



Australian Government

Australian Fisheries Management Authority

Small Pelagic Fishery (SPF)

Species summaries 2024

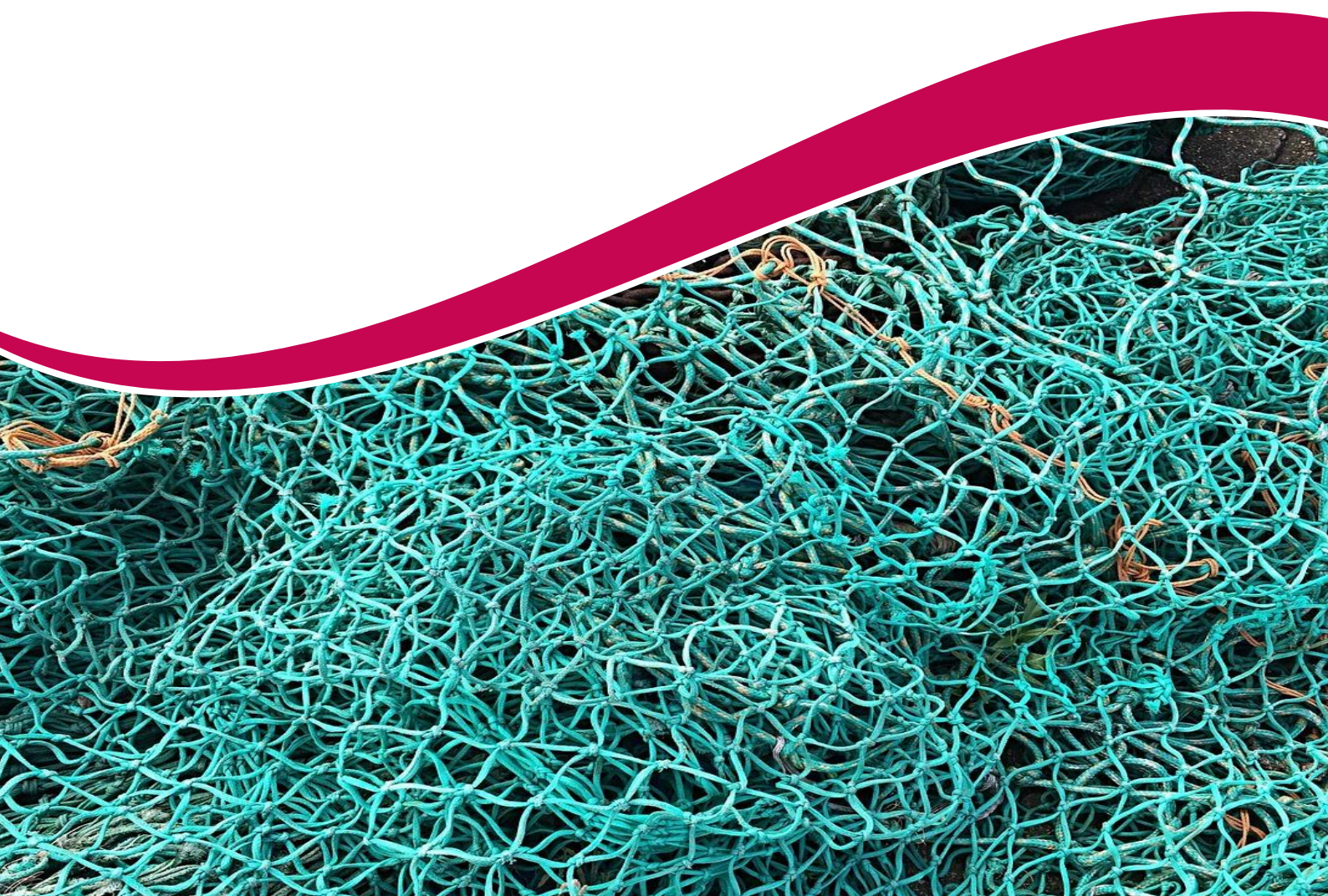
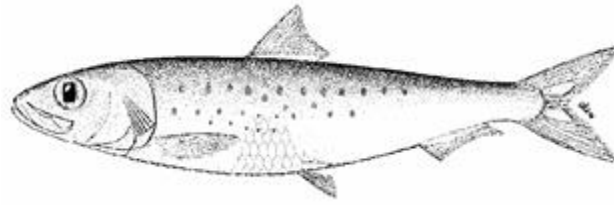


Table of Contents

Species summaries 2024.....	1
<i>Australian sardine</i>	3
<i>Blue mackerel east</i>	7
<i>Blue mackerel west</i>	10
<i>Jack mackerel east</i>	14
<i>Jack mackerel west</i>	18
<i>Redbait east</i>	22
<i>Redbait west</i>	25
<i>References</i>	28

Australian sardine



Sardinops sagax

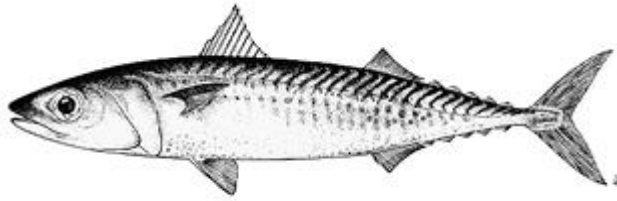
Species Summary			
Common Names	Sardine, pilchard		
Stock assessment	A DEPM Survey was conducted in 2019-20 (Sep), the results of which were first considered for the 2021-22 SPF fishing season. Tier 1 – 4 th season.		
Exploitation Rate * 2024-25 Tier Level	*Tier 1 – 20% (5 seasons)	Tier 2 – 10% (5 seasons)	Tier 3 – 5% (no limit)
Estimated biomass	42,724 tonnes (2019-20 DEPM Survey) 49,575 tonnes (2015 DEPM Survey)		
Stock Structure	Several studies have found evidence of stock structuring of Australian sardine across temperate and sub-tropical Australia (Dixon, Worland & Chan 1993; Izzo, Gillanders & Ward 2012; Yardin et al. 1998); however, the boundaries were not defined conclusively. Izzo et al. (2017), using an integrated assessment that included genetic, morphological, otolith, growth, reproductive and fishery data, found evidence for at least four isolated stocks. The Status of Australian Fish Stocks Reports (https://www.fish.gov.au/) recognises four Australian stocks: South-western (Western Australia), Southern (South Australia), South-eastern (Victoria, Tasmania and southern NSW), and eastern Australia (southern Queensland to central NSW). Since the Sardine subarea (off eastern Australia) is the only area of the SPF where SPF vessels take Australian sardine, the sardine sub-area is assessed and managed as a single management unit.		
Historical Catch & TAC data (Commonwealth fisheries)	<p>Figure 1. Commonwealth Australian Sardine (sub-area only) catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023)</p>		

	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
Catch and TAC (t) * incomplete season	2023-24*	8060	8,866	34 (<1%)
	2022-23	7,970	8,767	73 (<1%)
	2021-22	7,980	8,778	113 (<1%)
	2020-21	9,190	10,109	102 / (1%)
	2019-20	9,050	10,001	232 / (2%)
Climate Sensitivity – Preliminary Projections to 2040	Steady (Low-Med confidence)		No further comments on projections for this species (Fulton et al., 2021)	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to 'Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart. '), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing mortality: Not subject to overfishing	
Assessment Summary				
Key model technical assumptions/ parameters	The adult reproductive parameters used in the biomass calculation are based on the southern sardine stock, not the eastern stock. Ideally parameters are based on the stock being assessed however, sardine parameters are relatively consistent worldwide. As the Commonwealth catch is so low, addressing this knowledge gap is not a current research priority for the fishery. Furthermore, the exploitation rate of 20 per cent is conservative as shown by the MSE testing by Smith et al. (2015) and accounts for uncertainties in the assessment.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There were no discernible trends in the CPUE data.			
Comments	The annual assessment provided no basis to change previous advice for this stock. Recommended the 2019-20 biomass estimate of 42,724 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for Australian sardine and that it was appropriate to apply the Tier 1 exploitation rate for the 2024-25 season.			
Recommendations				

Recommended Biological Catch (RBC)	2024-25	4 th Season at Tier 1 (2019-20 DEPM estimate) 42,724 x 20% = 8,545 tonnes	
Additional Work - AFMA			
State Catch (t)	415	Four-year weighted average, rounded to nearest tonne (NSW Data only - representative of the Sardine sub area)	
Recreational Catch (t)	0	No data available	
Discards (t)	0.025	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.	
Other Commonwealth Fisheries Catch (t)	0.014	Three-year average (CTS)	
Research Catch Allowance (t)	0		
Provisional TAC		8,130 tonnes (rounded to the nearest 10 tonnes)	
RAG Recommendations			
Commercial fishers' interests	No specific commercial fisher interests have been identified.		
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.		
RAG advice and any dissenting views	2024-25 TAC recommendation 8,130 t - single-year TAC Recommendations accepted by RAG members		
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)
10	10	2	8,130
AFMA Advice			
AFMA Management recommends a TAC of 8,130 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.			

2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)
8,060	8,130	10	2	+70

Blue mackerel east



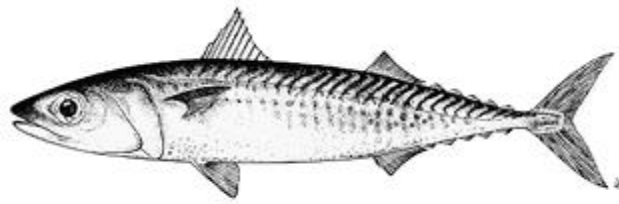
Scomber australasicus

Species Summary																																																																		
Common Names	Pacific mackerel, common mackerel, English mackerel, school mackerel, spotted chub mackerel, spotted mackerel, chub mackerel, Japanese mackerel, southern mackerel, slimy mackerel, slimies																																																																	
Stock assessment	A DEPM Survey was conducted in 2019-20 (Sep), the result of which were first considered for the 2021-22 SPF fishing season. Tier 1 – 4 th season.																																																																	
Exploitation Rate * 2024-25 Tier Level	*Tier 1 - 15% (5 seasons)	Tier 2 – 7.5% (5 seasons)	Tier 3 – 3.75% (no limit)																																																															
Estimated biomass	80,000 tonnes (2019-20 DEPM Survey) 83,300 tonnes (2014 DEPM survey)																																																																	
Stock Structure	The stock structure of blue mackerel is uncertain. Genetic analysis of samples from southern Queensland, Western Australia and New Zealand indicates population subdivisions. Genetic differences were detected between Western Australia and Queensland, and between Western Australia and New Zealand, but not between Queensland and New Zealand (Schmarr et al. 2012). Blue mackerel within the SPF is assessed and managed as separate stocks in the eastern and western subareas.																																																																	
Historical Catch data (Commonwealth fisheries)	<table border="1"> <caption>Estimated data for Figure 2</caption> <thead> <tr> <th>Fishing Season</th> <th>Catch (tonnes)</th> <th>TAC (tonnes)</th> </tr> </thead> <tbody> <tr><td>2003-04</td><td>~500</td><td>~5,500</td></tr> <tr><td>2004-05</td><td>~500</td><td>~3,500</td></tr> <tr><td>2005-06</td><td>~500</td><td>~3,500</td></tr> <tr><td>2006-07</td><td>~500</td><td>~3,500</td></tr> <tr><td>2007-08</td><td>~500</td><td>~3,500</td></tr> <tr><td>2008-09</td><td>~500</td><td>~3,500</td></tr> <tr><td>2009-10</td><td>~500</td><td>~3,500</td></tr> <tr><td>2010-11</td><td>~500</td><td>~3,500</td></tr> <tr><td>2011-12</td><td>~500</td><td>~3,500</td></tr> <tr><td>2012-13</td><td>~500</td><td>~3,500</td></tr> <tr><td>2013-14</td><td>~500</td><td>~3,500</td></tr> <tr><td>2014-15</td><td>~500</td><td>~3,500</td></tr> <tr><td>2015-16</td><td>~2,000</td><td>~3,500</td></tr> <tr><td>2016-17</td><td>~1,500</td><td>~3,500</td></tr> <tr><td>2017-18</td><td>~3,000</td><td>~3,500</td></tr> <tr><td>2018-19</td><td>~4,000</td><td>~12,000</td></tr> <tr><td>2019-20</td><td>~5,500</td><td>~12,000</td></tr> <tr><td>2020-21</td><td>~6,000</td><td>~12,000</td></tr> <tr><td>2021-22</td><td>~10,000</td><td>~12,000</td></tr> <tr><td>2022-23</td><td>~9,500</td><td>~11,500</td></tr> </tbody> </table> <p>Figure 2. Commonwealth Blue Mackerel East catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023)</p>			Fishing Season	Catch (tonnes)	TAC (tonnes)	2003-04	~500	~5,500	2004-05	~500	~3,500	2005-06	~500	~3,500	2006-07	~500	~3,500	2007-08	~500	~3,500	2008-09	~500	~3,500	2009-10	~500	~3,500	2010-11	~500	~3,500	2011-12	~500	~3,500	2012-13	~500	~3,500	2013-14	~500	~3,500	2014-15	~500	~3,500	2015-16	~2,000	~3,500	2016-17	~1,500	~3,500	2017-18	~3,000	~3,500	2018-19	~4,000	~12,000	2019-20	~5,500	~12,000	2020-21	~6,000	~12,000	2021-22	~10,000	~12,000	2022-23	~9,500	~11,500
Fishing Season	Catch (tonnes)	TAC (tonnes)																																																																
2003-04	~500	~5,500																																																																
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	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
Catch and TAC (t) * incomplete season	2023-24 *	11,610	11,716	5,516 / (44%)
	2022-23	11,450	12,595	9,627 / (76%)
	2021-22	11,440	12,584	10,188 / (80%)
	2020-21	11,970	13,167	5,994 / (46%)
	2019-20	11,970	13,179	5,726 / (43%)
Climate Sensitivity – Preliminary Projections to 2040	▼ 15 to 20% (Low-Med confidence)		Decrease in many areas, especially to the northern end of historical distribution, but increase around Tasmania (Fulton et al., 2021)	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to 'Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart. '), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Annual Fishery Assessment Summary				
Key model technical assumptions/ parameters	Adult parameters used in the biomass calculation for the blue mackerel (east) stock are from blue mackerel samples collected from eastern stock during the 2019-20 DEPM survey. There has been some difficulties in catching large, adult spawning blue mackerel on the east coast. Resolving this knowledge gap before the next DEPM is undertaken is a high priority.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There were no discernible trends in the CPUE data.			
RAG Comments	The annual assessment provided no basis to change previous advice for this stock. Recommended the 2019-20 (Sep) biomass estimate of 80,000 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for blue mackerel east and that it was appropriate to apply the Tier 1 exploitation rate for the 2024-25 season.			
Recommendations				
Recommended Biological Catch (RBC)	2024-25	4 th Season at Tier 1 (2019-20 DEPM) 80,000 x 15% = 12,000 tonnes		

Additional Work - AFMA				
State Catch (t)	272	Four-year weighted average, rounded to nearest tonne (NSW, Tas and Vic data)		
State Recreational Catch (t)	140.500	NSW data only (Average 2017/18 and 2019/20 Recreational surveys scaled as per Stewart, 2023)		
Discards (t)	49.229	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.		
Other Commonwealth Fishery Catch (t)	6.608	Three-year average (CTS and GAB)		
Research Catch Allowance (t)	0			
Provisional TAC	11,530 tonnes (rounded to the nearest 10 tonnes)			
RAG Recommendations				
Commercial fishers' interests	No specific commercial fisher interests have been identified.			
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.			
RAG advice and any dissenting views	2024-25 TAC recommendation 11,530 t - single-year TAC Recommendation accepted by the RAG.			
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)	
10	10	2	11,530	
AFMA Advice				
AFMA Management recommends a TAC of 11,530 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.				
2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)
11,610	11,530	10	2	-80

Blue mackerel west



Scomber australasicus

Species Summary			
Common Names	Pacific mackerel, common mackerel, English mackerel, school mackerel, spotted chub mackerel, spotted mackerel, chub mackerel, Japanese mackerel, southern mackerel, slimy mackerel, slimies		
Stock assessment	A DEPM Survey was conducted in 2005-06 (Feb Mar), the result of which were first considered for the 2006-07 SPF fishing season. Tier 3 – 8 th season.		
Exploitation Rate * 2023 - 24 Tier Level	Tier 1 – 15% (5 seasons)	Tier 2 – 7.5% (5 seasons)	*Tier 3 - 3.75% (no time limit)
Estimated biomass	86,500 tonnes (2006 DEPM) 56,228 tonnes (2005 DEPM)		
Stock Structure	The stock structure of blue mackerel is uncertain. Genetic analysis of samples from southern Queensland, Western Australia and New Zealand indicates population subdivisions. Genetic differences were detected between Western Australia and Queensland, and between Western Australia and New Zealand, but not between Queensland and New Zealand (Schmarr et al. 2012). No finer-scale analyses of blue mackerel have been undertaken to further define stock structure. Blue mackerel within the SPF is assessed and managed as separate stocks in the eastern and western subareas		
Historical Catch data (Commonwealth fisheries)	<p>Figure 3. Commonwealth Blue Mackerel West catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023).</p>		

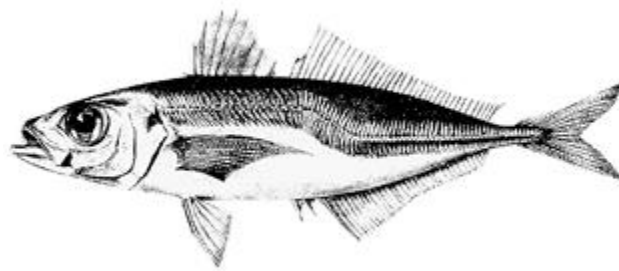
	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
Catch and TAC (t) * incomplete season	2023-24*	3,240	3,564	25 / >1
	2022-23	3,240	3,564	n/a
	2021-22	3,210	3,534	n/a
	2020-21	3,210	3,534	n/a
	2019-20	3,240	3,563	12 / (n/a)
Climate Sensitivity – Preliminary Projections to 2040	▼ 15 to 20% (Low-Med confidence)		Decrease in many areas, especially to the northern end of historical distribution, but increase around Tasmania (Fulton et al., 2021)	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to ‘Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart.’), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Annual Fisheries Assessment Summary				
Key model technical assumptions/ parameters	The most recent DEPM surveys for the Blue mackerel was in 2005. The 2005 Survey gave a biomass estimate of 56,228 tonnes. A survey was completed in 2006 off Western Australia (out of Esperance) where almost all samples had eggs and larvae. SPFRAG agreed the biomass to be greater than that of the 2005 survey and agreed to an estimate of 86,500 tonnes.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There was no data to review trends in the CPUE.			
RAG Comments	There was no new data for this stock presented with limited fishing in the 2022-23 SPF season in the western sub-area. The annual assessment provided no basis to change previous advice for this stock. Recommended the 2005/06 (Feb-Mar) biomass estimate of 86,500 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for blue mackerel west and that it was appropriate to apply the Tier 3 exploitation rate for the 2024-25 season.			
Recommendations				

Recommended Biological Catch (RBC)	2024-25	8 th Season at Tier 3 86,500 x 3.75% = 3,244 tonnes		
Additional Work - AFMA				
State Catch (t)	2.262	Four-year weighted average, rounded to nearest tonne (SA)		
Recreational Catch (t)	0.455	WA and SA data (Most recent data available averaged over two years)		
Discards (t)	0	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.		
Other Commonwealth Fishery Catch (t)	0	Three-year average		
Research Catch Allowance (t)	0			
Provisional TAC		3,240 tonnes (rounded to the nearest 10 tonnes)		
RAG Recommendations				
Commercial fishers' interests	No specific commercial fisher interests have been identified.			
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.			
RAG advice and any dissenting views	2024-25 TAC recommendation 3,240 t - single-year TAC Recommendations accepted by the RAG			
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)	
10	10	2	3,240	
AFMA Advice				
AFMA Management recommends a TAC of 3,240 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.				
2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)

3,240	3,240	10	2	0
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Jack mackerel east

Trachurus declivis



Species Summary			
Common Names	Cowanyoung, greenback horse mackerel, scaly mackerel, scad, common jack mackerel.		
Stock assessment	A DEPM Survey was conducted in 2018-19 (Jan), the result of which were first considered for the 2020-21 SPF fishing season. Tier 1 – 5th season.		
Exploitation Rate* 2024-25 Tier Level	*Tier 1 - 12% (5 Seasons)	Tier 2 – 6% (10 seasons)	Tier 3 – 3% (no limit)
Estimated biomass	156,292 tonnes (2019 biomass estimate) 157,800 tonnes (2014 biomass estimate)		
Stock Structure	The stock structure of jack mackerel is unclear. Richardson (1982) found evidence of population subdivision between Western Australia, including the Great Australia Bight, and eastern Australia. Richardson (1982) also found evidence of a Wahlund effect (where multiple populations are detected in a single sample) in east coast samples, suggesting some additional structuring. Similarly, Smolenski, Ovenden & White (1994) found evidence of structuring between New South Wales and south-eastern Tasmania, although the differences appeared not to be temporally consistent. A DEPM survey of western jack mackerel appeared to show some stock separation around the Bonney Coast west of Bass Strait (AFMA 2017d). Recent evidence from DEPM surveys showing that jack mackerel spawns throughout Bass Strait suggest that further investigation of stock structure is warranted. Currently, jack mackerel in the SPF is assessed and managed as separate stocks in the eastern and western subarea.		
Historical Catch data (Commonwealth fisheries)			

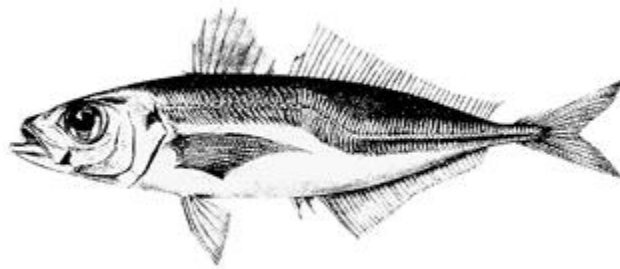
	Figure 4. Commonwealth Jack Mackerel East catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023).			
Catch and TAC (t) * incomplete season	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
	2023-24*	18,720	20,603	6,117 / (29%)
	2022-23	18,620	20,482	9,289 / (45%)
	2021-22	18,630	20,493	7,452 / (36%)
	2020-21	18,580	20,453	5,706 / (28%)
	2019-20	18,730	20,619	7,438 / (36%)
Climate Sensitivity – Preliminary Projections to 2040	Steady		May ▼15% Depends on trophic interactions and tuna biomass (Fulton et al., 2021).	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to ‘Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart.’), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Annual Fisheries Assessment Summary				
Key model technical assumptions/ parameters	The DEPM and associated adult sampling provided robust estimates of key parameters for this stock.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There were no discernible trends in the CPUE data.			
RAG Comments	The annual assessment provided no basis to change previous advice for this stock. Recommended the 2018-19 (Jan) biomass estimate of 156,292 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for jack mackerel east and that it was appropriate to apply the Tier 1 exploitation rate for the 2024-25 season.			
Recommendations				

Recommended Biological Catch (RBC)	2024-25	5 th season at Tier 1 156,292 x 12% = 18,755 tonnes		
Additional Work - AFMA				
State Catch (t)	20	Four-year weighted average, rounded to nearest tonne (NSW, Tas and Vic)		
State Recreational Catch	5	Tasmania data only (A/Prof. Tim Ward as per Survey of Recreational Fishing in Tasmania, Lyle et al., 2014; 2019)		
Discards (t)	40.086	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.		
Other Commonwealth Fishery Catch (t)	21.563	Three-year average (CTS, GAB and GHAT)		
Research Catch Allowance (t)	17			
Provisional TAC		18,650 tonnes (rounded to the nearest 10 tonnes)		
RAG Recommendations				
Commercial fishers' interests	No specific commercial fisher interests have been identified.			
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.			
RAG advice and any dissenting views	2024-25 TAC recommendation 18,650 t - single-year TAC Recommendations accepted by the RAG.			
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)	
10	10	2	18,650	
AFMA Advice				
AFMA Management recommends a TAC of 18,650 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.				
2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)

18,720	18,650	10	2	-70
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Jack mackerel west

Trachurus declivis



Species Summary			
Common Names	Cowanyoung, greenback horse mackerel, scaly mackerel, scad, common jack mackerel.		
Stock assessment	A DEPM Survey was conducted in 2016-17(Dec-Feb), the result of which were first considered for the 2018-19 SPF fishing season. Tier 2 – 2 nd Season.		
Exploitation Rate * 2024-25 Tier Level	Tier 1 - 12% (5 seasons)	*Tier 2 – 6% (10 seasons)	Tier 3 – 3% (no limit)
Estimated biomass	34,978 tonnes (2017 DEPM Survey)		
Stock Structure	The stock structure of jack mackerel is unclear. Richardson (1982) found evidence of population subdivision between Western Australia, including the Great Australia Bight, and eastern Australia. However, DEPM surveys suggest that jack mackerel spawns throughout Bass Strait and that separation of eastern and western stocks may occur around the Bonney Coast (AFMA 2017c). Richardson (1982) also found evidence of a Wahlund effect (where multiple populations are detected in a single sample) in east coast samples, suggesting some additional structuring. Smolenski, Ovenden & White (1994) also found evidence of structuring between New South Wales and south-eastern Tasmania, although the differences were not temporally consistent. These studies suggest that further investigation of stock structure in jack mackerel is warranted. Currently, jack mackerel in the SPF is assessed and managed as separate stocks in the eastern and western subareas.		
Historical Catch data (Commonwealth fisheries)	<p>Figure 5. Commonwealth Jack Mackerel West catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023).</p>		

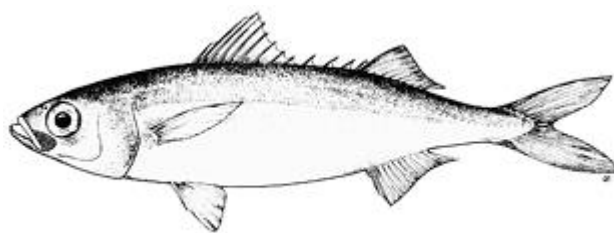
	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
Catch and TAC (t) * incomplete season	2023-24*	2,100	2,310	19 / (<1%)
	2022-23	4,190	4,609	0 / (0%)
	2021-22	4,180	4,598	0 / (0%)
	2020-21	4,170	4,590	0 / (0%)
	2019-20	4,200	4,619	14 / (<0%)
Climate Sensitivity – Preliminary Projections to 2040	Steady		May ▼15% Depends on trophic interactions and tuna biomass (Fulton et al., 2021).	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to ‘Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart.’), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Annual Fisheries Assessment Summary				
Key model technical assumptions/ parameters	Since only a limited number of adult samples were collected during the 2017 jack mackerel west DEPM survey, adult parameters obtained from the 2014 eastern jack mackerel survey were used to input into the biomass calculation for the western stock.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There was no data to review trends in the CPUE.			
RAG Comments	The annual assessment provided no basis to change previous advice for this stock. Recommended the 2016-17 biomass estimate of 35,000 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for Jack mackerel west and that it was appropriate to apply the Tier 3 exploitation rate for the 2024-25 season.			
Recommendations				
Recommended Biological Catch (RBC)	2024-25	2 nd Season at Tier 2 34,978 x 6% = 2,099 tonnes		

Additional Work - AFMA				
State Catch (t)	1	Four-year weighted average, rounded to nearest tonne (SA and WA minimal data available)		
Recreational Catch (t)	0	No recreational catch available		
Discards (t)	0	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.		
Other Commonwealth Fishery Catch (t)	0	Three-year average		
Research Catch Allowance (t)	0	No research catch available		
Provisional TAC		2,100 tonnes (rounded to the nearest 10 tonnes)		
RAG Recommendations				
Commercial fishers' interests	No specific commercial fisher interests have been identified.			
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.			
MAC advice and any dissenting views	<p>2024-25 TAC recommendation</p> <p>2,100 t - single-year TAC</p> <p>Recommendations accepted by the MAC.</p>			
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)	
10	10	2	2,100	
AFMA Advice				
<p>AFMA Management recommends a TAC of 2,100 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.</p> <p>Consistent with SPFRAG's previous advice, the catch of jack mackerel west taken directly south of Kangaroo Island will continue to be restricted to 20 per cent of the TAC as a precautionary measure in response to some uncertainty regarding stock structure. AFMA Management will work with industry to achieve this and if necessary, implement a closure direction for that area. The most recent DEPM survey was carried out in 2016-17.</p>				
2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)

2,100	2,100	10	2	0
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Redbait east

Emmelichthys nitidus



Species Summary				
Common Names	Pearl fish, picarel, red baitfish, red herring, southern rover, cape bonnetmouth			
Stock assessment	A DEPM Survey was conducted in 2020-21 (Oct), the result of which were first considered for the 2022-23 SPF fishing season. Tier 1 – 3 rd season.			
Exploitation Rate * 2024-25 Tier Level	*Tier 1 – 10% (5 Seasons)	Tier 2 – 5% (10 Seasons)	Tier 3 – 2.5% (no limit)	
Estimated biomass	54,000 tonnes (2020-21 (Oct) DEPM survey) 68,886 tonnes (2005 DEPM survey)			
Stock Structure	The stock structure of redbait in Australia has not been studied. Recent DEPM surveys that suggest redbait spawns continuously around southern Tasmania indicate that the stock structure of this species needs to be investigated. Redbait within the SPF is assessed and managed as separate stocks in the eastern and western subareas			
Historical Catch data (Commonwealth fisheries)	<p>Figure 6. Commonwealth Redbait East catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023).</p>			
Catch and TAC (t) * incomplete season	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
	2023-24*	5,380	5,918	1,471 / (24%)
	2022-23	5,370	5,907	1,948 / (33%)

	2021-22	3,440	3,784	1968 / (52%)
	2020-21	3,420	3,735	1992 / (53%)
	2019-20	3,150	3,492	2,445 / (70%)
	2018-19	3,420	3,761	319 / (15%)
Climate Sensitivity – Preliminary Projections to 2040	▼30% (depends on trophic interactions and tuna biomass).		Strongest decline mid GAB (Fulton et al., 2021).	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to ‘Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart.’), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Annual Fisheries Assessment Summary				
Key model technical assumptions/ parameters	The most recent DEPM survey results for the redbait east stock is from 2020 (RBC 54,000 tonnes) The previous DEPM survey results are from 2005 and 2006. The DEPM surveys gave biomass estimates of 86,990 tonnes (2005) and 50,782 tonnes (2006). The biomass estimate for this stock was the average biomass estimate from the 2005 and 2006 DEPM surveys (68,886 tonnes).			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. No discernible trend in weekly CPUE data.			
RAG Comments	The annual assessment provided no basis to change previous advice for this stock. Recommended the 2020-21 (Oct) biomass estimate of 54,000 tonnes be used for the RBC based on the weight of evidence provided by the previous survey for Redbait east and that it was appropriate to apply the Tier 1 exploitation rate for the 2023-24 season.			
Recommendations				
Recommended Biological Catch (RBC)	2023-24	3 rd Season at Tier 1 54,000 x 10% = 5,400 tonnes		
Additional Work - AFMA				
State Catch (t)	1	Tas data only for 2020-21 and 2021-22 averaged.		
Recreational Catch (t)	0	No recreation catch available		

Discards (t)	7.703	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.
Other Commonwealth Fishery Catch (t)	2.943	Three-year average (CTS)
Research Catch Allowance (t)	2.6	
Provisional TAC	5,390 tonnes (rounded to the nearest 10 tonnes)	

RAG Recommendations

Commercial fishers' interests	No specific commercial fisher interests have been identified.		
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.		
RAG advice and any dissenting views	2024-25 TAC recommendation 5,390 t - single-year TAC Recommendations accepted by the RAG.		
Undercatch (%)	Overcatch (%)	Determined amount (t)	TAC (t)
10	10	2	5,390

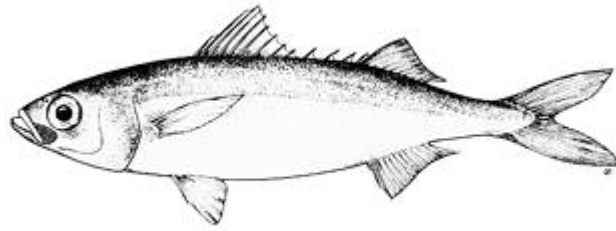
AFMA Advice

AFMA Management recommends a TAC of 5,390 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.

2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)
5,380	5,390	10	2	+10

Redbait west

Emmelichthys nitidus



Species Summary				
Common Names	Pearl fish, picarel, red baitfish, red herring, southern rover, Cape bonnetmouth			
Stock assessment	A DEPM Survey was conducted in 2017-18 (Oct), the result of which were first considered for the 2019-20 SPF fishing season. Tier 2 – 1 st season.			
Exploitation Rate * 2024-25 Tier Level	Tier 1 - 10 % (5 Seasons)	*Tier 2 – 5 % (10 seasons)	Tier 3 – 2.5 % (No limit)	
Estimated biomass	66,787 tonnes (2017-18 (Oct) DEPM Survey)			
Stock Structure	The stock structure of redbait in Australia has not been studied. Recent DEPM surveys that suggest redbait spawns continuously around southern Tasmania indicate that the stock structure of this species needs to be investigated. Redbait within the SPF is assessed and managed as separate stocks in the eastern and western subareas.			
Historical Catch data (Commonwealth fisheries)	<p>Figure 6. Commonwealth Redbait West catch and TAC in the SPF, fishing seasons 2003-04 to 2022-23 (from Butler et al. 2023).</p>			
Catch and TAC (t) * incomplete season	Year	Agreed TAC (t)	TAC after unders/overs (t)	Catch(t) / % TAC Caught
	2023-24*	6,680	7,348	10 / (>1%)

	2022-23	6,680	7,348	n/a
	2021-22	6,680	7,348	n/a
	2020-21	6,640	7,308	n/a
	2019-20	6,680	6,762	9 / (0%)
	2018-19	820	1,108	n/a
Climate Sensitivity – Preliminary Projections to 2040	▼30% (depends on trophic interactions and tuna biomass).		Strongest decline mid GAB (Fulton et al., 2021)	
Climate Change	Further information on climate sensitivity analyses and biomass trajectories, are reported in Summary of Commonwealth Fishery Climate Sensitivity (Appendix to 'Fulton, E.A. et al (2021) Guidance on Adaptation of Commonwealth Fisheries management to climate change. CSIRO Report for FRDC. Hobart.'), as well as the Atlantis ecosystem modelling of the effect of climate on key fishery species.			
ABARES Status	Biomass: Not overfished		Fishing Mortality: Not subject to overfishing	
Assessment Summary				
Key model technical assumptions/ parameters	The most plausible model biomass estimate ranged between 51,765 tonnes and 102,867 tonnes. With no solid reason to reject either estimate and for consistency with the approach taken with other stocks, the median biomass estimate of 66,787 tonnes was used as the basis for the Scientific Panel's (now replaced by SPFRAG) recommended biological catch level.			
Weekly CPUE Trends	The weekly CPUE is monitored for evidence of localised depletion. If a general decrease in CPUE occurs after consistent effort within a given grid cell, this may be evidence of localised depletion occurring. However, there are a number of factors, not just fishing effort, which can also influence CPUE. SPFRAG review this information annually. There was no data to review trends in the CPUE.			
RAG and MAC Comments	There was no new data for this stock presented at given there had been limited fishing in the 2023 SPF season in the western sub-area. The annual assessment provided advice that Redbait west will fall to Tier 2 for the 2024-25 season, as no new surveys have been completed since 2018. Recommended the 2017-18 (Oct) biomass estimate of 66,787 tonnes be used for the RBC, based on the weight of evidence provided by the previous survey for Redbait east and that it was appropriate to apply the Tier 2 exploitation rate for the 2023-24 season.			
Recommendations				
Recommended Biological Catch (RBC)	2024-25	1 st season at Tier 2 66,787 x 5% = 3,339 tonnes		

Additional Work - AFMA				
State Catch (t)	0	Four-year weighted average, rounded to nearest tonne		
State Recreational Catch (t)	0	No data available		
Discards (t)	0	Rate based on previous three years, by method and applied to the RBC to get tonnage. If one method is not expected to fish in upcoming year, the discard amount attributed to that method does not get deducted from the RBC.		
Other Commonwealth Fishery Catch (t)	0	Three-year average		
Research Catch Allowance (t)	0			
Provisional TAC		3,340 tonnes (rounded to the nearest 10 tonnes)		
RAG Recommendations				
Commercial fishers' interests	No specific commercial fisher interests have been identified.			
Species specific management (target, companion and bycatch)	There are no identified implications for target, companion or bycatch species.			
RAG advice and any dissenting views	2024-25 TAC recommendation 3,340 t - single-year TAC Recommendations accepted by the RAG.			
Undercatch (%)	Overcatch (%)	Determined Amount (t)	TAC (t)	
10	10	2	3,340	
AFMA Advice				
AFMA Management recommends a TAC of 3,340 tonnes for the 2024-25 fishing year with undercatch and overcatch provisions set at 10 per cent, and a determined amount of 2 t.				
2023-24 agreed TAC (t)	2024-25 recommended TAC (t)	Overcatch & Undercatch (%)	Determined amount (t)	Change in TAC (t)
6,680	3,340	10	2	-3340

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