including that:

- DAFF released a draft report on the reviews of the CHSP and CBSP for public consultation on 8 November 2024. The report is available on DAFF's Have Your Say website and open for submissions for 4 weeks. Members were encouraged to provide individual comments noting that a consolidated NPRAG submission would not be made.
- The draft report has been informed by separate implementation and technical reviews, as well as stakeholder feedback received through an initial have your say process, multi-sector stakeholder workshops held in March and September 2024 and follow-up consultations, including with the Commonwealth Fisheries Association. DAFF also received input from an Indigenous Fisheries Technical Working Group which was formed as part of the FRDC's Indigenous engagement strategy project.
- Following consideration of submissions received on the draft report, DAFF will prepare a final report for consideration by relevant ministers early in 2025. Any revisions to the policies that are required based on the review findings will be made through a subsequent process subject to further public consultation.
- The review will also consider the ongoing applicability of the Guidelines for implementation of both policies.

Agenda item 7. NPF bycatch policy

NPRAG noted that:

- The current NPF bycatch strategy expires at the end of 2024.
- The NPF currently has a WTO condition to develop a Sawfish Bycatch Mitigation Strategy by 30 June 2026.

NPRAG Recommendation

NPRAG recommended that the NPF bycatch strategy 2020-2024 is extended for another 2 years to allow the completion of the current Sawfish research and ensure the timing of the review occurs with the development of the Sawfish Bycatch Mitigation Strategy. Members noted that there are no MSC or WTO condition implications with the extension.

NPRAG noted that NORMAC support to extend the current NPF Bycatch Strategy will be sought out-of-session.

Agenda item 8. 2025 NPF Tiger prawn Stock Assessment

NPRAG noted that the TAE outputs for 2024 and 2025 from the 2024 tiger prawn stock assessment were both constrained by the minimum effort threshold (MET) of 4,004 days. Based on the key economic inputs, the assessment projects that the fishery will be in negative profit over these years. The primary driver of the 2024 stock assessment outputs were the economic inputs, specifically high fuel prices and low prawn prices, as well as the repair and maintenance costs. Therefore, given the MEY objective, the model is recommending cuts to fishing effort to reduce fishery operational expenditure during difficult economic times, which is expected to increase tocks and therefore catch per unit effort (CPUE), to higher levels.

At the June 2024 meeting, NPRAG acknowledged that if fuel prices continued to reduce, the fuel price used in the assessment to estimate the 2025 TAE would unlikely reflect the economic reality at that time. Therefore, NPRAG supported potentially updating the stock assessment in 2025, with the following two options identified:

1. Updating the base case assessment with revised fuel and prawn prices from the 2024 NPFI economic surveys (available in early 2025), which could be undertaken for a relatively low cost.

OR

2. Undertaking a full stock assessment in 2025, including 2024 catch and effort data, 2024 winter and 2025 summer survey indices and updated economic inputs. This would be a significant cost.

CSIRO undertook further analyses to evaluate the sensitivity of model outputs (i.e. recommended TAE) to the economic data inputs, testing the following sensitivities:

- Fuel costs (decreased);
- All costs (decreased); and,
- Prawn prices (increased).

Members noted that costs were decreased by applying a multiplier factor range (0.1 - 0.9) to current costs, and prawn prices were increased in a similar process, but applying a positive range (1.0, 2.0, 2.5).

CSIRO stated that using the 2024 Tiger prawn Base Case model structure, and under the 2024 stock status, the following changes in cost/price ratios are required for the recommended TAE to exceed the MET:

- Fuel cost will have to decrease by 70% (i.e., 0.3 multiplier) for 2024. For the 2025 TAE to exceed the MET, fuel costs will have to decrease by approximately 50%.
- All costs will have to decrease by 50% (i.e., 0.5 multiplier) for 2024. For the 2025 TAE to exceed the MET, all costs will have to decrease by approximately 30%.
- Prawn prices will have to increase by 150% (i.e., 2.5 multiplier) for 2024. For the 2025 TAE to exceed the MET, prawn prices will have to increase by 80% (i.e., 1.8 multiplier).

Members noted that the results provide an estimate of the change required in the cost/price ratios for the NPF Tiger prawn fishery so that the 2024 and/or 2025 TAE recommendations exceed the MET. CSIRO noted that these results assume that either the cost of fishing, or the price of Tiger prawns, vary independently whereas these cost/price ratios are linked. The results are still informative as they indicate that substantial changes to the cost/price ratio is required for the 2025 TAE outputs to be above the MET.

Industry members expressed concerns regarding the model outputs, considering that continual reductions to fishing effort have been made since 2022. The required changes in fuel/prawn prices were also questioned by the economic members as they seemed to be extreme and would be expected to be seen when the stocks are in a very poor state, which wasn't the case. NPRAG acknowledged that there is significant variability across the fleet, with some vessels still profitable under current economic conditions whilst others are not.

CSIRO advised that the initial effort reduction recommended by the model is a function of where stock is relative to economic status. The model is responding by recommending an initial drop in effort, thereby reducing operational costs and increasing the stock size (and therefore CPUE) to overcome the current poor economics in the fishery (lower prawn prices and high fuel prices).

Action Item 2: CSIRO to further investigate the inputs and modelling to better understand the reasons behind the model response in TAE levels.

NPRAG agreed that there are two components to the stock assessment discussions:

1. A TAE recommendation for 2025 tiger prawn season.

2. The broader structure of the future stock assessment model, noting potential changes to the target reference points under the revised Commonwealth Harvest Strategy Policy (CHSP), with maximum economic yield (MEY) no longer the 'preferred' target. However, NPRAG acknowledged that any changes to the CHSP would not occur prior to the required decision for the TAE for the 2025 tiger prawn season.

Considering that the recent testing by CSIRO found that the current fuel and prawn prices haven't changed significantly enough to increase the 2024 and 2025 TAE outputs above the MET, NPRAG considered the possibility of re-visiting the MET level, noting:

- The MET is a 'plug-in' to the model, adjusting this would be the simplest option to increase the number of fishing days. However, a strong justification would be required to change the MET input, backed up by longer-term model projections that show stocks would remain sustainable in the longer-term.
- The previous MET testing undertaken provided an indication of a suitable 'range' of MET levels, noting this would need to be tested from a stock sustainability standpoint.
- Under the current economic conditions in the fishery, and the improved fishing conditions just prior to the season closure on 31 October, an additional two weeks at the end of the season would have allowed most vessels to at least cover operational costs for the season (additional 14 season days x 52 boats = extra 800 fishing for the fleet).
- Considering the current poor economic conditions, and that a range of MET values were identified during previous testing, NPRAG acknowledged there was potential scope to link the MET with key economic indicators (e.g. fuel prices) and proposed a MET 'range'.
- A MET range, within biologically sustainable levels, would address the issue that economic conditions in the fishery affect the minimum number of fishing days required for a majority of the fleet to cover costs (i.e. in good economic conditions, the MET would be set at the lower end of the range and in the higher end of the range in poor economic conditions).

Action Item 3: Industry, CSIRO and the economics member to discuss re-visiting the MET level, including a potential MET range, providing feedback at the February 2025 NPRAG meeting.

NPRAG noted the MET discussions would be conditional on CSIRO capacity/resourcing.

NPRAG Recommendation

NPRAG made the following recommendations on the 2025 stock assessment:

- A full stock assessment should not be run in 2025.
- A final decision on the required updates, inputs and sensitivities for the 2025 'mini' stock assessment (including the economic inputs and a potential revised MET) would be made at the February 2025 NPRAG meeting.
- Industry should send a letter to the AFMA noting the difficulties facing the industry including the need for a higher level of fishing effort in the current economic climate.
- Considering the MET was only recently updated in the 2024 stock assessment, any changes would require a strong justification and must ensure no negative impacts on stock sustainability.

NPRAG acknowledged that any short term economic relief will have to be weighed up against long term economic performance.

Agenda item 9. Data collection in the NPF

a. Species Distribution Data Collection

NPRAG discussed the future species distribution data collection to be used in the NPF noting that:

- The species distribution model was updated in late 2023 with a preference for lower level regular data collection.
- Due to the heavy workload, the observer sampling was adjusted for 2024 to a minimum (per night) of:
 - One commercial prawn sample
 - One species distribution sample
 - One 10kg bycatch sample
- Previously, NPRAG and the Data and Monitoring WG noted that the 2024 assessment outputs were primarily driven by the economic inputs, not the species distribution model or other biological elements (although this could change in the future if economic conditions improved).
- Going forward there are two overarching sampling regimes options: either a periodic dedicated project (e.g. 5/10 years) or lower levels of annual sampling (e.g. observers/industry).
- The ongoing species distribution sampling was discussed at the February and June NPRAG meetings and at the two Data and Monitoring Working Group meetings.
- Generally, the observer program provided less adequate temporal coverage than the dedicated sampling project, however, potential to adjust observer priorities to improve spatial and temporal coverage.

Collection by the AFMA observer program

NPRAG noted:

- The latest species distribution report highlighted the potential limitations within the current AFMA observer spatial and temporal coverage under the current 2% coverage levels. Adequate spatial and temporal coverage can be constrained by observer availability, vessel scheduling and locations – with the ceasing of the mothership making the logistics more difficult.
- Generally, the observer program provided less adequate temporal coverage than the dedicated sampling, with limited tiger prawn season data prior to week 30 and most collected after week 40.
- That there is potential to adjust the observer priorities to improve spatial and temporal coverage.
- The observer coverage over the previous five fishing years:

Year	Tiger Prawn Fishing Days	Observed Tiger Prawn Fishing Days	Observed Tiger Prawn Shots
2024	4,196	115	354
2023	4,401	132	320
2022	4,716	98	136
2021*	5,460	88	217
2020*	5,538	51	140
2019	5,846	93	241

Members noted that under the current level of coverage, AFMA observer data collection is unlikely to meet the required level of sampling (in particular the spatial and temporal coverage) and would need to be supplemented with alternative sampling sources, including:

- Collection by the crew member observer (CMO) program noting:

- No additional costs if undertaken within current observer coverage levels, although needs to be considered amongst the existing CMO data collection priorities and requirements.
- Further analysis is required on the spatial and temporal coverage of the CMO program over recent fishing seasons.
- Industry data collection noting:
 - Equivalent process to the targeted species distribution sampling project, with additional costs including:
 - In-kind contribution by, or payment to, industry to provide samples,
 - On-shore processing of samples, and
 - Costs of shipping and storage of samples.
- NPF survey data collection noting:
 - Data collection would have limited spatial/temporal coverage, due to the timing/length of surveys and that the sampling area doesn't cover the entire area of the fishery.
 - Species ID and length frequency data is already undertaken during surveys, if additional samples were to be collected and processed this would either increase survey costs or re-prioritisation of other survey data collection requirements would be required.

NPRAG noted the information provided, discussing the following key points:

- Whilst sampling undertaken within existing AFMA observer or CMO coverage levels would not result in any direct additional costs to industry, the collection of species distribution samples by CMOs or increasing current sampling levels of AFMA observers, would require reducing other elements of AFMA observers or CMOs sampling. Training and/or ID guides would be required for CMOs, as target species sampling isn't currently undertaken in the program.
- Additional sampling by industry would require either in-kind industry contribution to provide samples at no cost or separate funding to pay industry for samples. Funding would also be required to cover cost of transporting samples to Brisbane for storage and the costs of onshore sample processing.
- Co-ordination of samples would need to be actively managed, to identify any gaps in the volume or spatial and temporal coverage of samples collected by AFMA observers. This would either need to be co-ordinated by someone with appropriate expertise from NPFI, CSIRO or AFMA to identify the sampling gaps and co-ordinate the most appropriate source to supplement that data.
- Members noted that it was difficult to provide an exact number of samples required as it was a proportional calculation.

Targeted periodic project

NPRAG noted that a targeted periodic project would be required every 5-10 years with 2 years of sampling required and an estimated cost of >\$500,000. A targeted project would require an ongoing commitment to undertake this work, with the scheduling incorporated into the NPF Strategic Research Plan.

NPRAG provided 'in-principle' support for an ongoing annual sampling approach, through a combination of AFMA Observers and CMOs, agreeing:

- A more detailed proposal be developed for the February 2025 meeting, including an option for a 12 month trial using scientific observers, supplemented with CMOs.
 - Suggested sampling levels were 10 CMOs to collect samples once (or twice) per week which is 1000 (or 2000) samples per week
- If using CMO's consideration needs to be given to the size of the crew and if there were any issues on the trip such as bad weather.

Action Item 4: NPFI/AFMA and CSIRO to work together to refine options for CMO sampling (1-2 samples per week per CMO - 100-200 samples of 100 prawns/week).

b. NPF data strategy

NPRAG noted that the Data and Monitoring Working Group met on 23 September and 15 October 2024 with the key outcomes and recommendations outlined below:

- Categorisation/Prioritisation of current data collected in the NPF.
- The following components of the current data collection protocols should be revised or removed to avoid duplication and/or prioritise essential data collection:
 - Gear information (currently collected in logbooks, CMOs, AFMA observers and annual NPFI gear survey).
 - Wildlife abundance counts, marine pollution and weather details collected by AFMA observers.
- That previously identified data gaps by NPRAG remain the key ones in the fishery and include environmental data in the GoC (with some work underway to improve this) and finer scale spatial/effort data.
- There is potential for currently unused, data collected in the fishery to be used including observer commercial prawn samples (stock assessment) and observer BRD information (future bycatch work) in the fishery.
- The potential of using the grade data recorded in logbook by industry.
 - CSIRO noted they did look at this a few years ago, although the data wasn't suitable at the time and there were inconsistencies in how it was entered. However, this could be reviewed again to see if suitable for other purposes (i.e. identifying trends/changes).
 - Industry noted there is different grades used across operators, although NPFI are able to provide a 'key' for the different codes used to ensure consistency across the data if analysed at in the future.

Members noted the previously identified data gaps:

- Reliable data on sawfish bycatch numbers and species identification.
- Cumulative weight of bycatch with representative measure of catch composition.
- Detailed data collection for targeted broodstock fishing.
- Feasibility (including costs) of introducing finer scale reporting (shot-level) for tiger prawn fishing and, potentially, banana prawn fishing.
- Validation of the CMO and Scientific Observer eyeball estimates of total bycatch.
- Reliable catch data on *P. monodon* including shot-level reporting for targeted fishing, with numbers and total weight by sex.
- Temporal and spatial needs of the observer program, taking into consideration the scientific report that originally established the program. Consider setting and monitoring of observer program targets on an annual basis.
- Requirement of species abundance counts and suitability of current collection protocols.
- Automated data quality checks and the rectification of data errors.

The draft NPF data strategy was considered by members, and NPRAG recommended that climate change (and the need for ongoing monitoring), economic data and an additional reporting requirements field (WTO and data to support MSC conditions) be included.

Industry stated that it was important to be able to specify location of ETP (e.g. Sawfish) and members noted that this would be more streamlined with the introduction of e-observer. NPRAG agreed that wildlife abundance counts are not necessary for every set/haul and requested AFMA clarify whether there are other mandatory requirements for this.

Members were requested to provide comments on the draft NPF data strategy 2025-2030 by 22 November 2024.

Action Item 5: AFMA to revise the draft NPF data strategy to include the need for ongoing monitoring (due to climate change impacts), economic data and an additional reporting requirements field (WTO and data to support MSC conditions).

Action Item 6: AFMA to confirm whether there are any other external or AFMA requirements that require wildlife abundance counts are mandatory.

Action Item 7: AFMA to confirm what tracking information is being used by Parks Australia, which may have higher levels of polling.

c. EM trial update

NPRAG noted the presentation from Steve Hall, AFMA Electronic Monitoring Fisheries Project Officer, on the NPF electronic monitoring (EM) trial including:

- Three EM providers were tested on five trial participant's vessels: Dolphin Pearl (AAP), Territory Pearl (Satlink), Warlock (AAP), Ocean Exporter (Saltwater) and Territory Spirit (Satlink).
- During the trial, the systems were functioning and collecting data as expected.
- Observer trips were undertaken on four vessels.
- ABARES will undertake the congruence analysis of logbook data versus observer collected data versus EM remotely viewed data.
- The last hard-drives are being returned to AFMA following the completion of the season.
- Images from the vessels are retained for 6 months and then deleted.
- The biggest challenges that were faced in the trial were ensuring the cameras were in the right position, safety of crew when cameras need to be cleaned, and also communication (identifying problems and making sure fixed up straight away).
- Noting the difficulty with longer trips and hard drive exchanges (including having sufficient hard drives and return envelopes before leaving port) and technical support.
- Evaluating technical support requirements and logistics will be part of the final report.
- Aim to have the final report from the trial in February 2025.

NPRAG thanked AFMA for the presentation.

d. Environmental data collection

NPRAG noted that the Environmental Monitoring Data Working Group (EMDWG) met in August 2023 and January 2024 to consider ways to improve the environmental data collected in the NPF.

NPRAG agreed, given the overlap, to combine the Data and Monitoring Working Group (DMWG) and the EMDWG and supported the following membership:

1. AFMA (Darci Wallis / Sarah Kirkcaldie / Lachlan Baker / Ben Liddell – Observer)
2. NPFI (Annie Jarrett / Brandon Meteyard)
3. Industry (Mike O'Brien / Bryan van Wyk / Beau Anderson)
4. Researchers (Denham Parker / Éva Plagányi / Gary Fry / Roy Deng / Rob Kenyon / Laura Blamey / Margaret Miller)

Members noted that not all members will be required for each meeting, instead the appropriate expertise within this group will be sought depending on the issues being discussed or advice required.

Economic data collection

Tom Kompas presented the industry economic survey data noting that there were still net losses even with recent reduction in fuel costs. The industry survey include data from 41 boats and the spreadsheet was simplified so that it is now easier to fill in and identifies double counting and other errors. It was agreed that NPFI would distribute the simplified spreadsheet to NPRAG.

Members acknowledged that there is a difference between ABARES and survey data noting that ABARES uses data from only 31 boats and extrapolate to 52 boats (\$161,000 profit) and the industry survey (41 boats) has net losses \$170,000. NPFI and ABARES agreed to discuss difference between the surveys noting that CSIRO use some ABARES data.

NPRAG Recommendation:

Data and Monitoring Working Group (DMWG) and the EMDWG and supported the following membership:

1. AFMA (Darci Wallis / Sarah Kirkcaldie / Lachlan Baker / Ben Liddell – Observer)
2. NPFI (Annie Jarrett / Brandon Meteyard)
3. Industry (Mike O'Brien / Bryan van Wyk / Beau Anderson)
4. Researchers (Denham Parker / Éva Plagányi / Gary Fry / Roy Deng / Rob Kenyon / Laura Blamey / Margaret Miller)

Action Item 8: NPFI to distribute to NPRAG the simplified spreadsheet.

Action Item 9: NPFI and ABARES to discuss difference between the surveys.

Agenda item 10. Research project update

a. Integrated monitoring program

The RAG noted the update by Rob Kenyon on the NPF Integrated Fishery-independent Data (IFID) Program including:

- The first survey of the IFID (2024-27) was successfully carried out from 4-24 July 2024 with 2,016 sites were trawled by one vessel in three regions during night hours.
- The gulf-wide indices from the survey for:
 - Brown tiger prawn had decreased significantly from 2022 to be the third lowest index of the series (5.7 ± 0.5 prawns ha⁻¹, historical range ~4.5 to 15 prawns ha⁻¹). The 2024 gulf-wide index was about 80% of the 2022 index and about one third of the highest index from 2013.
 - Grooved tiger prawn was about 50% higher in July 2024 than in 2022 (4.3 ± 0.3 prawns ha⁻¹, historical range ~2.5 to 5 prawns ha⁻¹), and the highest index since 2013. At north and south Groote, catches of grooved tiger prawns were relatively high at double the 2022 index (7.7 ± 0.8 prawns ha⁻¹, historical range ~4 to 12 prawns ha⁻¹), and higher than during 2018 to 2020.
 - Blue endeavour prawn doubled from 2022, to be the second highest of the series. The index was well above 'average of the series' at 6.9 ± 0.4 prawns ha⁻¹ (historical range ~3 to 7 prawns ha⁻¹).
 - Red Endeavour prawn were sparsely distributed with the July 2024 index was about half the average at 0.05 ± 0.01 prawns ha⁻¹ (historical range ~0.02 to 0.1 prawns ha⁻¹).

- The banana prawn gulf-wide index was high (2.1 ± 1.1 prawns ha⁻¹; range ~0.5 to 5 prawns ha⁻¹). The July 2024 Mornington regional index was the highest of the series and ten times the 2022 index (3.1 ± 1.9 prawns ha⁻¹; historical range ~0.3 to 3 prawns ha⁻¹).
- The commercial tiger prawn catches taken during the 2024 season matched the regional indices measured during the July 2024 survey quite well.
- High rainfall (~600-800 mm) also occurred in the JBG from November to January, an optimistic sign for JBG redleg banana prawn catches during the second season. However, good commercial catches did not eventuate in the JBG.

b. Sawfish Projects and workplan

NPRAG noted the presentation from NPFI on the sawfish projects including:

- The importance of reporting sawfish interactions was highlighted at all industry pre-season briefings.
- During the 2024 banana prawn season:
 - A total of 329 sawfish interactions were recorded, with only 14% of interactions not identified to species level;
 - 76 sawfish tissue samples were collected for the CKMR project, bringing the total to 541 samples since the project began in the 2018 banana prawn season.
 - Seven satellite tags were deployed by CMO's and skippers which are still waiting for movement and survival data from CSIRO. Members noted that a lot of tags are releasing prematurely and it is unknown what is causing this issue.
- The MSC grant funded project titled '*Investigating potential for fishing gear, technology and management measures to reduce sawfish and sea snake interactions in Australia's Northern Prawn Fishery*' has been completed and the final report submitted to the MSC on the 30 September 2024.

Members noted that update on the Sawfish in-season trials including:

- *FV Cape York* trialled the grey Magna material 15-mesh throat extension 2m forward of the TED, and no sawfish interactions were recorded during the period the vessel was fishing in NPF (exited 28 April 2024).
- *Austral F.V. Beachlands* trialled Small Bar Spaced TEDs (SBS-TEDs) and across the 14-day trial, SBS-TED nets resulted in a 3% increase in prawn catch, a 3% increase in byproduct, a 56.6% decrease in large bycatch/ETP species, and a 2% decrease in small bycatch weights.
- Following the positive results from the *Beachlands* trial, Austral Fisheries continued the SBS-TED trial by installing two SBS-TEDs per vessel on 8 vessels and four SBS-TEDs on 1 vessel to compare all sawfish interactions between the standard TED (110mm bar spacing) and SBS-TED (70mm bar spacing). There were 77 sawfish interactions with the TED flap, throat and the net wing being the top three areas of the net where interactions occurred.
- The *Austral Hunter* installed a new composite fabric material developed in New Zealand in patches near the TED and monitored its fishing performance over the final 14 days of the 2024 tiger prawn season. The vessel tracked catches, recording total prawn weights in the codend and comparing them to those from standard control nets. No prawn loss was observed with this design and no sawfish interactions occurred; however, the skipper noted a difference in how the net moved through the water. Further investigation using underwater cameras is planned as the next step for evaluating this net design.
- The *F.V. Kodiak T* trialled the second net design using the composite fabric material. This design consisted of replacing 2m throat section forward of the TED with the new material. Footage was collected over five days at the end of the tiger season and is currently being reviewed, however,

the skipper noted positive results, reporting comparable prawn weights and performance to standard nets.

- The *Dolphin Pearl* trialed a modified SBS-TED with a reduced bar spacing of 50mm rather than 70mm. After four consecutive samples the SBS-TED nets had less total prawn weight than the TED nets. The vessel replaced one SBS-TED net with a TED and continued comparing total prawn weights. The SBS-TED total prawn weight was still lower than the TED net on the same side. Final data analysis is pending.
- The *Flinders Pearl* installed two experimental nets featuring a 30-mesh section of thicker grey Magna material (3.8 mm) in the throat forward of the TED, comparing these nets to standard throat black material (2.7mm) for sawfish interactions during the tiger season. The video footage will be reviewed and results incorporated into the NPFI/DCCEEW 'Mitigating Sawfish Interactions in the Northern Prawn Fishery' project report.

NPRAG noted that a meeting is planned for May 2025 to discuss all sawfish projects.

NPFI noted that given some of the sawfish projects had been delayed or are still under technical review the timelines for the Sawfish Work plan⁶ need to be revised, NPRAG endorsed the revised timelines for the NPF Sawfish Work Plan 2024-2027.

c. Redleg Dynamic B_0

NPRAG noted the presentation from Laura Blamey (CSIRO) exploring dynamic B_0 reference points for redleg banana prawns including the following key points:

- This work was a case study in the FRDC-funded project titled '*Implementation of dynamic reference points and harvest strategies to account for environmentally driven changes in productivity in Australian fisheries*' (Andrew Penney et al.) which is available on the FRDC website.
- The final report from this project was submitted in October 2024.
- The chapter on redleg banana prawns builds on the previous MSE work (Blamey et al. 2021) and looks at the performance of static versus dynamic reference points under future climate scenarios and is currently being written up into a paper.
- Fishing pressure isn't the only driver on stocks. A dynamic B_0 reflects this change and doesn't hold to a static biomass point that may no longer be reflective of the fishery.
- This work is currently a theoretical exercise, with the summarised outcomes including:
 - For intermediate climate (more neutral years with average rainfall) there is little difference in static vs dynamic B_0 .
 - For wet climates (like La Ninas with more rainfall) there is little difference between static and dynamic B_0 rules, although catches may not dip as low under dynamic B_0 .
 - Under drier climate (more El Ninos with less rainfall) dynamic B_0 will on average maintain higher catches but spawning biomass drops in comparison with a static B_0 rule.
 - Dynamic B_0 rule reduces probability of hitting dynamic BLIM and fishery closure (getting 0 catch). However, there is increased probability of this rule hitting the static BLIM and this is amplified under dry climates.

The Chair thanked Laura Blamey for her presentation.

⁶ <https://www.afma.gov.au/protected-species/reducing-bycatch/bycatch-and-discarding-workplans>

Agenda item 11. ERA update

NPRAG noted that CSIRO provided a draft Redleg Banana Prawn Sub-fishery ERA in mid-2023. AFMA undertook a detailed internal review of the draft report, which identified a significant number of specific comments on the draft report and broader feedback on the ERA template and automation process. Members noted that broader feedback on the ERA template and automation process will be considered by the ERA/ERM committees in the coming months.

The AFMA member noted that they met with CSIRO on 7 November 2024 and discussed the changes required to the draft report. Members noted that the ERA working group will be re-established in early 2025 to consider the updated draft ERA report and AFMA comments. This group membership will include CSIRO (appropriate staff within the CSIRO NPF assessment and ERA teams), Rik Buckworth, NPFI (Annie Jarrett and Brandon Meteyard) and AFMA (Darci Wallis and Sarah Kirkcaldie or Lachie Baker). NPRAG, followed by NORMAC, approval of the final redleg banana prawn ERA report will be sought at either the February or May 2025 meetings (dependant on when the revised report is received and timing of the ERA working group consideration).

Members noted that the white banana prawn and tiger prawn sub-fishery ERA were finalised in 2022; however, the data included within these assessments is only up until 2017. This has been discussed at the recent NPRAG meetings, with RAG agreement that this should be updated reasonably soon (pending updates to the broader ERA/ERM process). Members noted that ERAs are essential in the MSC accreditation process (starting in early 2027) and need to be updated as soon as possible. Members expressed frustration that the ERA automation process has not been faster or cheaper and it was agreed that the Chair would write to the AFMA Commission noting NPRAG's concerns.

Action Item 10: NPRAG Chair to write to AFMA Commission expressing concerns that the automation process has not resulted in time or cost saving.

Agenda item 12. Other business

The NPFI observer stated that the catch monitoring process implemented between NPFI and AFMA for the Tiger prawn season was very successful and demonstrated how well co-management works. Members noted that only missed reaching the TAE by approximately 100 days (or 2 days fishing for the entire fleet).

Agenda item 13. Next meeting

The RAG noted that the next meeting is tentatively booked for 12-13 February 2025.

Close of meeting: 16:30 AEST

Attachment A – Register of interest

Participants	Declared Interest
Chair	
Ian Knuckey	<p>Positions:</p> <p>Director –Fishwell Consulting Pty Ltd</p> <p>Director –Olrac Australia (Electronic logbooks)</p> <p>Chair –Northern Prawn Fishery Resource Assessment Group</p> <p>Chair –Tropical Rock Lobster Resource Assessment Group</p> <p>Chair –Victorian Rock Lobster and Giant Crab Assessment Group</p> <p>Chair –Gulf of St Vincent’s Prawn Fishery MAC Research Scientific Committee</p> <p>Scientific Member –Northern Prawn Management Advisory Committee</p> <p>Scientific Member –Gulf of St Vincent’s Prawn Fishery Management Advisory Committee</p> <p>Scientific Member –Tropical Tuna Resource Assessment Group</p> <p>Scientific Member – SESSF Resource Assessment Group</p> <p>Member –The Geelong Agri Collective</p> <p>Fishwell current/recent projects:</p> <p>AFMA 2022: Annual monitoring, reporting and assessment of SPF marine mammal interactions, including effectiveness of mitigation measures</p> <p>AFMA 2020-0807: Bass Strait Scallop Fishery Survey – 2020-22</p> <p>FRDC 2018-021: Development and evaluation of SESSF multi-species harvest strategies</p> <p>Traffic Project: Shark Product Traceability</p> <p>Sea Cucumber Assn: Design and implementation of various sea cucumber dive surveys.</p> <p>Australia Bay: Queensland Gulf of Carpentaria Developmental Fin Fish Trawl Fishery</p> <p>Northern Marine Parks</p> <p>Fishwell staff member is analysing the EM footage in the gulf of Carpentaria developmental finfish trawl fishery.</p>
Members	
Rik Buckworth	<p>Scientific Member – NPRAG</p> <p>Director -Sea Sense Australia Pty Ltd</p> <p>Adjunct Professor – Charles Darwin University</p> <p>CSIRO Honorary Fellow</p> <p>Current and pending projects with government agencies, CDU and fishing industry for projects in the NT, Torres Strait and Qld</p> <p>Researcher involved particularly in stock assessment research in NPF. Has in the past and may in future seek and receive funding for research in the fishery</p> <p>Member – Data Working Group for the GABTF</p>

Tom Kompas	<p>Economic member – NPRAG</p> <p>Employed by University of Melbourne. Research provider. Has in the past and may in future seek and receive funding for research in the fishery.</p>
Éva Plagányi	<p>Scientific member – NPRAG</p> <p>Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery</p> <p>Research provider involved particularly in stock assessment research in NPF</p> <p>Also currently receiving FRDC funding related to development of a GoC ecosystem model.</p> <p>Scientific member of TRLRAG and TS HCRA</p>
Denham Parker	<p>Scientific member – NPRAG & NORMAC</p> <p>Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery</p> <p>Research provider involved particularly in stock assessment research in NPF</p>
Phil Robson	<p>Industry member – NPRAG</p> <p>Employee of A Raptis and Sons, responsible for managing NPF vessels & an NT demersal fish trawler. Has provided charter for scientific surveys in NPF in the past and may in future</p>
Bryan van Wyk	<p>Industry member – NPRAG</p> <p>Employed by Austral Fisheries, a company with SFR holdings in the fishery</p>
Ian Boot	<p>Industry member – NPRAG & NORMAC</p> <p>Managing Director of Austfish, a company that operates NPF vessels. Has a commercial interest in the fishery. NPF broodstock permit holder. Participates in scampi fishing</p>
Darci Wallis	<p>AFMA member – NPRAG</p> <p>Employed by AFMA, Manager of Northern Prawn Fishery.</p> <p>No interest, pecuniary or otherwise</p>
Invited participants	
Annie Jarrett	<p>CEO – NPFI</p> <p>Commonwealth Fisheries Association Director</p> <p>Chair – Australian Council of Prawn Fisheries (ACPF)</p> <p>Member of the FRDC selection panel.</p> <p>Invited participant - NORMAC</p> <p>No pecuniary interests</p> <p>Represents the interests of industry</p>
AFMA	
Sarah Kirkcaldie	<p>Employed by AFMA</p> <p>No interest, pecuniary or otherwise</p>
Brodie Macdonald	<p>Employed by AFMA</p> <p>No interest, pecuniary or otherwise</p>
Lachlan Baker	<p>Employed by AFMA</p> <p>No interest, pecuniary or otherwise</p>

Ben Liddell	Employed by AFMA No interest, pecuniary or otherwise
Observers / Presenters	
Brooke D'Alberto	Employed by ABARES. No pecuniary interests, personal or otherwise in the fishery.
Roy Deng	Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery
Trevor Hutton	Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery
Rob Kenyon	Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery
Sean Pascoe	Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery
Laura Blamey	Employed by the CSIRO and through the organisation has in the past, and may in the future, receive funding for research related to the fishery
Brandon Meteyard	Employed by NPFI. No pecuniary interests. Represents the interests of industry
Dwayne Klinkhammer	Employed by Austral Fisheries (skipper), a company with SFR holdings in the fishery. No pecuniary interests.
Beau Anderson	Employee of A Raptis and Sons. No pecuniary interests.

Attachment B – Final meeting agenda

FINAL AGENDA - Day 1: Monday 11 November 2024 / Time: 1200 to 1715 AEST

Time	Item	Purpose	Presenter
1230	1. Preliminaries a. Acknowledgement of Country b. Welcome and apologies c. Declarations of interest d. Adoption of Agenda e. Minutes from previous meeting f. Correspondence	For action	Chair (30 mins)
1300	2. Actions arising from previous meetings	For information/ discussion	AFMA (10 mins)
1310	3. Outcomes of out-of-session items	For information/ discussion	AFMA (5 mins)
1315	4. Update reports a. Industry update b. AFMA management update c. CSIRO update d. ABARES update (verbal)	For information	a. Industry members b. Darci Wallis c. Éva Plagányi d. ABARES (1 hour)
1415	<i>Afternoon Tea – 15 min break</i>		
1430	5. Climate adaptation a. Tiger MICE Project (verbal) b. AFMA's Climate Risk Framework c. IMOS Ocean Monitoring project	For discussion	AFMA/CSIRO (1.5 Hours)
1600	6. Commonwealth Harvest Strategy and Bycatch Policies Review	For discussion	AFMA (45 mins)
1645	7. NPF Bycatch Strategy	For decision	AFMA (30 mins)
1715	<i>End of Meeting</i>		

FINAL AGENDA – Day 2: 12 November 2024 / Time: 0830 to 1640 AEST

Time	Item	Purpose	Presenter
0830	Conflicts of interest – recap	For action	Chair (5 mins)
0835	8. 2025 NPF Tiger prawn Stock Assessment	For decision	AFMA/CSIRO (1.5 hours)

1005	<i>Morning Tea – 15 min break</i>		
1020	9. Data collection in the NPF <ul style="list-style-type: none"> a. Species Distribution Data Collection b. NPF data strategy c. EM trial update d. Environmental data collection 	For recommendation	AFMA (3 hours)
1320	<i>Lunch – 45 mins</i>		
1405	10. Research project update <ul style="list-style-type: none"> a. Integrated fishery-independent data program b. Sawfish Projects and Workplan c. Redleg Dynamic B₀ (verbal) 	For information/recommendation	CSIRO/NPFI (1.5 hours)
1535	<i>Afternoon Tea – 15 min break</i>		
1550	11. ERA update <ul style="list-style-type: none"> a. Redleg banana prawn ERA b. Scheduling other ERAs c. ERA/ERM process update 	For decision/information	AFMA (45 mins)
1635	12. Other business	For information	AFMA (5 mins)
1640	13. Next Meeting	For information	AFMA (5 mins)
1645	<i>End of Meeting</i>		

Attachment C – NPRAG action items

Table 1: Status of action items from previous NPRAG meetings

Complete	Redundant	Underway	Need NPRAG advice	Not yet started
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No.	Mtg Date	Action Item	Agency / Person	Timeframe	Progress
3	8-9 February 2022	AFMA, CSIRO and NPFI to develop a proposal to review the information on squid to support updating the NPF harvest strategy. Need to ensure that the protection of spawning aggregations and the experience from other squid fisheries (including pre-season surveys) are considered. An update to be provided to the NPRAG in May 2022, with further consideration to occur at the October/November 2022 if required.	AFMA, CSIRO and NPFI	As soon as practicable	Pending – When resources are available to direct to this task, likely to be during next update of the Harvest Strategy for tiger prawns.
1	17-18 May 2022	<p>AFMA to continue development of a data and monitoring plan for the fishery in consultation with the RAG. The following items to be considered:</p> <ul style="list-style-type: none"> Refining the objectives of the data and monitoring plan including updating the drivers of data needs by considering habitat and communities, social licence / values and acceptability, market access, animal welfare and indigenous interests; Determining the temporal and spatial observer needs of the fishery, taking into consideration the scientific report that originally established the program; Consider setting and monitoring of observer program targets on an annual basis; Determining the worth of continuing to collect species abundance counts and, if retained, whether the current protocols are suitable; Exploring options for validating the CMO and Scientific Observer eyeball estimates of total bycatch; Automating data quality checks and the rectification of data errors; 	AFMA	During development of the data plan	Underway – See agenda item 9.

		<ul style="list-style-type: none"> Consider if there are any required changes to byproduct species data collection and monitoring; and Consider the feasibility (including costs) and options of introducing finer scale reporting (shot level) for tiger prawn fishing and, potentially, banana prawn fishing. 			
4	17-18 May 2022	NPFI to consider the importance and cost/benefit of maintaining MSC certification for red endeavour prawns.	NPFI	As soon as practicable	Pending – Will be considered once changes to the Harvest Strategy are undertaken and MSC provides further information.
14	17-18 May 2022	Annie Jarrett and Toby Patterson to discuss the development of processes that will enable appropriate management responses to occur in parallel with [sawfish] research, rather than needing to wait until the completion of research projects.	NPFI / CSIRO	As soon as practicable	Pending – Lack of available resources. <i>Note: Sawfish gear mitigation trials are currently underway.</i>
6	24-25 May 2023	<p>Members of the MSC condition working group to consider the implications of, and how to meet, the MSC milestone requirement:</p> <p><i>By September 2027, demonstrate that systems are in place that allow >80% certainty that the tiger prawn and the white banana prawn sub-fisheries do not hinder recovery of the sawfish species</i></p> <p>Membership: Toby Patterson, Rich Pillans, Darci Wallis, Dave Brewer, Bryan van Wyk, Brandon Meteyard</p>	MSC condition working group	As soon as practicable	Not yet started
12	24-25 May 2023	Annie Jarrett to provide AFMA her fishery history document. AFMA to consider collating the history.	NPFI / AFMA	As soon as practicable	Pending – lack of available resources.
3	27 November 2023	Tom Kompas and Sean Pascoe to consult with industry to enable a better understanding of the economics of the fishery as a whole to assist in the development of breakeven scenarios, ensuring that both variable and fixed costs are being considered appropriately.	Tom Kompas and Sean Pascoe	As soon as practicable	Ongoing – Discussions have occurred between NPFI, AFMA, CSIRO and Tom on the key economic data, with an update to be provided at the meeting.

2	21 February 2024	AFMA to report back to June meeting regarding using alternative sources (such as electronic monitoring) for geolocation data.	AFMA	NPRAG meeting in May 2024	Ongoing. Verbal update to be provided at meeting.
1	4-5 June 2024	Tom Kompas, Brandon Meteyard and Michael Dylewski to review data collected to understand inconsistencies between ABARES information and economic data.	Tom Kompas, Brandon Meteyard and Michael Dylewski	As soon as practicable	Ongoing. NPFI received ABARES economic survey questionnaire. ABARE's economic data is collected by financial year whereas the NPFI survey includes a combination of calendar and financial year data, which would explain some inconsistencies. NPFI has been working with Tom Kompas to improve the NPFI survey design to provide better consistency in data collected. NPFI is meeting with Tom and CSIRO on 10 November 2024 to confirm the updated survey design meets all the data collection requirements.
2	4-5 June 2024	CSIRO to discuss the 'on water' observations with industry, with a further update on the status report to be provided at the November NPRAG meeting.	CSIRO/Industry	As soon as practicable	Ongoing. Verbal update to be provided at meeting.
3	4-5 June 2024	CSIRO to include an explanation for the reduced 2023 recruitment indices within the final stock assessment report.	CSIRO		Completed. An explanation was included in the final redleg assessment report
4	4-5 June 2024	NPFI to include the mid-year prawn prices and fuel costs in the economic survey.	NPFI		Ongoing. Verbal update to be provided at meeting.
5	4-5 June 2024	NPFI/AFMA/NPRAG to confirm the approach to calculate fuel price for the MEY trigger in the future.	NPFI/AFMA/NPRAG		Ongoing. Verbal update to be provided at meeting.

6	4-5 June 2024	AFMA to include a paragraph in the revised NPF harvest strategy to clarify how the LRP relates to the B ₂₀ LRP proxy in the CHSP, with input from RAG members as required. In developing the wording, the wording in the initial 2007 harvest strategy, the CHSP guidelines (which includes specific references to the NPF) and that LRP has been MSE tested.	AFMA	As soon as practicable	Completed. Harvest Strategy finalised in September 2024.
7	4-5 June 2024	Rik Buckworth to be added to the ERA working group membership to replace Dave Brewer.	AFMA	As soon as practicable	Completed.
8	4-5 June 2024	NPFI to provide the contact details of the animal tracking project in the Eastern Gulf to CSIRO.	NPFI	As soon as practicable	Completed. NPFI provided details to CSIRO on 5 June 2024
9	4-5 June 2024	CSIRO to provide an update on the pilot broodstock project at the Tiwi Islands at future RAG meetings (as available).	CSIRO	November NPRAG meeting	Ongoing. No updates available to report regarding this project

Attachment D – Action items arising from the meeting

No.	Action Item	Agency / Person	Timeframe
1	ABARES to circulate link to the concept/methodology of survey to NPFI.	ABARES	
2	CSIRO to further investigate the inputs and modelling to better understand the reasons behind the model response in TAE levels.	CSIRO	
3	Industry, CSIRO and the economics member to discuss re-visiting the MET level, including a potential MET range, providing feedback at the February 2025 NPRAG meeting. NPRAG noted the MET discussions would be conditional on CSIRO capacity/resourcing.	Industry, CSIRO and economics member	
4	NPFI/AFMA and CSIRO to work together to refine options for CMO sampling (1-2 samples per week per CMO - 100-200 samples of 100 prawns/week).	NPFI, AFMA and CSIRO	
5	AFMA to revise the draft NPF data strategy to include the need for ongoing monitoring (due to climate change impacts), economic data and an additional reporting requirements field (WTO and data to support MSC conditions).	AFMA	ASAP
6	AFMA to confirm whether there are any other external or AFMA requirements that require wildlife abundance counts are mandatory.	AFMA	
7	AFMA to confirm what tracking information is being used by Parkes Australia, which may have higher levels of polling.	AFMA	
8	NPFI to distribute to NPRAG the simplified spreadsheet.	NPFI	
9	NPFI and ABARES to discuss difference between the surveys.	NPFI and ABARES	
10	NPRAG Chair to write to AFMA Commission expressing concerns that the automation process has not resulted in time or cost saving.	NPRAG Chair	