MarinTrust Standard V2

Whole fish Fishery Assessment

WF 19 Australia mixed pelagic fisheries

Re - approval 2021

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Table 1 Application details and summary of the assessment outcome

Application details and summary of the assessment outcome			
Name: Proteins Australia Pty Ltd.			
Address:			
Country: Australia		**Zip:**	
Tel. No.		**Fax. No.**	
Email address:		**Applicant Code**	
Key Contact:		**Title:**	
Certification Body Details			
Name of Certification Body:		**Global Trust Certification**	
Assessor Name	**CB Peer Reviewer**	**Assessment Days**	**Initial/Surveillance/ Re-approval**
Virginia Polonio	Vito Romito	5	Re - approval
Assessment Period	To December 2021		
Scope Details			
Management Authority (Country/State)		Australian Fisheries Management Authority (AFMA)	
Main Species		Jack Mackerel (*Trachurus declivis*) Blue Mackerel (*Scomber australasicus*) Red Bait/Cape Bonnetmouth (*Emmelichthys nitidus*) Australian Sardine (*Sardinopsis sagax*)	
Fishery Location		FAO 81 Pacific Southwest	
Gear Type(s)		Purse seine; mid-water trawl; jigging; minor line.	
Outcome of Assessment			
Overall Outcome		PASS	
Clauses Failed		NONE	
CB Peer Review Evaluation		PASS	

Fishery Assessment Peer Review Group Evaluation	Approve see appendix
Recommendation	PASS

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin Trust raw material. Jack Mackerel, Blue Mackerel, Red Bait/Cape Bonnetmouth and Australian Sardine are not listed as Endangered or Critically Endangered on IUCN's Red List, nor listed in CITES appendices; therefore, all the stock assessed herein are eligible for approval for use as Marin Trust by-product raw material. The Australian Fisheries Management Authority (AFMA) is the Government agency responsible for the efficient management and sustainable use of Commonwealth fish resources. Almost all stocks in the Small Pelagic Fishery (SPF) are managed by both Australian (Commonwealth) and State governments under Offshore Constitutional Settlement (OCS) arrangements. State Governments manage fishing from the Australian coast out to 3 nautical miles including commercial and recreational fishing. AFMA and SEMAC (South East Management Advisory Committee) jointly manage the Small Pelagic Fishery (SPF) in the assessment area. With the exception of the Australian sardine *Sardinops sagax* each target species is assessed in two sub areas, east and west of latitude 146°30' due to evidence of stock separation in the area assessed. The Harvest Strategy Policy applies to management of Commercial species (key commercial and byproduct) in Commonwealth fisheries managed by AFMA. Non-commercial bycatch species (general bycatch and EPBC Act-listed species) are managed under the Bycatch Policy and the Environment Protection and Biodiversity Conservation Act 1999. The harvest strategies are periodically revised to ensure achieve defined biological and economic objectives for commercial fish stocks in a given fishery. A Harvest Strategy (Quota species) adopts exploitation rates tested to provide a high probability that target stocks will be maintained, on average, at the target reference point of 50% of unfished levels (B50), with a less than a 10% probability over 50 years of falling below limit reference point of 20% (0.2B0) of unfished levels. All stocks in the assessment area are considered by AFMA to be not subject to overfishing (fishing mortality) and are not overfished (biomass). Jack Mackerel, Blue Mackerel and Red Bait/Cape Bonnetmouth were assessed as Category A stocks; Australian Sardine was assessed as a Category C stock (<5% of landings, subject to a species-specific management regime) and all of them achieve a pass in all the clauses. Impact on ETPs in the last quarter posted on AFMA website are negligible with just one case reported. As a pelagic fishery, impacts on habitats and ecosystems are minimal and there haven't been relevant changes since the last assessment audit.

Therefore, Jack Mackerel (*Trachurus declivis*), Blue Mackerel (*Scomber australasicus*), Red Bait/Cape Bonnetmouth (*Emmelichthys nitidus*) and Australian Sardine (*Sardinopsis sagax*), all the species listed in this report, are recommended for approval for use in the assessment area under the current Marin Trust Standard v 2.0 for whole fish.

Fishery Assessment Peer Review Comments

The internal peer reviewer agrees with the findings of this report. The fishery is subject to a well structure management system and Jack Mackerel (*Trachurus declivis*), Blue Mackerel (*Scomber australasicus*), Red Bait/Cape Bonnetmouth (*Emmelichthys nitidus*) and Australian Sardine (*Sardinopsis sagax*) are all subject to suitable fishing mortality rates and are not overfished. Catches are generally well within TAC. The effects of the fishery on the ecosystem is considered relatively minimal. The internal peer reviewer agrees that the species listed in this report, are recommended for approval for use in the assessment area under the current Marin Trust Standard v 2.0 for whole fish.

Notes for On-site Auditor

Table 3 General Results

General Clause	Outcome (Pass/Fail)
M1 - Management Framework	PASS
M2 - Surveillance, Control and Enforcement	PASS
F1 - Impacts on ETP Species	PASS
F2 - Impacts on Habitats	PASS
F3 - Ecosystem Impacts	PASS

Table 4 Species- Specific Results

List all Category A and B species. List approximate total percentage (%) of landings which are Category C and D species; these do not need to be individually named here

Category	Species	% landings	Outcome (Pass/Fail)	
Category A	Jack Mackerel (*Trachurus declivis*)	52.4	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category A	Blue Mackerel (*Scomber australasicus*)	40.4	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category A	Red Bait/Cape Bonnetmouth (*Emmelichthys nitidus*).	5.7	A1	PASS
			A2	PASS
			A3	PASS
			A4	PASS
Category C	Australian Sardine (*Sardinopsis sagax*)	1.4	PASS	

Table 5 Species Categorisation Table

Common name	Latin name	Stock	IUCN Redlist Category[1]	% of landings	Management	Category
Jack Mackerel	*T. declivis*	Jack Mackerel East	LC	52.4	AFMA	A
Blue Mackerel	*Scomber australasicus*	Blue Mackerel East	LC	40.4	AFMA	A
Redbait/Cape Bonnetmouth	*E. nitidus*	Red Bait East	LC	5.7	AFMA	A
Australian Sardine	*S. sagax*	Sardine East	LC	1.4	AFMA	C
Species categorisation rationale						
Species categorisation has been done following previous information on Marin Trust reports as no new information on catch composition has been reported for the re-approval of this fishery. The AFMA arrangements for the fishing season 2021-22 have been also consulted to check the species which are included in the management plan. The assessor has assumed that there are no significant changes in the fishery. Reference: AFMA (ed) 2021, Small Pelagic Fishery Management Arrangements Booklet 2021-22, Australian Fisheries Management Authority. Canberra, Australia						

[1] https://www.iucnredlist.org/

MANAGEMENT

The two clauses in this section (M1, M2) relate to the general management regime applied to the fishery under assessment. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. A fishery must meet all the minimum requirements in every clause before it can be recommended for approval.

M1	Management Framework – Minimum Requirements		
	M1.1	There is an organisation responsible for managing the fishery.	Yes
	M1.2	There is an organisation responsible for collecting data and assessing the fishery.	Yes
	M1.3	Fishery management organisations are publicly committed to sustainability.	Yes
	M1.4	Fishery management organisations are legally empowered to take management actions.	Yes
	M1.5	There is a consultation process through which fishery stakeholders are engaged in decision-making.	Yes
	M1.6	The decision-making process is transparent, with processes and results publicly available.	Yes
		Clause outcome:	PASS

M1.1 There is an organisation responsible for managing the fishery.

The Australian Fisheries Management Authority (AFMA) is the Government agency responsible for the efficient management and sustainable use of Commonwealth fish resources. The AFMA Commission sets the Total Allowable Catch (TAC) limits for seven stocks in the small pelagic fishery for the 2021-22 fishing season that start 1 May 2021. All TACs remain similar to the previous fishing season and include an updated biomass estimate for blue mackerel east and Australian sardine that allows for the maximum harvest for these stocks.

TACs are set in accordance with SPF Harvest Strategy and based on the best available science. They also take into account advice from the Small Pelagic Fishery Resource Assessment Group (SPFRAG) and South East Management Advisory Group (SEMAC).

M1.2 There is an organisation responsible for collecting data and assessing the fishery.

TACs are set in accordance with SPF Harvest Strategy and based on the best available science. The South Australian Research and Development Institute (SARDI) Fisheries Science Program provides scientific advice to State and Commonwealth Governments about the sustainable management of Australia's fisheries resources. Management takes into account advice from the Small Pelagic Fishery Resource Assessment Group (SPFRAG) and South East Management Advisory Group (SEMAC). From 2019 the SPFRAG become primary source of scientific and economic advice to AFMA regarding this fishery. Therefore, the main duties are:

- Small Pelagic Fishery TAC determination
- Small Pelagic Fishery RAG advice
- Commission decisions

Onboard Scientific Observers are employed by AFMA to independently record catch, effort and biological information of each fishing trip. Vessels in the SPF must carry an AFMA observer when requested by AFMA.

M1.3 Fishery management organisations are publicly committed to sustainability.

The Fisheries Management Act 1991 Part 1 (Preliminary) Section 3A Principles of ecologically sustainable development gives legal empowerment to AFMA to develop sustainability objectives.

These principles state that:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equity considerations.
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- The principle of inter-generational equity: the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;

M1.4 Fishery management organisations are legally empowered to take management actions.

AFMA Objectives (Fisheries Management Plans) are set out in Section 3 of the Fisheries Management (1991) Act as follows:

- Implementing efficient and cost-effective fisheries management on behalf of the Commonwealth;
- Ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), the need to have regard to the impact of fishing activities on non-target species and the long-term sustainability of the marine environment;
- Maximizing net economic returns to the Australian community from the management of Australian fisheries;
- Ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources;
- Achieving government targets in relation to the recovery of the costs of AFMA.

M1.5 There is a consultation process through which fishery stakeholders are engaged in decision-making.

AFMA Resource Assessment Groups (RAGs) and Management Advisory Committees (MACs) play a role in identifying research needs, assessing proposals and the outcomes of research, both essential stock assessment type research and other relevant management related projects. The SPF Scientific Panel is considered a RAG. AFMA's Research Committee (ARC) determines research priorities and projects for funding.

Members of Committees and Groups include AFMA fishery managers, fishing operators, scientists and researchers, State and territory governments, conservation groups and recreational fishers.

From 2019 the SPF Resource Assessment Group (SPFRAG) become primary source of scientific and economic advice to AFMA regarding this fishery. The return to a more conventional RAG model comes after a two-year trial of a Scientific Panel (SP) and Stakeholder Forum model. SEMAC will continue to be the source of management advice on SPF to AFMA. The last meeting was carried out in December 2021 and the minutes from the meeting performed in July 2021 are available. The priorities for those meetings were as follows:

- Bycatch and Discard Workplan
- SPF 2022-23 Research Priorities
- SPF Five Year Strategic Research Plan

M1.6 The decision-making process is transparent, with processes and results publicly available.

Stakeholder Forums are the main avenue to capture stakeholder views regarding science for the SPF. Forums are open to members of peak recreational fishing bodies, environmental non-government organizations (e-NGOs), indigenous groups, individual community stakeholders and commercial fishing industry members.

Amendments to the Freedom of Information Act 1982 introduced an Information Publication Scheme which requires Government agencies to publish certain information on their website (from May 2011). Information available on AFMA's website includes but is not limit to:

- AFMA's organizational structure; functions and powers
- Details of statutory appointments
- AFMA's annual reports, including TAC's
- Current agency consultations
- Information AFMA routinely provides to Parliament
- AFMA Commission meeting - Chairman's summary

Documents listed as operational information, where they have not been published for downloading on AFMA's website, can be made available to members of the public by contacting AFMA's Freedom of Information Coordinator.

References

Patterson, H, Larcombe, J, Woodhams, J and Curtotti, R 2020, Fishery status reports 2020, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/5f447487e6749

AFMA (ed) 2021, Small Pelagic Fishery Management Arrangements Booklet 2021-22, Australian Fisheries Management Authority. Canberra, Australia

Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

South East Management Advisory Committee (SEMAC):

https://www.afma.gov.au/sites/default/files/semac_36_final_minutes_-_signed.pdf

AFMA Commission: https://www.afma.gov.au/about/afma-commission

SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings

Office of Parliamentary Counsel, Canberra: Fisheries Management Act 1991 No. 162, 1991 (includes amendments up to Act No 123 (2017) 460pp https://www.legislation.gov.au/Details/C2017C00363

Small Pelagic Fishery (SPF) Resource Assessment Group (SPFRAG):

https://www.afma.gov.au/sites/default/files/uploads/2015/01/March-2013-SPFRAG-meeting-minutesPDF-381-KB.pd

https://www.afma.gov.au/61st-afma-commission-meeting-chairmans-summary

Links	
MARINTRUST Standard clause	1.3.1.1, 1.3.1.2
FAO CCRF	7.2, 7.3.1, 7.4.4, 12.3
GSSI	D.1.01, D.4.01, D2.01, D1.07, D1.04,

M2	**Surveillance, Control and Enforcement - Minimum Requirements**		
	M2.1	There is an organisation responsible for monitoring compliance with fishery laws and regulations.	Yes

	M2.2	There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.	Yes
	M2.3	There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.	Yes
	M2.4	Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.	Yes
		Clause outcome:	PASS

M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.

AFMA's National Compliance and Enforcement Program is conducted via the use of a risk-based approach, which enables resources to be targeted to the areas where they are most needed.

The main functions of the Program are:

- Ensuring compliance with AFMA's domestic fisheries management measures.
- Ensuring licensed boats comply with fishing conditions.
- Ensuring that there are no unlicensed foreign boats operating.
- Managing port access for foreign boats.
- Surveillance and apprehension of foreign boats fishing illegally.

Compliance Risk Management Teams (CRMTs) are prioritised for action (in the annual compliance program) by the Operational Management Committee (OMC). Teams are generally multi-disciplinary, and/or multi-agency with team members determined by the risk being addressed and/or the type of program proposed.

Fisheries Officers conduct targeted inspections of Commonwealth endorsed operators. All foreign fishing boats can be inspected on arrival. All Commonwealth fishing boats are tracked via vessel monitoring systems (VMS).

M2.2 There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.

Statutory Fishing Rights (SFRs) allow fishers take a percentage of the TAC that has been set for each quota species. SFR's granted under the Management Plan may be transferred, leased, surrendered or cancelled. A 28-day quota reconciliation process is in place should a quota be exceeded. Compliance actions are undertaken if a quota holder is still over quota after a 28-day period for any landing.

AFMA has set an overcatch percentage of 10% for all SPF quota species on the last day of the fishing season. AFMA then deduct this amount from the Quota SFR (fisher) in the next season, provided there is enough uncaught quota SFRs to cover the overcatch.

Part 3 (Regulation of Fishing) Division 8 (Suspension and cancellation of fishing concessions) of the Fisheries Management Act 1991 outlines conditions whereby AFMA may suspend or cancel a fishing concession with the SPF.

Part 6 (Surveillance and Enforcement) Division 1 (Officers) of the Fisheries Management Act 1991 Section 84 (Powers of Officers) gives Officers powers of search and seizure of evidence when a commission of an offence against the Act is suspected.

These measures (or tools) can be used in combination, separately or for types of incidents to achieve the most appropriate outcome. Sanctions may include:

- Warnings, Cautions
- Commonwealth Fisheries Infringement Notices
- Amendments to fishing concession conditions
- Directions by fisheries officers e.g. to cease fishing or return to port
- Prosecution, suspension or cancellation of fishing concessions. The Commonwealth Director of Public Prosecutions (CDPP) prosecutes crimes against Commonwealth law

M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.

Fisheries Management Act 1991 (FM Act) Commonwealth Act that provides the legal framework for fisheries managed by the Australian Government. The Act sets out, among other things: fisheries management objectives and arrangements for regulating; permitting; and taking enforcement action with respect to fishing operations.

The National Compliance and Enforcement Policy (2020) policy provides an explanation of AFMA's compliance and enforcement role and AFMA's risk based approach across the Commonwealth fisheries. Australia combats IUU fishing through aerial surveillance, sea patrols and real-time monitoring of fishing vessels. If IUU boats are caught in Australian waters they can be seized, and the crew detained and prosecuted, and in some cases imprisoned.
AFMA has a key role in implementing a number of regional and international agreements and arrangements which identify the tools used to strengthen policing systems, or monitoring, control and surveillance (MCS) programs to combat IUU fishing.

M2.4 Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.

All vessels nominated to the SPF quota are fitted with a Vessel Monitoring System (VMS) of a category specified in the register of AFMA approved units. The VMS unit must remain switched on at all times that the boat is nominated to a Commonwealth concession, including when in port or engaged in State fishing. The register can be found on the AFMA website.
If the VMS is not operating or is malfunctioning the boat must remain in port until the VMS is inspected, repaired if necessary and AFMA has received confirmation from an authorised technician that the automatic location communicator (ALC) is functioning normally

Onboard Scientific Observers are employed by AFMA to independently record catch, effort and biological information of each fishing trip. Vessels in the SPF must carry an AFMA observer when requested by AFMA. Observers have no authority to direct fishing operations of the boat or act in an enforcement role. However, observers are required to report their observations. Observer coverage targets at least 10% of effort for purse seine and mid-water trawler vessels.
Annually AFMA presents the national compliance and enforcement program. An assessment of previous years' performance has been undertaken against the 2021–2022 NCEP targets. The result in 20/21 are shown as within threshold in all the key targets.

References

AFMA Annual Report 2018-2019. 227 pp.

https://www.afma.gov.au/sites/default/files/afma_annual_report_201819_full_fa_tagged_final.pdf AFMA National Compliance and Enforcement Program 2021-22. 37pp https://www.afma.gov.au/sites/default/files/afma_national_compliance_and_enforcement_program_2021-22.pdf Department of Agriculture 2014, Australia's Second National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. CC BY 3.0 https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/fisheries/iuu/aus-second-npoa-iuu-fishing.pdf Satellite monitoring of fishing boats https://www.afma.gov.au/monitoring-enforcement/satellite-monitoring-fishingboats

Links	
MARINTRUST Standard clause	1.3.1.3
FAO CCRF	7.7.2
GSSI	D1.09

CATEGORY A SPECIES

The four clauses in this section apply to Category A species. Clauses A1 - A4 should be completed for **each** Category A species. If there are no Category A species in the fishery under assessment, this section can be deleted. A Category A species must meet the minimum requirements of all four clauses before it can be recommended for approval. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a pass or fail rating. The species must achieve a pass rating against all requirements to be awarded a pass overall. **If the species fails any of these clauses it should be re-assessed as a Category B species.**

Species Name	**Jack mackerel (*T. declivis*) Eastern and Western Stocks**	
A1	**Data Collection - Minimum Requirements**	
A1.1	Landings data are collected such that the fishery-wide removals of this species are known.	Yes
A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	Yes
	Clause outcome:	PASS

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

All Commonwealth fishers must record all catch and effort details (including gear and spatial position) in their official AFMA daily fishing logbooks. Catch weights are used in combination with gear, effort and spatial data to inform fishery stock assessments. A Harvest Strategy Policy (HSP see A3.1) makes provision for the monitoring of all fishery–dependent data (catch, effort and size/age catch structure).

Jack mackerel Eastern stock:

Commonwealth catch increased to 9,873t in 1997–98, fluctuated markedly to 2003–04 and then declined as a result of decreasing effort in the fishery. Commonwealth catch has fluctuated in recent years, reaching 6,316 t in 2015–16, decreasing to 4,942 in 2018–19 and increasing again to 7,808 t in 2019–20. State catches have been negligible in recent years. Commonwealth catch for 2020–21 was 5,454 t ; state catches were not yet available at the time of publication of the fisheries status 2021 (Figure 1).

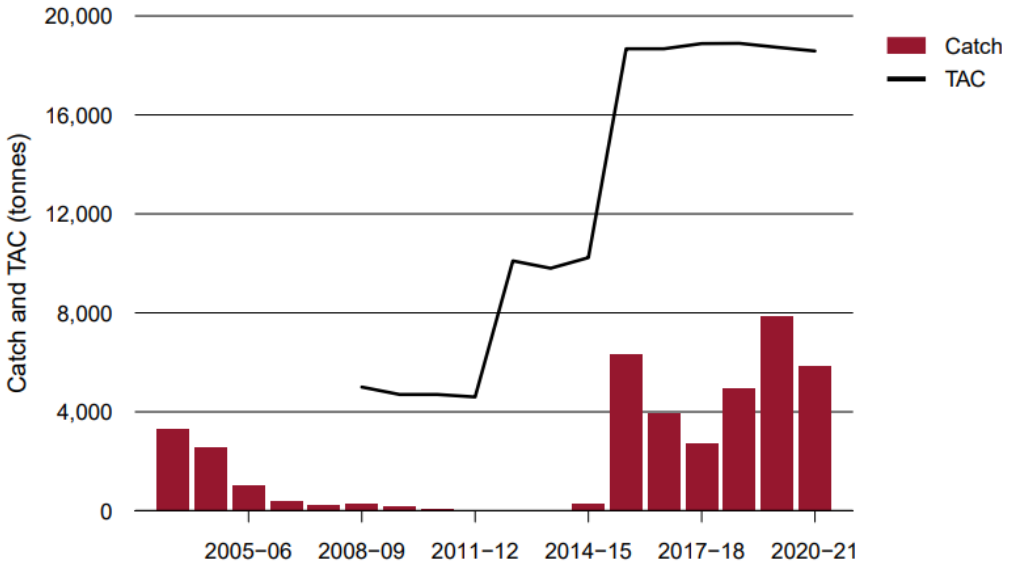

Figure 1. Commonwealth eastern Jack mackerel catch and TAC, 2003–04 to 2021-22. Source: Fisheries status, DAWE 2021

Jack mackerel Western Stock:

Total catch (Commonwealth and state) for western jack mackerel did not exceed 250 t before 2005–06. Commonwealth catch was zero or negligible from 2011–12 to 2014–15, increasing to 634 t in 2015–16 and 686 t in 2016–17. No Commonwealth catch was reported for 2017–18 or 2018–19. Commonwealth catch was 12 t for 2019–20, and no Commonwealth catch was reported for 2020–21. State catches are not available for 2020–21 and have been confidential for the preceding 5 years.

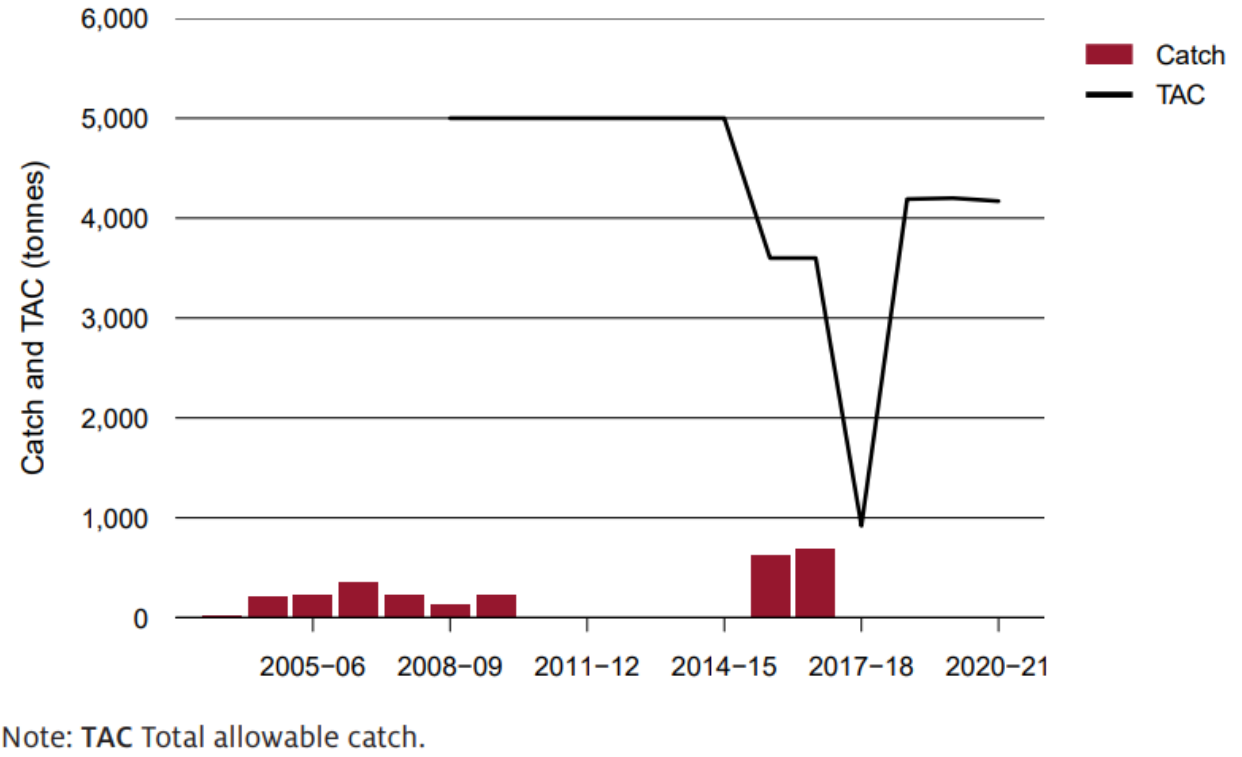

Figure 2. Commonwealth western Jack mackerel catch and TAC, 2003–04 to 2021-22. Source: Fisheries status, DAWE 2021

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

Daily Egg Production Method (DEPM) surveys generate estimates of spawning stock size (SSB) based on surveys of eggs during spawning seasons. DEPM estimates are currently used as absolute estimates of stock size for the purpose of calculating Recommended Biological Catches (RBCs). TACs are then calculated by subtracting any significant known sources of mortality from RBCs. Adjustments for catches taken in other fisheries will be based on the Scientific Panel's best estimate of future catch in other fisheries. Where no DEPM surveys have been conducted, the use of an Atlantis ecosystem model to provide estimates of biomass is available.

Atlantis is an ecosystem model that provides estimates of the likely biomass of key species required to support the functioning of the modelled ecosystem. The model uses all available information on species distribution, relative abundance and dietary requirements. The SPF Harvest Strategy (HS) explicitly recognises that biomass estimates derived from the Atlantis–SPF model are more uncertain than those based on DEPMs.

Jack mackerel Eastern stock:
A spawning biomass of 156,292 t (95% CI 49,120–263,496 t) was estimated using the DEPM from an egg survey in January and February 2019 (AFMA 2020).

Jack mackerel Western stock:
An egg survey for western jack mackerel between December 2016 and February 2017 was used to estimate biomass using the DEPM (Ward et al. 2018). Biomass was estimated in a core area and an extended area (in Bass Strait) based on opportunistic

sampling. Because the extended area showed extensive spawning in Bass Strait, it was included in the biomass estimate, but with a caveat that this contribution was underestimated because the area was not extensively sampled. Biomass was initially estimated at 34,978 t (AFMA 2017c) but was revised down to 31,069 t (Ward et al. 2018).

References

Patterson, H, Larcombe, J, Woodhams, J and Curtotti, R 2020, Fishery status reports 2020, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/5f447487e6749 R2 AFMA (Last revised April 2017) Small Pelagic Fishery Harvest Strategy June 2008 11pp
https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/04/SPF-Harvest-Strategy_April2017_FINAL.pdf
Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries R6 SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings
Ward Grammer, GL, Ivey, AR, Smart, JJ & Keane, JP 2018, Spawning biomass of jack mackerel (*Trachurus declivis*) and sardine (*Sardinops sagax*) between western Kangaroo Island, South Australia and south-western Tasmania, report to AFMA, SARDI publication F2018/000174-1, Research report series 983, South Australian Research and Development Institute Aquatic Sciences, Adelaide.

Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

A2	**Stock Assessment - Minimum Requirements**		
	A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	Yes
	A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	Yes
	A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	Yes
	A2.4	The assessment is subject to internal or external peer review.	Yes
	A2.5	The assessment is made publicly available.	Yes
		Clause outcome:	PASS

A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.

Annual fisheries assessments include updated catch and effort data from the previous fishing season in addition to length–frequency and age information from catches. Adjustments for catches taken in other fisheries are based on the SPF Scientific Panel's best estimate of future catch in other fisheries (e.g. average of recent recorded annual catches). Information on changes in spatial and temporal patterns of effort and catch are also included in these annual assessments.

Annual Fishery Assessments also aim to provide evidence suitable for detecting stock depletion, localised depletion or changes in the size and age structure of the catch that cannot be adequately explained by reasons other than a decline in abundance.

In general, catch in the Small Pelagic Fisheries (SPF) increased from around 6,000 t in 1984–85 to a peak of almost 42,000 t in 1986–87. Average catches of around 12,000 t per year were also taken in the early 1990s, comprising mostly redbait. Relatively low catches between 2010 and 2015 are likely to have reflected a lack of markets and fish availability near processing facilities, rather than low levels of overall abundance. The operation of a factory freezer trawler in the 2014–15, 2015–16 and 2016–17 fishing seasons led to increased catches, reaching a peak of around 12,000 t in 2015–16. After the factory freezer trawler left the fishery during the 2016–17 season (AFMA 2016), total catch decreased. Catches have subsequently increased when another midwater trawler operation began in the east subarea in 2016–17 and reached 14,111 t in 2020–21, comprising mostly blue mackerel, jack mackerel and redbait.

Therefore, a stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species and it meets the clause A2.1.

A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.

The Harvest Strategy applies harvest control rules to available biomass estimates (SSB) from DEPM surveys to determine a Recommended Biological Catch (RBC) for each stock. Other sources of mortality are then applied to RBCs to derive total allowable catch (TAC) recommendations by AFMA. Reference points are set as a % of B0. For both stocks, recent catches have been below the RBC calculated using an MSE-tested harvest strategy. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the eastern and western jack mackerel stocks are classified as not overfished and not subject to overfishing.

A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.

Jack mackerel East:

A spawning biomass of 156,292 t (95% CI 49,120–263,496 t) was estimated using the DEPM from an egg survey in January and February 2019 (AFMA 2020). The SPFRAG used the 2019 DEPM-based biomass estimate to recommend a 2020–21 RBC of 18,755 t, using the tier 1 exploitation rate (12%) from the 2017 harvest strategy (AFMA 2019d). This was the first season that the tier 1 exploitation rate was used to set an RBC for eastern jack mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 18,580 t.

Jack mackerel West:

The SPF Scientific Panel recommended a 2020–21 RBC of 4,197 t, using the initial biomass estimate and the tier 1 exploitation rate from the 2017 harvest strategy (AFMA 2019d). This was the third season that the tier 1 exploitation rate was used to set an RBC for western jack mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 4,170 t

A2.4 The assessment is subject to internal or external peer review.

The SPF Scientific Panel last met in January 2021 in order to peer review scientific and economic data provided by ABARES and in turn provide advice to SEMAC and AFMA (Commission). During the 2021 meeting the Panel noted that no issues were raised at the Stakeholder forum regarding annual assessments of SPF Stocks including Jack mackerel and RBC advice. The Panel confirmed its previous recommendations for RBCs, based on the 2017 SPF Harvest Strategy and DEPM Survey results

A2.5 The assessment is made publicly available.

Minutes of annual meetings of the SPF Scientific Panel summarise findings of stock assessment studies and list agreed RBC's and SSB's for each managed stock on their website. Detailed information on stock assessments is available on request through the Freedom of Information Act.

Fishery status reports published by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) provide independent assessments of the biological status of fish stocks including Jack mackerel and the economic status of fisheries managed, or jointly managed, by the Australian Government (Commonwealth fisheries). ABARES uses data and information sourced from AFMA and Regional Fisheries Management Organisations (RFMO's). Fishery status reports are published annually on the ABARES website.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

Patterson, H, Larcombe, J, Woodhams, J and Curtotti, R 2020, Fishery status reports 2020, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/5f447487e6749 R2 AFMA (Last revised April 2017) Small Pelagic Fishery Harvest Strategy June 2008 11pp

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/04/SPF-Harvest-Strategy_April2017_FINAL.pdf

SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings R8 Small Pelagic Fishery (SPF) Resource Assessment Group (SPFRAG): https://www.afma.gov.au/sites/default/files/uploads/2015/01/March-2013-SPFRAG-meeting-minutesPDF-381-KB.pdf

A Moore and D Mobsby (2017) Department of Agriculture and Water Resources Fishery Status Reports Chapter 7: Small Pelagic Fishery Status Reports (2017) http://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status/

AFMA (March 2018) Fisheries Management (Small Pelagic Fishery Total Allowable Catch – Quota Species) Fishing Capacity Determination 2018 4pp https://www.legislation.gov.au/Details/F2018L00337

Small Pelagic Fishery Scientific Panel (the Panel) Meeting Minutes (Jan 2018)

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2018/02/DRAFT-SPF-meeting-minutes_22-January_FINAL.pdf

Links

MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	Yes
	A3.2	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	Yes
	A3.3	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	Yes
		Clause outcome:	PASS

Evidence

A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.

Commonwealth Fisheries Harvest Strategy Policy (HSP) and Guidelines allow for a science–based approach to setting catch limits and offers advice on how to interpret and apply policy to fisheries.

The Harvest Strategy (HS) applies harvest control rules to available biomass estimates (from Daily Egg Production Method (DEPM) surveys) to determine a Recommended Biological Catch (RBC) for each quota species. Other sources of mortality are then applied to RBCs to derive the total allowable catch (TAC) recommendations by AFMA's Commission.

Stocks in the SPF are managed under a harvest strategy that has been revised several times in recent years. The review of the 2014 harvest strategy (AFMA 2014b) included ecosystem and population modelling (Smith et al. 2015). Recommendations from the review were incorporated into the current harvest strategy (AFMA 2017b), which adopts a target reference point of 50% of the unfished biomass (0.5B0) and a limit reference point of 0.2B0. The review noted some concern around the level of risk for breaching the limit reference point if there were no regular egg surveys (Smith et al. 2015).

The harvest strategy has 3 tiers, with static exploitation rates for each tier and stock. Operating at tier 1 requires a recent egg survey and a biomass estimate based on the daily egg production method (DEPM). Tier 1 allows for the highest exploitation rates.

A tier 1 recommended biological catch (RBC) can be set for a maximum of 5 years. If there is no updated survey, the harvest strategy steps down to tier 2.

Tier 2 has reduced exploitation rates in acknowledgement of the increasing uncertainty about how well the DEPM-based biomass estimate reflects current biomass. Similarly, the harvest strategy steps down from tier 2 to tier 3 after a further 5 or 10 years (depending on the species), which further reduces the exploitation rate. There is no time limit for a species to remain at tier 3.

A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.

Jack mackerel East:

Commonwealth catch increased to 9,873 t in 1997–98, fluctuated markedly to 2003–04 and then declined as a result of decreasing effort in the fishery. Commonwealth catch has fluctuated in recent years, reaching 6,316 t in 2015–16, decreasing to 4,942 in 2018–19 and increasing again to 7,808 t in 2019–20 State catches have been negligible in recent years. Commonwealth catch for 2020–21 was 5,454 t, so there is no evidence of exceeding the TAC.

Jack mackerel West:

Total catch (Commonwealth and state) for western jack mackerel did not exceed 250 t before 2005–06. Commonwealth catch was zero or negligible from 2011–12 to 2014–15, increasing to 634 t in 2015–16 and 686 t in 2016–17. No Commonwealth catch was reported for 2017–18 or 2018–19 (Figure 7.7). Commonwealth catch was 12 t for 2019–20, and no Commonwealth catch was reported for 2020–21. State catches are not available for 2020–21 and have been confidential for the preceding 5 years.

Please see figure 1 and 2 above.

A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).

The National Compliance and Enforcement Program is conducted via the use of a risk-based approach, which enables AFMA's resources to be targeted to areas where they are most needed and where they will prove most effective. Features of the programme include ensuring compliance with AFMA's domestic fisheries management measures. Fisheries Officers conduct targeted inspections of Commonwealth endorsed operators. All Commonwealth fishing boats are tracked via satellite – to vessel monitoring systems. Catch monitoring includes electronic logbooks, a Catch Documentation Scheme, electronic monitoring, logbooks, observers, audits and inspections.

AFMA enforces the provisions of the Fisheries Management Act 1991, Torres Strait Fisheries Act 1984 and the Maritime Powers Act 2013; including the power to close a fishery should the stock be estimated to be below the limit reference point or proxy. To date this has not happened for the Jack mackerel stock.

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

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SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings R8 Small Pelagic Fishery (SPF) Resource Assessment Group (SPFRAG): https://www.afma.gov.au/sites/default/files/uploads/2015/01/March-2013-SPFRAG-meeting-minutesPDF-381-KB.pdf

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AFMA (March 2018) Fisheries Management (Small Pelagic Fishery Total Allowable Catch – Quota Species) Fishing Capacity Determination 2018 4pp https://www.legislation.gov.au/Details/F2018L00337

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Standard clause 1.3.2.1.3

Links	
MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

A4	**Stock Status - Minimum Requirements**		
	A4.1	The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	Yes
		Clause outcome:	PASS

A4.1 The stock is at or above the target reference point, OR IF NOT:

The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.

Jack mackerel East:

Recent catches have been below the RBC calculated using an MSE-tested harvest strategy. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the eastern jack mackerel stock is classified as not overfished and not subject to overfishing.

Jack mackerel West:

In years when catches have been taken, they have been below the RBC calculated using an MSE-tested harvest strategy and are a small proportion of the most recent estimate of biomass. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the western jack mackerel stock is classified as not overfished and not subject to overfishing.

Therefore, both stocks are above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure ant the pass clause A4.1.

References

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Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 01**

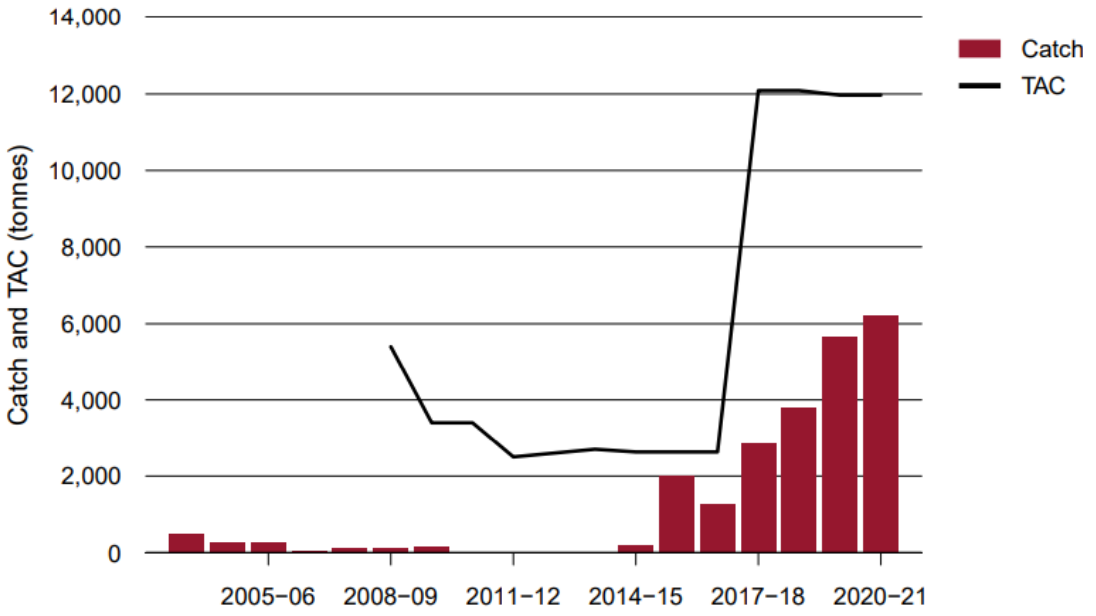
Species Name	**Blue Mackerel, *Scomber australasicus***

A1	**Data Collection - Minimum Requirements**		
	A1.1	Landings data are collected such that the fishery-wide removals of this species are known.	Yes
	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	Yes
		Clause outcome:	PASS

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

Blue mackerel East:

Most of the eastern blue mackerel catch has historically been taken in state fisheries. However, Commonwealth catches have exceeded state catches since 2015–16. The total combined catch (state and Commonwealth, excluding Victorian catches which were confidential) for 2019–20 was 6,124 t, comprising 5,693 t from the Commonwealth and 431 t from state fisheries. Commonwealth catch increased to 6,215 t in 2020–21 (Figure 3). State catches for the season are not yet available for this report.

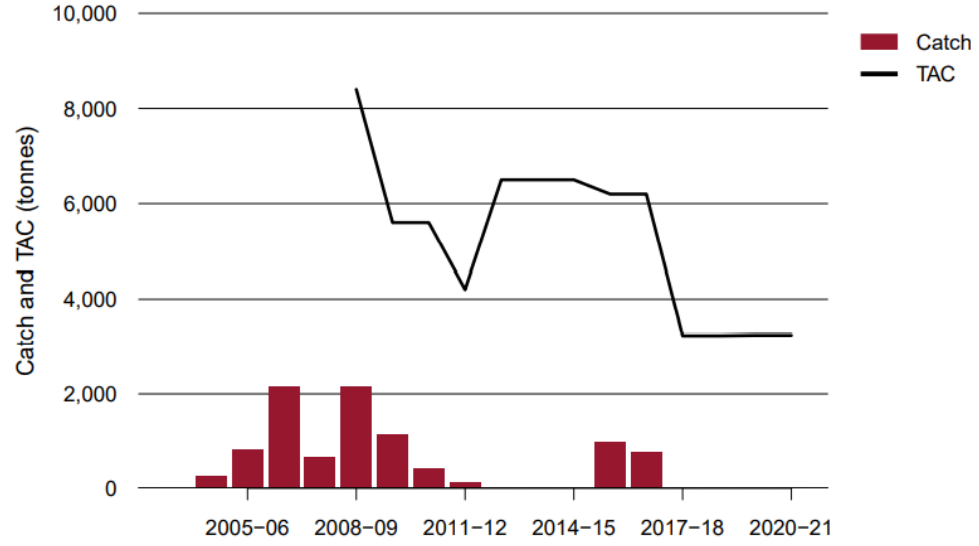


Note: **TAC** Total allowable catch.

Figure 3. Commonwealth eastern blue mackerel catch and TAC, 2003–04 to 2021-22. Fisheries Status, DAWE 2021

Blue mackerel West:

Very little western blue mackerel was caught before 2004–05. Total Commonwealth landed catch increased in 2005–06, peaked in 2008–09 at 2,164 t and decreased steadily thereafter. Catch was negligible between 2011–12 and 2014–15 in both the Commonwealth and state fisheries. No Commonwealth catch was reported in 2017–18 or 2018–19. Commonwealth catch was 9 t in 2019–20, but no Commonwealth catch was reported in 2020–21 (Figure 4). State catches have been either negligible or confidential in recent years.



Note: **TAC** Total allowable catch.

Figure 4. Commonwealth western blue mackerel catch and TAC, 2003–04 to 2021-22. Fisheries Status, DAWE 20215

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

Blue mackerel East:
The Small Pelagic Fishery Resource Assessment Group (SPFRAG) used the 2014 DEPM estimate to recommend an RBC for 2020–21. Tier 1 of the 2017 harvest strategy (exploitation rate of 15%) was used to recommend a 2020–21 RBC of 12,495 t. This was the fifth season that the tier 1 exploitation rate was used to set an RBC for eastern blue mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 11,970 t. A new egg survey was completed in September 2019, and a spawning biomass of 88,265 t (95% CI 33,320–143,209 t) was estimated using the DEPM (Ward 2020). The SPFRAG used the 2019 DEPM estimate to recommend an RBC for 2021–22.

Blue mackerel West:
An egg survey for western blue mackerel was completed in 2005, and a spawning biomass of 56,228 t (95% CI 10,993–293,456 t) was estimated using the DEPM (Ward & Rogers 2007). However, the SPFRAG considered this to be too low and adjusted the estimate to 86,500 t (AFMA 2017c). Recent catches have been below the RBC. Historical catches have been low to zero in many years, and are not likely to have reduced biomass below the LRP.

References

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Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

A2	**Stock Assessment - Minimum Requirements**		
	A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	Yes
	A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	Yes
	A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	Yes
	A2.4	The assessment is subject to internal or external peer review.	Yes

	A2.5	The assessment is made publicly available.	Yes
		Clause outcome:	PASS

Evidence

A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species

Under the current order of DEPM surveys Blue mackerel East will be assessed in 2019-20 and Blue mackerel West in 2020-21.

Annual fisheries assessments include updated catch and effort data from the previous fishing season in addition to Length–frequency and age information from catches for each stock fished. Information on changes in spatial and temporal patterns of effort and catch are also included in annual assessments.

A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.

Blue mackerel East:

Egg surveys for the eastern stock of blue mackerel (undertaken in association with Australian sardine surveys) were conducted in August–September 2014. For eastern blue mackerel, the DEPM-based estimate of spawning biomass was 83,300 t (95% CI 35,100–165,000 t) (Ward et al. 2015). However, because samples of adult blue mackerel were not collected during the egg survey, reproductive parameters of adult blue mackerel were taken from previous egg surveys off southern Australia between 2001 and 2006. Ward et al. (2015) therefore suggested that their estimate of spawning biomass be treated with caution. The Small Pelagic Fishery Resource Assessment Group (SPFRAG) used the 2014 DEPM estimate to recommend an RBC for 2020–21. Tier 1 of the 2017 harvest strategy (exploitation rate of 15%) was used to recommend a 2020–21 RBC of 12,495 t. This was the fifth season that the tier 1 exploitation rate was used to set an RBC for eastern blue mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 11,970 t.

A new egg survey was completed in September 2019, and a spawning biomass of 88,265 t (95% CI 33,320–143,209 t) was estimated using the DEPM (Ward 2020). The SPFRAG used the 2019 DEPM estimate to recommend an RBC for 2021–22.

Blue mackerel West:

An egg survey for western blue mackerel was completed in 2005, and a spawning biomass of 56,228 t (95% CI 10,993–293,456 t) was estimated using the DEPM (Ward & Rogers 2007). However, the SPFRAG considered this to be too low and adjusted the estimate to 86,500 t in 2017 (AFMA 2017c). It is also noted that historical catches have been low to none in many years, and are not likely to have reduced biomass below the LRP. Zero catches have been recorded since 2017-18 (past 5 years), and in previous years (e.g. 2012-2014). Tier 3 of the 2017 harvest strategy (an exploitation rate of 50% of tier 2) was used to recommend a 2020–21 RBC of 3,243 t. This was the fourth season that the tier 3 exploitation rate was used to set an RBC for western blue mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 3,240 t.

A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.

Blue mackerel East:

Tier 1 of the 2017 harvest strategy (exploitation rate of 15%) was used to recommend a 2020–21 RBC of 12,495 t. This was the fifth season that the tier 1 exploitation rate was used to set an RBC for eastern blue mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 11,970 t.

Blue mackerel West:

Tier 3 of the 2017 harvest strategy (an exploitation rate of 50% of tier 2) was used to recommend a 2020–21 RBC of 3,243 t. This was the fourth season that the tier 3 exploitation rate was used to set an RBC for western blue mackerel. After factoring in state catches, the AFMA Commission agreed to a TAC of 3,240 t.

A2.4 The assessment is subject to internal or external peer review.

The SPF Panel met (January 2019) in order to peer review scientific and economic data from ABARES and provide advice to SEMAC and AFMA (Commission). During the meeting the Panel noted that no issues were raised at the Stakeholder forum regarding the annual assessment of SPF Stocks and RBC advice including advice for Blue mackerel. The Panel confirmed its previous recommendations for RBCs, based on the 2017 SPF Harvest Strategy and DEPM Survey results for the stocks.

A2.5 The assessment is made publicly available.
Minutes of annual meetings of the Scientific Panel summarise findings of stock assessment studies and list agreed RBC's and SSB's for each managed stock on their website. Detailed information on stock assessments is available on request through the Freedom of Information Act.

Fishery status reports published by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) provide independent assessments of the biological status of fish stocks and the economic status of fisheries managed, or jointly managed, by the Australian Government (Commonwealth fisheries). ABARES uses data and information sourced from AFMA and Regional Fisheries Management Organisations (RFMO's). Fishery status reports are published annually on the ABARES website.

Assessments are subject to peer review and are made publicly available.

References

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Links

MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	Yes
	A3.2	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	Yes
	A3.3	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	Yes
		Clause outcome:	PASS

A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.

A Commonwealth Fisheries Harvest Strategy Policy (HSP) and Guidelines allow for a science–based approach to setting catch limits and offers advice on how to interpret and apply policy to fisheries.

The Harvest Strategy (HS) applies harvest control rules to available biomass estimates (from Daily Egg Production Method (DEPM) surveys) to determine a Recommended Biological Catch (RBC) for each quota species. Other sources of mortality are then applied to RBCs to derive the total allowable catch (TAC) recommendations by AFMA's Commission.

Stocks in the SPF are managed under a harvest strategy that has been revised several times in recent years. The review of the 2014 harvest strategy (AFMA 2014b) included ecosystem and population modelling (Smith et al. 2015). Recommendations from the review were incorporated into the current harvest strategy (AFMA 2017b), which adopts a target reference point of 50% of the unfished biomass (0.5B0) and a limit reference point of 0.2B0. The review noted some concern around the level of risk for breaching the limit reference point if there were no regular egg surveys (Smith et al. 2015).

The harvest strategy has 3 tiers, with static exploitation rates for each tier and stock. Operating at tier 1 requires a recent egg survey and a biomass estimate based on the daily egg production method (DEPM). Tier 1 allows for the highest exploitation rates.
A tier 1 recommended biological catch (RBC) can be set for a maximum of 5 years. If there is no updated survey, the harvest strategy steps down to tier 2.
Tier 2 has reduced exploitation rates in acknowledgement of the increasing uncertainty about how well the DEPM-based biomass estimate reflects current biomass. Similarly, the harvest strategy steps down from tier 2 to tier 3 after a further 5 or 10 years (depending on the species), which further reduces the exploitation rate. There is no time limit for a species to remain at tier 3.

A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.

Blue mackerel East:
Most of the eastern blue mackerel catch has historically been taken in state fisheries. However, Commonwealth catches have exceeded state catches since 2015–16. The total combined catch (state and Commonwealth, excluding Victorian catches which were confidential) for 2019–20 was 6,124 t, comprising 5,693 t from the Commonwealth and 431 t from state fisheries. Commonwealth catch increased to 6,215 t in 2020–21 (Figure 3).

Blue mackerel West:
Very little western blue mackerel was caught before 2004–05. Total Common wealth landed catch increased in 2005–06, peaked in 2008–09 at 2,164 t and decreased steadily thereafter. Catch was negligible between 2011–12 and 2014–15 in both the Commonwealth and state fisheries. No Commonwealth catch was reported in 2017–18 or 2018–19. Commonwealth catch was 9 t in 2019–20, but no Commonwealth catch was reported in 2020–21 (Figure 4). State catches have been either negligible or confidential in recent years.

A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).

The National Compliance and Enforcement Program is conducted via the use of a risk-based approach, which enables AFMA's resources to be targeted to areas where they are most needed and where they will prove most effective. Features of the programme include ensuring compliance with AFMA's domestic fisheries management measures. Fisheries Officers conduct

targeted inspections of Commonwealth endorsed operators. All Commonwealth fishing boats are tracked via satellite – to vessel monitoring systems. Catch monitoring includes electronic logbooks, a Catch Documentation Scheme, electronic monitoring, logbooks, observers, audits and inspections.

AFMA enforces the provisions of the Fisheries Management Act 1991, Torres Strait Fisheries Act 1984 and the Maritime Powers Act 2013; including the power to close a fishery should the stock be estimated to be below the limit reference point or proxy.

References

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SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings R8 Small Pelagic Fishery (SPF) Resource Assessment Group (SPFRAG): https://www.afma.gov.au/sites/default/files/uploads/2015/01/March-2013-SPFRAG-meeting-minutesPDF-381-KB.pdf

A Moore and D Mobsby (2017) Department of Agriculture and Water Resources Fishery Status Reports Chapter 7: Small Pelagic Fishery Status Reports (2017) http://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status/smallpelagic

AFMA (March 2018) Fisheries Management (Small Pelagic Fishery Total Allowable Catch – Quota Species) Fishing Capacity Determination 2018 4pp https://www.legislation.gov.au/Details/F2018L00337

Small Pelagic Fishery Scientific Panel (the Panel) Meeting Minutes (Jan 2018) https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2018/02/DRAFT-SPF-meeting-minutes_22-January_FINAL.pdf

Standard clause 1.3.2.1.3

Links	
MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

A4	**Stock Status - Minimum Requirements**		
	A4.1	The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	Yes
		Clause outcome:	PASS

A4.1 The stock is at or above the target reference point, OR IF NOT:

The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.

Eastern stock:
Recent catches have been below the RBC calculated using an MSE-tested harvest strategy and are a small proportion of the most recent estimate of biomass. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the eastern blue mackerel stock is classified as not overfished and not subject to overfishing.

Western stock:
Recent catches have been below the RBC calculated using an MSE-tested harvest strategy and are a small proportion of the most recent estimate of biomass. Although the 2005 biomass estimate is dated, the level of fishing mortality in any year is unlikely to have substantially reduced spawning biomass. On this basis, the western blue mackerel stock is classified as not overfished and not subject to overfishing.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 01**

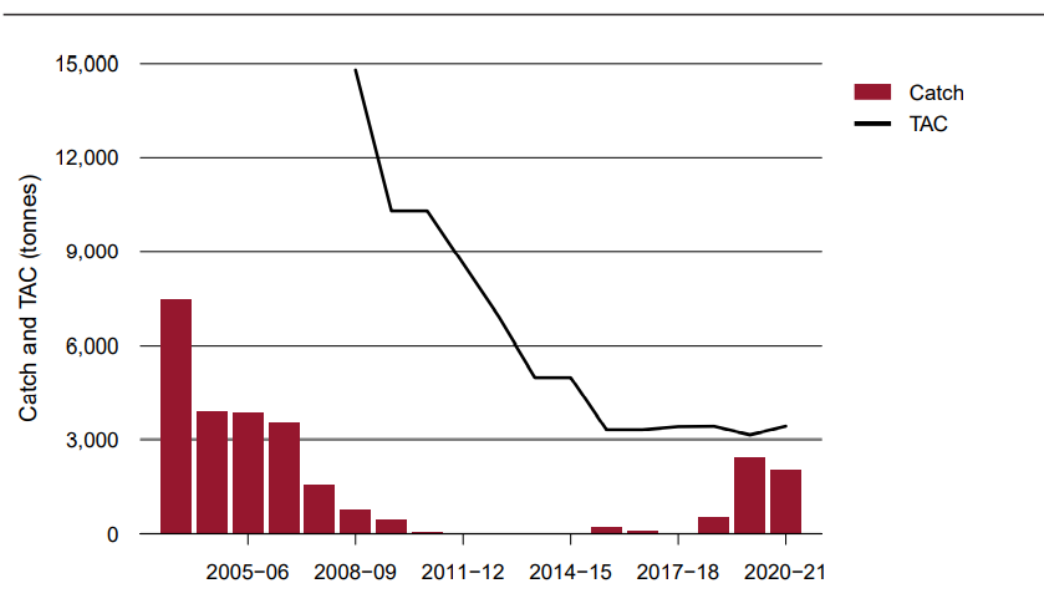
Species Name	**Redbait/Cape Bonnetmouth, *Emmelichthys nitidus***

A1	**Data Collection - Minimum Requirements**		
	A1.1	Landings data are collected such that the fishery-wide removals of this species are known.	Yes
	A1.2	Sufficient additional information is collected to enable an indication of stock status to be estimated.	Yes
		Clause outcome:	PASS

A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

Redbait East:

The redbait fishery started in the early 1980s. Total landings (Commonwealth and state) were less than 2,000 t per year between 1984–85 and 2000–01, but increased in 2001–02 and peaked at 7,450 t in 2003–04. Annual catches decreased steadily thereafter. Commonwealth catch for 2020–21 was 2,011 t, down from 2,412 t in 2019–20 (Figure 5). State catches have been negligible or confidential in recent years and are not available for 2020–21.

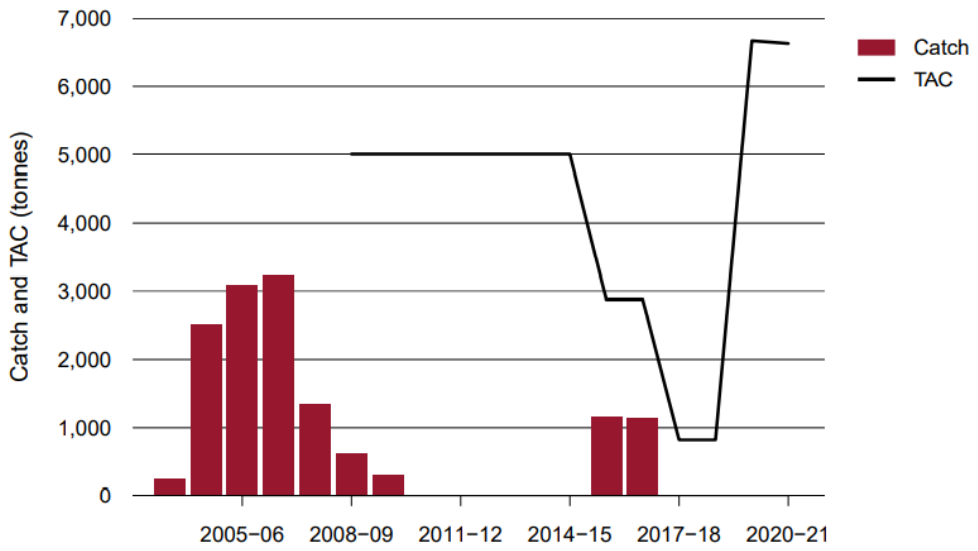


Note: **TAC** Total allowable catch.

Figure 5. Commonwealth eastern redbait catch and TAC, 2003–04 season to 2020–21 season. Fisheries Status, DAWE 2021.

Redbait Western:

No catches of western redbait were reported before 2001–02. Commonwealth catches increased from 1,100 t in 2001–02 to a peak of 3,228 t in 2006–07, and decreased steadily thereafter, with no reported catch between 2010–11 and 2014–15. Commonwealth catches were taken again in 2015–16 (1,157 t) and 2016–17 (1,140 t), but no catch was reported in 2017–18 or 2018–19 (Figure 6). Commonwealth catch was 9 t in 2019–20. No Commonwealth catch was reported for 2020–21. No state catches have been reported in recent years.



Note: **TAC** Total allowable catch.

Figure 6. Commonwealth western redbait catch and TAC, 2003–04 season to 2020–21 season. Fisheries Status, DAWE 2021.

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

Redbait East: The most recent egg surveys for eastern redbait – in 2005 and 2006 (Neira et al. 2008) – provided spawning biomass estimates (using DEPM) of 86,990 t (coefficient of variation [CV] 0.37) and 50,782 t (CV 0.19), respectively. The average of these 2 estimates (68,886 t) was used to generate an RBC of 3,444 t for 2020–21, using the tier 2 decision rule (AFMA 2019d). This was the ninth season that tier 2 was used to set an RBC for eastern red bait. After factoring in state catches, the AFMA Commission agreed to a TAC of 3,424 t. A new DEPM will be used to set the RBC for 2022–23.

Redbait West: An egg survey for western red bait was completed in 2017, and a spawning biomass of 66,787 t (95% CI 28,797–190,392 t) was estimated using the DEPM (Ward et al. 2019). The new biomass estimate moved the stock from a tier 3 (Atlantis-SPF ecosystem-based model) biomass estimate of 66,000 t with an exploitation rate of 2.5% (Fulton 2015) to a tier 1, DEPM-based biomass estimate of 66,787 t with an exploitation rate of 10%. The SPFRAG recommended a 2020–21 RBC of 6,678 t. This was the second season that the tier 1 exploitation rate was used to set an RBC for western red bait. After factoring in state catches, the AFMA Commission agreed to a TAC of 6,640 t.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/04/SPF-Harvest-Strategy_April2017_FINAL.pdf R3 Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries R6 SPF Scientific Panel and Stakeholder Forum Meetings https://www.afma.gov.au/newsmedia/news/spf-scientific-paneland-stakeholder-forum-meetings

Links

MARINTRUST Standard clause	1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	7.3.1, 12.3
GSSI	D.4.01, D.5.01, D.6.02, D.3.14

A2	Stock Assessment - Minimum Requirements		
	A2.1	A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.	Yes
	A2.2	The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.	Yes
	A2.3	The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.	Yes
	A2.4	The assessment is subject to internal or external peer review.	Yes
	A2.5	The assessment is made publicly available.	Yes
		Clause outcome:	PASS

A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.

Redbait East: RBC's and TAC's are set using 2015 harvest strategy control rules and latest DEPM biomass estimates using the Atlantis ecosystem model. Annual fisheries assessments are undertaken and include updated catch and effort data from the previous fishing season in addition to Length–frequency and age information from catches for each stock fished.

Redbait West: RBC's and TAC's are set using 2015 harvest strategy control rules and latest DEPM biomass estimates using the Atlantis ecosystem model. Annual fisheries assessments are undertaken and include updated catch and effort data from the previous fishing season in addition to Length–frequency and age information from catches for each stock fished. A daily egg production method (DEPM) survey was undertaken during 2017 for the western Redbait stock for the first time.

A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.

For both stocks annual fisheries assessments provide calculations of DEPM biomass estimates (SSB) and RBC's. Reference points are set as a % of B0. The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy .

A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.

Redbait East: the most recent egg surveys for eastern redbait – in 2005 and 2006 (Neira et al. 2008) – provided spawning biomass estimates (using DEPM) of 86,990 t (coefficient of variation [CV] 0.37) and 50,782 t (CV 0.19), respectively. The average of these 2 estimates (68,886 t) was used to generate an RBC of 3,444 t for 2020–21, using the tier 2 decision rule (AFMA 2019d). This was the ninth season that tier 2 was used to set an RBC for eastern red bait. After factoring in state catches, the AFMA Commission agreed to a TAC of 3,424 t. A new DEPM will be used to set the RBC for 2022–23.

Redbait West: The new biomass estimate moved the stock from a tier 3 (Atlantis-SPF ecosystem-based model) biomass estimate of 66,000 t with an exploitation rate of 2.5% (Fulton 2015) to a tier 1, DEPM-based biomass estimate of 66,787 t with an exploitation rate of 10%. The SPFRAG recommended a 2020–21 RBC of 6,678 t. This was the second season that the tier 1 exploitation rate was used to set an RBC for western red bait. After factoring in state catches, the AFMA Commission agreed to a TAC of 6,640 t.

A2.4 The assessment is subject to internal or external peer review.

The SPF Scientific Panel last met in January 2019 in order to peer review scientific and economic data from ABARES and provide advice to SEMAC and AFMA (Commission). During the meeting the Panel noted that no issues were raised at the Stakeholder

forum regarding the annual assessment of SPF Stocks and RBC advice including Red bait. The Panel confirmed its previous recommendations for RBCs, based on the 2017 SPF Harvest Strategy and DEPM Survey results.

A2.5 The assessment is made publicly available.

Minutes of annual meetings of the Scientific Panel summarise findings of stock assessment studies and list agreed RBC's and SSB's for each managed stock on their website. Detailed information on stock assessments is available on request through the Freedom of Information Act. Fishery status reports published by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) provide independent assessments of the biological status of fish stocks and the economic status of fisheries managed, or jointly managed, by the Australian Government (Commonwealth fisheries). ABARES uses data and information sourced from AFMA and Regional Fisheries Management Organisations (RFMO's). Fishery status reports are published annually.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/04/SPF-Harvest-Strategy_April2017_FINAL.pdf

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A Moore and D Mobsby (2017) Department of Agriculture and Water Resources Fishery Status Reports Chapter 7: Small Pelagic Fishery Status Reports (2017) http://www.agriculture.gov.au/abares/research-topics/fisheries/fishery-status/small-pelagic

AFMA (March 2018) Fisheries Management (Small Pelagic Fishery Total Allowable Catch – Quota Species) Fishing Capacity Determination 2018 4pp https://www.legislation.gov.au/Details/F2018L00337

Small Pelagic Fishery Scientific Panel (the Panel) Meeting Minutes (Jan 2018) https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2018/02/DRAFT-SPF-meeting-minutes_22-January_FINAL.pdf

Links

MARINTRUST Standard clause	1.3.2.1.2, 1.3.2.1.4, 1.3.1.2
FAO CCRF	12.3
GSSI	D.5.01, D.6.02, D.3.14

A3	**Harvest Strategy - Minimum Requirements**		
	A3.1	There is a mechanism in place by which total fishing mortality of this species is restricted.	Yes
	A3.2	Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.	Yes
	A3.3	Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).	Yes
		Clause outcome:	PASS

A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.

A Harvest Strategy Policy (HSP) adopts exploitation rates to maintain spawning stock biomass (SSB), on average, at the target reference point of 50% of unfished levels and achieve a less than 10% chance over a 50 year period of the SSB falling below limit reference point (LRP) of 20% of unfished levels (0.2B0). Recent catches of a number of SPF stocks have been limited by economic constraints. Target and limit reference levels are consistent with those established in the HSP and have been shown to be ecologically sound for the Australian small pelagic stocks as a result of the low dietary dependency of higher trophic level predators in south east Australia on targeted SPF species. Other sources of mortality are also applied to RBCs to derive TAC recommendations by AFMA. Spatial management arrangements, in the form of regional catch limits, apply to all vessels operating in the SPF (regardless of fishing method). Closed areas are in operation when regional catch limits are exceeded. A framework of sanctions is applied when laws and regulations are discovered to have been broken. There is a mechanism in place by which total fishing mortality of this species is restricted

A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.

Redbait East: The redbait fishery started in the early 1980s. Total landings (Commonwealth and state) were less than 2,000 t per year between 1984–85 and 2000–01, but increased in 2001–02 and peaked at 7,450 t in 2003–04. Annual catches decreased steadily thereafter. Commonwealth catch for 2020–21 was 2,011 t, down from 2,412 t in 2019–20.

Redbait West: Commonwealth catches increased from 1,100 t in 2001–02 to a peak of 3,228 t in 2006–07, and decreased steadily thereafter, with no reported catch between 2010–11 and 2014–15. Commonwealth catches were taken again in 2015–16 (1,157 t) and 2016–17 (1,140 t), but no catch was reported in 2017–18 or 2018–19 (Figure 7.9). Commonwealth catch was 9 t in 2019–20. No Commonwealth catch was reported for 2020–21.

A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).

The National Compliance and Enforcement Program is conducted via the use of a risk-based approach, which enables AFMA's resources to be targeted to areas where they are most needed and where they will prove most effective. Features of the programme include ensuring compliance with AFMA's domestic fisheries management measures. Fisheries Officers conduct targeted inspections of Commonwealth endorsed operators.

All Commonwealth fishing boats are tracked via satellite – to vessel monitoring systems. Catch monitoring includes electronic logbooks, a Catch Documentation Scheme, electronic monitoring, logbooks, observers, audits and inspections. AFMA enforces the provisions of the Fisheries Management Act 1991, Torres Strait Fisheries Act 1984 and the Maritime Powers Act 2013; including the power to close a fishery should the stock be estimated to be below the limit reference point or proxy. Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/04/SPF-Harvest-Strategy_April2017_FINAL.pdf

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Standard clause 1.3.2.1.3

Links

MARINTRUST Standard clause	1.3.2.1.3, 1.3.2.1.4
FAO CCRF	7.2.1, 7.22 (e), 7.5.3
GSSI	D3.04, D6.01

A4	**Stock Status - Minimum Requirements**		
	A4.1	The stock is at or above the target reference point, OR IF NOT: The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT: The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.	Yes
		Clause outcome:	PASS

A4.1 The stock is at or above the target reference point, OR IF NOT:

The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:

The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.

For the eastern Redbait: Recent catches have been below the RBC calculated using an MSE-tested harvest strategy and are a small proportion of the most recent estimate of biomass. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the redbait east stock is classified as not overfished and not subject to overfishing.

For the western Redbait: Recent catches have been below the RBC calculated using an MSE-tested harvest strategy. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the western red bait stock is classified as not overfished and not subject to overfishing.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

Links	
MARINTRUST Standard clause	**1.3.2.1.4**
FAO CCRF	**7.2.1, 7.2.2 (e)**
GSSI	**D6 01**

CATEGORY C SPECIES

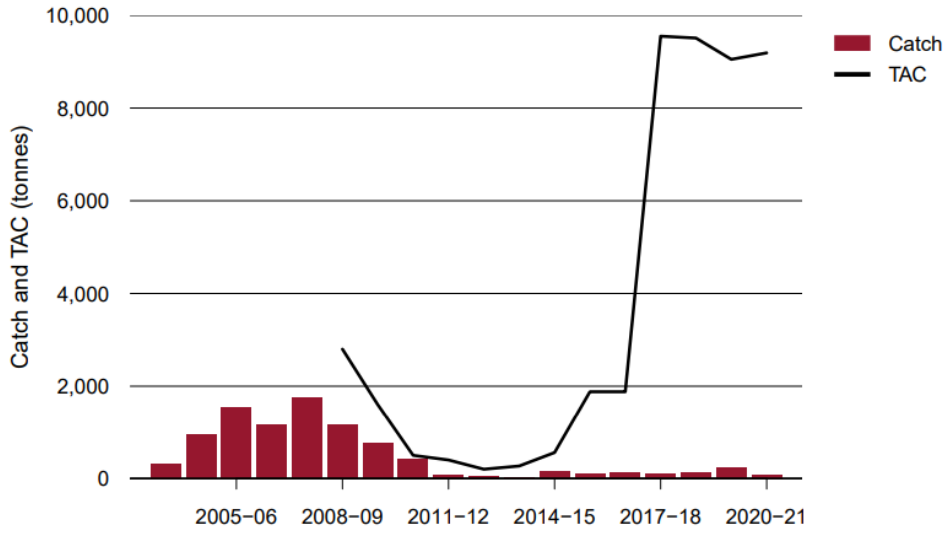
In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment.

Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below the limit reference point.

Species Name	**Australian Sardine, *Sardinops sagax***	
C1	**Category C Stock Status - Minimum Requirements**	
	C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	Yes
	C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	Yes
	Clause outcome:	PASS

C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.

State catches of Australian sardine comprise most of the total catch of the stock. Unlike the SPF, state catches are not constrained by catch limits. State catches increased substantially from 2001–02 to 2009–10, contributing to reductions in the Commonwealth TAC. Total sardine catch from the Commonwealth peaked in 2007–08 at 4,619 t, before decreasing to 894 t in 2014–15 – its lowest level since 2001–02. Total catch increased to 2,887 t in 2016–17, primarily driven by increased catches by the Victorian fleet. The total combined catch (state and Commonwealth, excluding Victorian catches because they were confidential) for 2019–20 was 727 t, comprising 232 t of Commonwealth catch and 495 t of state catch. Commonwealth catch for 2020–21 was 86 t (Figure 7).



Note: **TAC** Total allowable catch.

Figure 7. Commonwealth Australian sardine catch and TAC in the SPF, 2003–04 season to 2020–21 season. Source: Fisheries Status DAWE 2021

C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

Egg surveys for the east coast stock of Australian sardine (undertaken in association with eastern blue mackerel surveys) were completed in August–September 2014, and a spawning biomass of 49,600 t (95% CI 24,200–213,300 t) was estimated using the DEPM (Ward et al. 2015). Tier 1 of the 2017 harvest strategy (exploitation rate of 20%) and the biomass estimated from the 2014 survey were used to recommend a 2020–21 RBC of 9,915 t. This was the fifth season that the tier 1 exploitation rate was used to set an RBC for Australian sardine. After factoring in state catches, the Australian Fisheries Management Authority (AFMA) Commission agreed to a TAC of 9,190 t. A new egg survey was completed in September 2019, and a spawning biomass of 42,724 t (95% CI 15,487–69,962 t) was estimated using the DEPM (Ward 2020). The Small Pelagic Fishery Scientific Panel used the 2019 DEPM estimate to recommend an RBC for 2021–22.

Recent catches have been below the RBC calculated using a management strategy evaluation (MSE)–tested harvest strategy and are a small proportion of the most recent estimate of biomass. This level of fishing mortality is unlikely to have substantially reduced spawning biomass. On this basis, the Australian sardine stock is classified as not overfished and not subject to overfishing.

References

Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vahf-ng93. Australian Fisheries Management Authority AFMA (Home page): https://www.afma.gov.au/fisheries

Links	
MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

FURTHER IMPACTS

The three clauses in this section relate to impacts the fishery may have in other areas. A fishery must meet the minimum requirements of all three clauses before it can be recommended for approval.

F1	Impacts on ETP Species - Minimum Requirements		
	F1.1	Interactions with ETP species are recorded.	Yes
	F1.2	There is no substantial evidence that the fishery has a significant negative effect on ETP species.	Yes
	F1.3	If the fishery is known to interact with ETP species, measures are in place to minimise mortality.	Yes
		Clause outcome:	PASS

F1.1 Interactions with ETP species are recorded.

Consistent with the Memorandum of Understanding (MOU) between AFMA and DoAWE, protected species refers to all listed threatened, migratory and marine species and cetaceans consistent with the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

All Commonwealth-managed fisheries have been assessed and accredited under the EPBC Act on the basis that the management plan or regime includes all reasonable steps to ensure that members of protected species are not adversely affected by the fishing operation. As long as operators are fishing in accordance with the fishery management arrangements, it is not an offence to interact with a protected species. It is, however, an offence not to report these interactions. In the last quarter available July to September 2021 the only interaction reported in the SPF was the one below:

Small Pelagic Fishery

Gear Type	Common name	Total	Life status				Interaction type
			Alive	Dead	Injured	Unknown	
Midwater Otter Trawl	Common Dolphin	1	-	1	-	-	Entangled
	Total Interactions	1		1			

F1.2 There is no substantial evidence that the fishery has a significant negative effect on ETP species.

The Scientific Panel (2019) noted that for protected species marine mammals and large bycatch monitoring should be reduced from 100 to 10% of Electronic Monitoring footage. This recommendation was based on the outcomes of footage reviewed in the SPF to date, as well as evidence from both AFMA-managed fisheries and international work that this level of review is sufficient to achieve accurate reporting in logbooks. As risk to seabird interactions in the fishery is low (due to very little discarding of catch and the use of bird mitigation devices) it was decided that the deployment of mitigation be audited by electronic monitoring. There is no substantial evidence that the fishery has a significant negative effect on ETP species

F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality.

AFMA have developed protected species management strategies for Australian sea lions, dolphins and upper slope dogfish which outline management arrangements that minimise the impact of fishing on these species. Strategies involve unique management arrangements tailored to reducing interactions with each species. Arrangements can include area closures, gear restrictions, monitoring requirements or trigger limits.

Additional management responses are triggered if the maximum interaction rate for a vessel is exceeded. The minimum management response requires the holder to immediately cease fishing and return to port until authorised by AFMA to recommence fishing using trawl gear The Commonwealth SPF industry purse-seine code of practice requires fishers to avoid interactions with species, where possible; implement mitigation measures, where necessary; release all captured protected species alive and in good condition; and report all interactions with protected species.

AFMA-managed fisheries have accreditation (Department of the Environment and AFMA) for interactions with protected species under Part 13 of the Environment Protection and Biodiversity Conservation Act 1999. Without this accreditation, fishing operators may be liable for prosecution for the capture of protected species. Observer reports, in addition to other duties, record observations such as whether birds and other wildlife could be seen during a fishing trip. All operators are required to carry observers when requested by AFMA.

References

AFMA 2021. PRELIMINARY REPORT. Protected species interactions reported to the Commonwealth Fishery logbooks for the period 1 July to 30 September 2021.
AFMA. Small Pelagic Fishery Bycatch and Discarding Workplan 2014-2016

Links	
MARINTRUST Standard clause	1.3.3.1
FAO CCRF	7.2.2 (d)
GSSI	D4.04, D.3.08

F2	**Impacts on Habitats - Minimum Requirements**		
	F2.1	Potential habitat interactions are considered in the management decision-making process.	Yes
	F2.2	There is no substantial evidence that the fishery has a significant negative impact on physical habitats.	Yes
	F2.3	If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.	Yes
		Clause outcome:	PASS

F2.1 Potential habitat interactions are considered in the management decision-making process.

AFMA regularly monitor the effects fishing activities have on marine species, habitats and communities through ecological risk assessments. Assessment results help prioritise management, research, data collection and monitoring needs for the fishery. The Ecological Risk Management (ERM) framework is used to assist decision makers in developing fisheries management arrangements consistent with Ecologically Sustainable Development (ESD) objectives. The framework uses Ecological Risk Assessment for the Effects of Fishing (ERAEF) as the primary means of assessing the risks that fisheries may pose to the marine environment.

ERAEF provides a hierarchical framework for a comprehensive assessment of ecological risks arising from fishing, with impacts assessed against five ecological components including habitats. The latest Ecological Risk Assessment (ERA) for the effects of fishing report (midwater trawl small pelagic fishery) was published in September 2017. For the purse seine fishery, the latest report was published in 2007. As the gear is designed to fish in the water column it is a rare event that the gear does come into contact with the bottom. Impact on benthic habitats is likely to be minimal compared to demersal trawling. Potential habitat interactions are considered in the management decision-making process.

F2.2 There is no substantial evidence that the fishery has a significant negative impact on physical habitats.

ERAEF proceeds through four stages of analysis: scoping; an expert judgement-based Level 1 analysis (SICA – Scale Intensity Consequence Analysis); an empirically based Level 2 analysis (PSA – Productivity Susceptibility Analysis); and a model-based Level 3 analysis. This hierarchical approach provides a cost efficient way of screening hazards, with increasing time and attention paid only to those hazards that are not eliminated at lower levels in the analysis. Risk management responses may be identified at any level in the analysis. The assessment (2017) of the SPF Midwater Trawl Sub-fishery included a scoping stage and a Level I analysis. All hazards (fishing activities) were eliminated at Level 1 (risk scores 1 or 2). All ecological components (including habitats) were eliminated at Level 1 i.e. there were no risk scores of 3 – moderate – or above for any component. Fishing methods used do not cause damage to the bottom: the mid-water trawl is designed and rigged to fish in

midwater and is not intended to come in contact with the seabed. For purse seining, effective use requires that fish form dense aggregations on or close to the surface of the water. There is no substantial evidence that the fishery has a significant negative impact on physical habitats.

F2.3 If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.

An ERM Guide (June 2017) to assist AFMA fishery managers better implement ERAEF in a consistent and transparent manner has been published. The Guide outlines the process by which fishery managers can develop strategies to plan, implement, monitor and review fisheries, ensuring they are being managed in an ecologically sustainable way. A five-year schedule of re-assessment for all Commonwealth fisheries has been developed (unless an earlier re-assessment has been triggered). Application of the Guide will improve the implementation of the ERAEF framework, by applying certainty to the identification of high-risk species and the adoption of risk mitigation management responses. The Guide provides an overview of ERAEF and ERM for habitats and ecological communities to date, including a review of relevant objectives, ERA methods, recent research and future directions

References

Ecological Risk Management (2010) Report for the purse-seine sector of the Small Pelagic Fishery March 2010 20pp https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2014/11/Ecological-Risk-Management-SPF-purse-seine-March-2010.pdf

Guide to AFMA's Ecological Risk Management (June 2017) 119pp

https://www.afma.gov.au/sites/g/files/net5531/f/uploads/2017/08/Final-ERM-Guide_June-2017.pdf

AFMA. Small Pelagic Fishery Bycatch and Discarding Workplan 2014-2016

Links	
MARINTRUST Standard clause	1.3.3.2
FAO CCRF	6.8
GSSI	D.2.07, D.6.07, D3.09

F3	**Ecosystem Impacts - Minimum Requirements**		
	F3.1	The broader ecosystem within which the fishery occurs is considered during the management decision-making process.	Yes
	F3.2	There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.	Yes
	F3.3	If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.	Yes
		Clause outcome:	PASS

F3.1 The broader ecosystem within which the fishery occurs is considered during the management decision-making process. A Five-Year Strategic Research Plan (2017-2022) for the SPF has been published by AFMA. The Plan aims to address AFMA's strategic research objectives including preventing unacceptable impacts of Commonwealth fisheries on marine ecosystems and organisms. Each year the SPF Scientific Panel reviews research needs and develops an annual set of research priorities and work plans. A key goal is the annual monitoring, reporting and assessment of the effectiveness of current mitigation measures and the impact of the fishery on protected species. Marine mammal bycatch data are collected through observer and camera coverage and reported through regular SPF reports on protected species interactions. A Bycatch and Discard workplan includes specific measures to address risks highlighted by the ERA and to minimise the risk of further interactions with non-target species. Management actions under the Bycatch and Discard workplan include implementing upward-opening

Seal Excluder Devices and developing other equipment for each mid-water trawl vessel operating in the fishery to minimise the risk of interactions with seabirds; seals and dolphins. This workplan will be replaced by a chapter in the Fishery Management Strategy (FMS); currently under development (January 2019). The FMS will incorporate previously existing fishery management strategies (i.e. harvest strategies, ecological risk management strategies, bycatch strategies, research strategies and data strategies) into a single document. The broader ecosystem within which the fishery occurs is considered during the management decision-making process.

F3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.

SICA (Scale, Intensity, Consequence Analysis) analysis evaluates the risk to ecological components resulting from stakeholder-agreed set of activities. SICA elements are scored on a scale of 1 to 6 (negligible to extreme) using a "plausible worst case" approach. Level 1 analysis potentially result in the elimination of activities (hazards) and in some cases whole components. Any SICA element that scores 2 or less is documented, but not considered further for analysis or management response.

The assessment (2017) of the SPF Midwater Trawl Sub-fishery included a scoping stage and a Level I analysis (AFMA 2017). All hazards (fishing activities) were eliminated at Level 1 (risk scores 1 or 2). All ecological components were eliminated at Level 1 i.e. there were no risk scores of 3 – moderate – or above for any component. Significant external hazards were from other fisheries in the region. Risks rated as major or above (risk scores 4 or 5) were all related to other fishing activities on protected species and habitats and coastal development for protected species.

F3.3 If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.

The ecosystem in Southern and Eastern Australia is not highly dependent on these target species. Research by CSIRO (Smith et al. 2015) has found that depletion of the four main target species in the SPF (jack mackerel, redbait, blue mackerel and Australian sardine) has only minor impacts on other parts of the ecosystem. The research suggested that, unlike other areas that show higher levels of dependence on similar species, such as in Peru the food web in southern and eastern Australia does not appear to be highly dependent on SPF target species, and none of the higher trophic–level predators, including tunas, seals and penguins, has a high dietary dependence on the species. The AFMA Bycatch and Discard Program develops policy and management strategies to manage the impact of commercial fishing on non-target and protected species. Work involves trialling and assisting in the development of new bycatch reduction devices and practices. Bycatch species may include fish, crustaceans, sharks, molluscs, marine mammals, reptiles and birds. Discards can apply to fish of a commercial species that are not kept (because they are undersize, or the fishers could not obtain quota, or trip limits apply) and to the disposal of incidental species taken during fishing operations. Handling practices for commonly caught bycatch species are published regularly by AFMA. Additional precaution is included in recommendations relating to the total permissible fishery removals.

References

AFMA Bycatch and Discarding Workplans: https://www.afma.gov.au/sustainability-environment/bycatchdiscarding/bycatch-discard-workplans

AFMA Protected Species Management Strategies: https://www.afma.gov.au/sustainability-environment/protectedspecies-management-strategies

Commonwealth Scientific and Industrial Research Organisation (CSIRO): Smith et al (2015): MSC Low Trophic Level Project: South Eastern Australian case study https://publications.csiro.au/rpr/pub?list=SEA&pid=csiro

Links	
MARINTRUST Standard clause	1.3.3.3
FAO CCRF	7.2.2 (d)
GSSI	D.2.09, D3.10, D.6.09

SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

Glossary

Non-target: Species for which the gear is not specifically set, although they may have immediate commercial value and be a desirable component of the catch. OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12

Target: In the context of fishery certification, the target catch is the catch of stock under consideration by the unit of certification – i.e. the fish that are being assessed for certification and ecolabelling. (GSSI)

MarinTrust Fishery Assessment Peer Review Template

This section comprises a summary of the fishery being assessed against version 2 of the MarinTrust Standard.

Fishery under assessment	WF19_Small Pelagic fishery FAO 81 Australia_Reapproval_2021
Management authority (Country/State)	Australian Fisheries Management Authority (AFMA)
Main species	Jack Mackerel (Trachurus declivis) Blue Mackerel (Scomber australasicus) Red Bait/Cape Bonnetmouth (Emmelichthys nitidus) Australian Sardine (Sardinopsis sagax)
Fishery location	FAO 81
Gear type(s)	Purse seine; mid-water trawl; jigging; minor line
Overall recommendation. (Approve/ Fail)	Approve

Summary: in this section, provide any additional information about the fishery that the reviewers feel is significant to their decision.

-
General Comments on the Draft Report provided to the peer reviewer

Summary of Peer Review Outcomes

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. Where the situation is more complicated, reviewers may instead answer "See Notes".

	YES	NO	See Notes
A – Fishery Assessment			
1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	X		
2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	X		
3. Are the scores in the following sections accurate (i.e. do the scores reflect the evidence provided)?			
Section M - Management	X		
Category A Species	X		
Category B Species			NA
Category C Species	X		
Category D Species			NA
Section F – Further Impacts	X		

Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.

Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).

Boxes may be extended if more space is required.

1. Is the scoring of the fishery consistent with the MarinTrust standard, and clearly based on the evidence presented in the assessment report?
The assessment report seems to be adequate. It provides the information necessary to justify the scores assigned to the different categories. A management system is in place. The target species are over the reference points and the fishery has a low impact on ETP species, habitats ad ecosystem. See my comments for Blue mackerel in the correspondent section. Other minor comments included.
Certification body response
CB response: noted
2. Has the fishery assessment been fully completed, using the recognised MARINTRUST fishery assessment methodology and associated guidance?
Yes, the MT methodology has been adequately applied to this assessment.
Certification body response
No CB response needed.

3. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?
The fishery categorisation is based on previous MT reports, based on the data provided by the AFMA's Fishery Status Reports 2021. I understand that no changes in the fishery have occurred, and the categorization is adequate. Only species A and C identified in the catch.

The percentages of the landings corresponding to each species in tables 4 and 5 does not match. I remember that this also happened in the last surveillance report for this fishery, but I am not sure why it is that. Please, could you double-check that or explain the reason?

Certification body response

CB response: amended in the final report

3M. Are the scores in "Section M – Management" clearly justified?

Yes, in general the information included in this section is adequate (see my comment for M1.2 below) and the scores are clearly justified. The Australian Fisheries Management Authority (AFMA) is the Government agency responsible for the management of the fishery. Scientific data is collected by onboard scientific observers and analysed by the correspondent agency; and an effective Surveillance, Control and Enforcement system seems to be in place. Just minor comments.

M1.2 The information included in this section is thin. Is the SPFRAG the only agency involved in data collection? Which agency assesses the stock? Are there observers aboard collecting data? I would recommend including some extra information to improve this section.

CB response: The AFMA Commission sets the Total Allowable Catch (TAC) limits for seven pelagic stocks in the fishery for the 2021-22 fishing season that start 1 May 2021. All TACs remain similar to the previous fishing season and include an updated biomass estimate for blue mackerel east and Australian sardine that allows for the maximum harvest for these stocks. AFMA is the agency which manages the stock status.

TACs are set in accordance with SPF Harvest Strategy and based on the best available science. The South Australian Research and Development Institute (SARDI) Fisheries Science Program provides scientific advice to State and Commonwealth Governments about the sustainable management of Australia's fisheries resources. AFMA also take into account advice from the Small Pelagic Fishery Resource Assessment Group (SPFRAG) and South East Management Advisory Group (SEMAC). Surveys are conducted by SARDI and SPFRAG scientists. Therefore, AFMA's main duties are:

- Small Pelagic Fishery TAC determination
- Small Pelagic Fishery RAG advice
- Commission decisions

Onboard Scientific Observers are employed by AFMA to independently record catch, effort and biological information of each fishing trip. Vessels in the SPF must carry an AFMA observer when requested by AFMA. Observer coverage targets at least 10% of effort for purse seine and mid-water trawler vessels.

M 2.4 The section about the onboard scientific observers would be relevant in section 1.2.

CB response: extra information has been provided.

Certification body response

3A. Are the "Category A Species" scores clearly justified?

Three species are assessed under this category. Scores are clearly justified. A harvest strategy is in place for the target fisheries. Stocks are over the reference points. See though my comments about Blue mackerel. Other minor comments below:

Jack mackerel

A1.1 Information on catches are collected and they are well below the TAC. In particular I have some concern about the Western Jack mackerel. State catches are confidential (?) but we understand they are negligible. When you say commonwealth catches was not reported, does it mean that the species was not caught? Or that

the data is not available? If so, as I stated in my previous review, how can the fishery be "efficiently" managed if the catches are unknown?

TACs are quite variable for the species. I understand they are based on the results of the DEPM, which seem to be very variable from one year to the next.

CB response: State catches have been either negligible or confidential in recent years. Confidentiality is implemented when there are too few operators. All data involving catch information and fishing entitlement use that could reveal the identity of a fisher is confidential and can only be released with their consent. Data can be requested via formal processes. Otherwise catch is reported as required for management purposes/license conditions.

Blue mackerel

I have my concerns for this species, data from DEPM surveys undertook in 2014 was used to recommend TACs in 2020-2021. I am not sure if it makes a lot of sense for pelagic species (?) (looking at the variability of these species). The assessor indicates: "*Under the current order of DEPM surveys Blue mackerel East **will be** assessed in 2019-20 and Blue mackerel West in 2020-21*". But we are already in 2022. So, had these assessments been conducted? The last assessment for the species dates back from 2014, 8 years ago (?) I need more info to confirm that it meets Clause 2.1 of the MT standard, which indicates: *"A stock assessment is conducted at least once every 3 years (or every 5 years..)"*.

CB response: In addition to the DEPM surveys undertook in 2014, a new egg survey was completed in late 2019, and a spawning biomass of 88,265 t (95% CI 33,320–143,209 t) was estimated using the DEPM (Ward 2020). The SPFRAG used the 2019 DEPM estimate to recommend an RBC for 2021–22. This biomass estimate was marginally higher than the 2014 estimate (83,300 t).

A1.1. Same comment than in the previous species, why catches are confidential if it is a public resource?

CB response: As mentioned above recent catches have been either negligible or confidential in recent years.

A1.2 For Blue mackerel west, it is indicated that the spawning biomass estimated was adjusted. "*However, the SPFRAG considered this to be too low and adjusted the estimate to 86,500 t*". How is that done? Based on what kind of data?

Biomass data for the Blue mackerel west seems to be quite outdated, it should be improved but landings for that stock are very low.

CB response: The SPF Scientific Panel noted that the most recent DEPM survey for this stock had been undertaken in February and March 2005. The annual assessment provided no basis to change the Panel's previous advice for this species. The Panel confirmed its previous support of the SPFRAG approach which adopted a biomass estimate for blue mackerel of 86 500 tonnes based on the results of the two surveys that covered most of the western spawning area. Aside from these minutes[2] further data was not provided. However, it is noted that historical catches have been low to none in many years, and are not likely to have reduced biomass below the LRP. Zero catches have been recorded since 2017-18 (past 5 years), and in previous years (e.g. 2012-2014). The annual assessments take into account the most recent survey information as well as catch data and risk to the stock, which in this case seems extremely small. No additional information on surveys was found but it is likely that Covid 19 may have delayed the 2020 survey as it has occurred in many other areas globally.

Redbait

A harvest strategy is in place and the stock is not overfished. Nothing to add.

Certification body response

See in blue above.

[2] https://www.afma.gov.au/fisheries/small-pelagic-fishery/small-pelagic-fishery-scientific-panel/2017-draft-advice-spf-scientific-panel

3B. Are the "Category B Species" scores clearly justified?
No category B species identified
Certification body response
No CB response needed.

3C. Are the "Category C Species" scores clearly justified?
Yes, only one species (Australian sardine) is assessed under category C. The stock is not overfished and not subject to overfishing. C1.2. Again, a DPEM estimate from 2014 was used to recommend a RBF for 2020-2021. But it seems there was a new DPEM in 2019.
Certification body response
CB response: A new egg survey was completed in September 2019, and a spawning biomass of 42,724 t (95% CI 15,487–69,962 t) was estimated using the DEPM (Ward 2020). The Small Pelagic Fishery Scientific Panel used the 2019 DEPM estimate to recommend an RBC for 2021–22.

3D. Are the "Category D Species" scores clearly justified?
No category D species identified.
Certification body response
No CB response needed.

3F. Are the scores in "Section F – Further Impacts" clearly justified?
Yes, the information shown is adequate to support the scores given. Bird mitigation devices are used in the fishery and marine mammal mitigation measures are in place. The impact of the assessed gears on ETP species, habitats and ecosystem seems to be low. The four species assessed do not seem to have a key role in the ecosystem. CB response: Noted
Certification body response
CB response: Noted

Optional: General comments on the Peer Review Draft Report
Nothing to add
Certification body response
CB response: Noted