

Mirror Dory (2023)

Zenopsis nebulosa



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth, New South Wales	South Eastern Australia	Sustainable	CPUE, Catch

STOCK STRUCTURE

Mirror Dory is found throughout the southern Pacific Ocean at depths of 30–800 m. A single stock of Mirror Dory in the Southern and Eastern Scalefish and Shark Fishery (SESSF) area and adjacent waters off the north coast of New South Wales is assumed for management purposes [AFMA 2022]. Separate analyses for eastern and western units are undertaken to support management. Here, assessment of stock status is presented at the biological stock status level—South Eastern Australia.

STOCK STATUS

South Eastern Australia

This cross jurisdictional stock has components in the Commonwealth and New South Wales. The stock status classification reported here is based on analyses conducted for the Southern and Eastern Scalefish and Shark Fishery (SESSF), which includes state catches.

Mirror Dory is predominantly a by-product species in the SESSF and is mainly caught east of Bass Strait. The catch has ranged between 100 tonnes (t) and 700 t per year since 1986.

The annual commercial catch from New South Wales waters has been between 0.002 t and 6.0 t during the last decade, representing up to 1.9% of fishing mortality on the stock. Annual catches during the last 5 years have all been less than 0.1 t. Similarly, fishing effort and the number of fishers taking Mirror Dory

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in New South Wales waters have been low. Consequently, assessment status for the component of the Mirror Dory stock under New South Wales jurisdiction is based on the Commonwealth assessment.

Mirror Dory in Commonwealth fisheries is managed as a Tier 4 stock under the SESSF Harvest Strategy Framework [AFMA 2021a]. The stock is divided into an eastern unit (New South Wales and eastern Tasmania) and a western unit (western Tasmania and part of Victoria and South Australia) for analyses [Sporcic 2021]. Although the 2020 Tier 4 analyses [Sporcic 2020] informed the management of the stock for the 2021–22 fishing season, new Tier 4 analyses were undertaken in 2021 [Sporcic 2021].

The Tier 4 analyses in 2020 [Sporcic 2020] and 2021 [Sporcic 2021] only included discards for the eastern unit, because discards are low for the western unit. Standardised catch-per-unit-effort (CPUE) for the east generally declined from 2009 to 2015 and fluctuated between the target reference point (TRP) and the limit reference point (LRP) between 2016 and 2019. Since 2012, standardised CPUE for the west followed a cyclical pattern, fluctuating between the TRP and the LRP [Sporcic 2020, 2021]. Although the standardised CPUE estimate in the most recent year (2020) for the eastern unit was below the LRP, the 4-year average standardised CPUE was above the LRP for both the east and west units. The above evidence indicates that the biomass of the stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

The Tier 4 harvest control rule, based on the 2020 analyses, resulted in a recommended biological catch (RBC) of 146 t for the east and 62 t in the west respectively [Sporcic 2020]. The total RBC for the eastern and western units combined was 207 t. The South East Resource Assessment Group (SERAG) recommended an RBC for the 2021–22 fishing season of 207 t [AFMA 2021b].

The Tier 4 harvest control rule, based on the 2021 Tier 4 analyses resulted in an RBC of 113 t for the east and 56 t for the west [Sporcic 2021]. SERAG recommended a combined RBC of 169 t for the 2022–23 fishing season [AFMA 2021b].

Commonwealth-landed catch (east and west) in 2021–22 was 107 t, based on catch disposal records. Data on discards and state catches are not yet available for 2021–22. Discards in the east have been estimated to be 14.9 t in the east and 3.3 t in the west based on the weighted average of the previous four calendar years (2017–2020) [Althaus et al. 2021]. There were no reported state catches in the east or west.

For the 2021–22 fishing season, total catch and discards for both stocks combined is estimated to be 125.2 t, which is below the combined RBC of 207 t for 2021–22 and the updated combined RBC of 169 t calculated for 2022–23 [AFMA 2021b, Emery et al. 2022].

The above evidence indicates that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, the South Eastern Australia biological stock is classified as a **sustainable stock**.

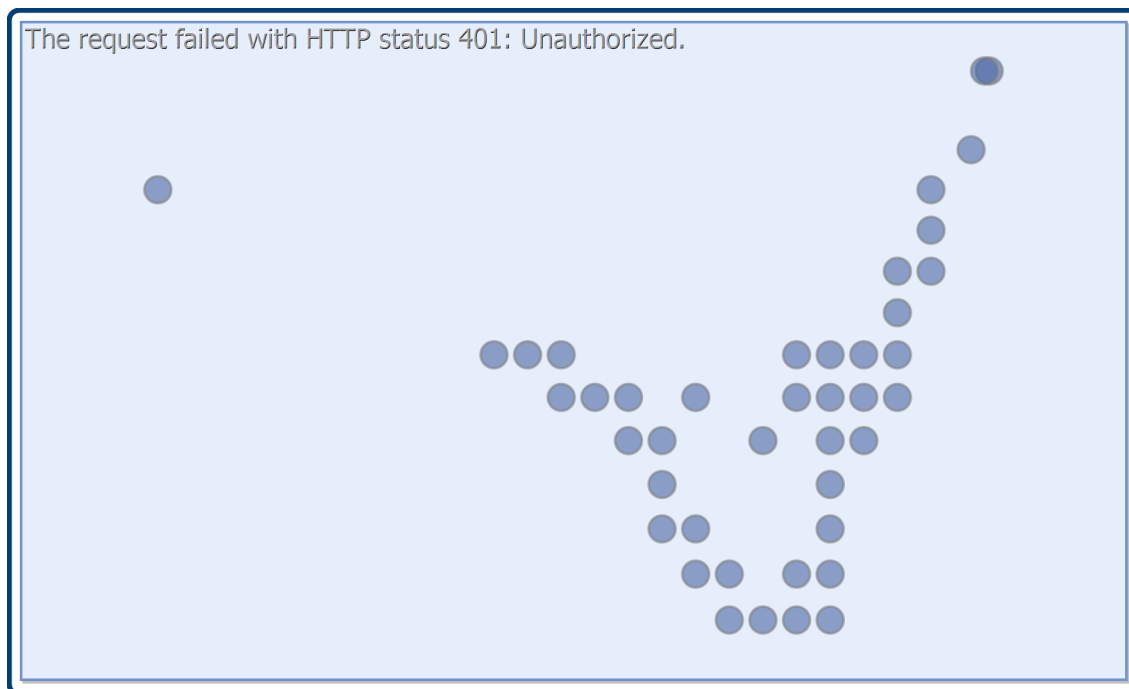
BIOLOGY

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Mirror Dory biology [May and Maxwell 1986; Parin et al. 1988; Tilzey 1995; Knuckey and Curtain 2001; Bray 2008]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Mirror Dory	12 years, 700 mm TL	4–7 years

DISTRIBUTION



Distribution of reported commercial catch of Mirror Dory

TABLES

Fishing methods		
	Commonweal th	New South Wales
Charter		
Hook and Line		✓
Rod and reel		✓
Commercial		
Danish Seine	✓	
Demersal Gillnet	✓	
Demersal Longline	✓	

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Midwater Trawl	✓	
Otter Trawl	✓	✓
Recreational		
Hook and Line		✓
Rod and reel		✓

Management Methods		
	Commonwealth	New South Wales
Charter		
Bag and possession limits		✓
Gear restrictions		✓
Licence		✓
Marine park closures		✓
Commercial		
Catch limits		✓
Gear restrictions	✓	✓
Limited entry	✓	✓
Marine park closures	✓	✓
Mesh size regulations		✓
Quota	✓	
Spatial closures	✓	✓
Total allowable catch	✓	
Vessel restrictions		✓
Recreational		
Bag and possession limits		✓
Gear restrictions		✓
Licence		✓

Marine park closures		✓
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Catch		
	Commonwealth	New South Wales
Commercial	79.1852 t	0.0025 t
Indigenous		Negligible (2019–20)
Recreational		Negligible (2019–20)

Commonwealth – Commercial (Management Methods/Catch) Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2021–22 financial year.

Commonwealth – Recreational The Commonwealth does not manage recreational fishing in Commonwealth waters. Recreational fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters, under its management regulations.

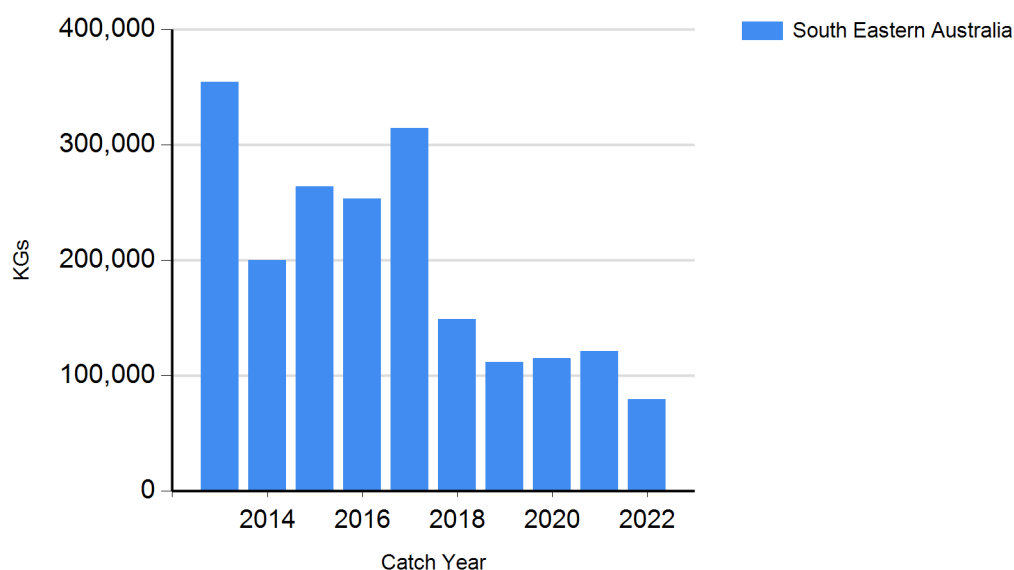
Commonwealth – Indigenous The Australian government does not manage non-commercial Indigenous fishing in Commonwealth waters, with the exception of Torres Strait. In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters.

New South Wales – Indigenous and Recreational Catch estimates of “Negligible” are based on zero catches of Mirror Dory recorded during the 2019–20 survey of the catch of 1–3 year recreational licence holders in NSW [Murphy et al. 2022].

New South Wales – Indigenous Cultural Fishing Management Arrangements. See <https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>.

CATCH CHART

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Commercial catch of Mirror Dory - note confidential catch not shown

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