

Mirror Dory (2018)

Zenopsis nebulosus



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Commonwealth, New South Wales	South Eastern Australia	OTF, SESSF (CTS), SESSF (GABTS), SESSF (GHTS)	Sustainable	Catch, CPUE

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GABTS) Southern and Eastern Scalefish and Shark Fishery (Great Australian Bight Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), OTF Ocean Trawl Fishery (NSW)

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 [Morison et al. 2013].

Here, assessment of stock status is presented at the biological stock status level—South East Australia.

STOCK STATUS

South Eastern Australia

This cross jurisdictional stock has components in the Commonwealth and New South Wales. The status presented here for the entire biological stock has been established using evidence from both jurisdictions.

The annual commercial catch from New South Wales waters has been less than < 6 tonnes (t) in each of the last six years, representing a minor component of the fishing mortality for the stock off south eastern Australia (approx. 2 per cent, given the 248 t commercial catch from the SESSF in 2017). Similarly, fishing effort and the number of fishers taking Mirror Dory 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.

In the Commonwealth jurisdiction most of the Mirror Dory catch is byproduct

and is mainly caught east of Bass Strait. Mirror Dory is currently managed as a Tier 4 stock under the SESSF Harvest Strategy Framework [AFMA 2015] with the most recent analyses completed in 2017 [Haddon and Sporcic 2017]. The stock was subdivided 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. Separate analyses for the east and west were possible because spatial catch and effort data were available. The catch per unit effort (CPUE) in the west has fluctuated since 1990, with recent average CPUE between the limit and the target level [ABARES 2018, Haddon and Sporcic 2017]. In the east, the CPUE trend over the last four years has continually decreased, however the recent average CPUE remains between the limit and the target [Figure 2 in Haddon and Sporcic 2017]. In this latest tier 4 assessment, the recommended biological catch (RBC) for the eastern unit was 198 t and the western unit was 122 t [Haddon and Sporcic 2017]. The total RBC for the east and west was 320 t however note that these RBC s apply to the management of the 2018–19 season. For the 2017–18 season (or the 2018 calendar year for the purposes of SAFS reporting) the total RBC for both the eastern and western units combined was 302 t [AFMA 2017a]. This RBC was generated from the 2016 assessment for Mirror Dory (RBC = 198 t for east and RBC = 104 t for west), [Haddon 2016]. For both the western and eastern units, the most recent 2017 assessment confirms that the CPUE has been above the limit but below the target reference point. In the eastern unit, the Resource Assessment Group has noted that the CPUE and catch levels have been declining [AFMA 2017a]. The above evidence indicates that the biomass of the stock is unlikely to be depleted and that recruitment is unlikely to be impaired. For the 2017–18 fishing season, the RBC was 198 t in the east and 104 t in the west [AFMA 2017b] and the combined RBC is 302 t [AFMA 2017a]. The total landed catch in 2017 was 248.6 t, which is below the RBC of 302 t. 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 East Australia biological stock is classified as a **sustainable stock**.

BIOLOGY

Mirror Dory biology [May and Maxwell 1986, Parin et al. 1988 Tilzey 1995]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Mirror Dory	13 years, 700 mm TL	4–7 years

DISTRIBUTION



Distribution of reported commercial catch of Mirror Dory

TABLES

Commercial Catch Methods	Commonwealth	New South Wales
Danish Seine	✓	
Demersal Gillnet	✓	
Demersal Longline	✓	
Midwater Trawl	✓	
Otter Trawl	✓	✓

Fishing methods	Commonwealth	New South Wales
Charter		
Hook and Line		✓
Rod and reel		✓
Commercial		
Danish Seine	✓	
Demersal Gillnet	✓	
Otter Trawl	✓	✓
Indigenous		
Hook and Line		✓
Rod and reel		✓
Recreational		
Hook and Line		✓
Rod and reel		✓
Management		

Methods		
	Commonwealth	New South Wales
Charter		
Bag and possession limits		✓
Bag limits		✓
Gear restrictions		✓
Licence		✓
Marine park closures		✓
Commercial		
Catch limits		✓
Gear restrictions	✓	✓
Individual transferable quota	✓	
Limited entry	✓	✓
Marine park closures		✓
Mesh size regulations		✓
Quota	✓	
Size limit		✓
Spatial closures		✓
Total allowable catch	✓	
Trip limits	✓	
Vessel restrictions		✓
Indigenous		
Bag limits		✓
Native Title		✓
Section 37 (1d)(3)(9), Aboriginal cultural fishing authority		✓
Recreational		
Bag and possession limits		✓
Bag limits		✓
Gear		✓

restrictions		
Licence		✓
Marine park closures		✓

Active Vessels

Catch		
	Commonwealth	New South Wales
Commercial	247.997t in SESSF (CTS), 0.579t in SESSF (GABTS), 0.0035t in SESSF (GHTS),	
Indigenous	Unknown	Negligible (2013–14)
Recreational	Unknown	Negligible (2013–14)

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GABTS) Southern and Eastern Scalefish and Shark Fishery (Great Australian Bight Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), OTF Ocean Trawl Fishery (NSW),

Commonwealth – Commercial (Management Methods/ Catch) Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2017 calendar year.

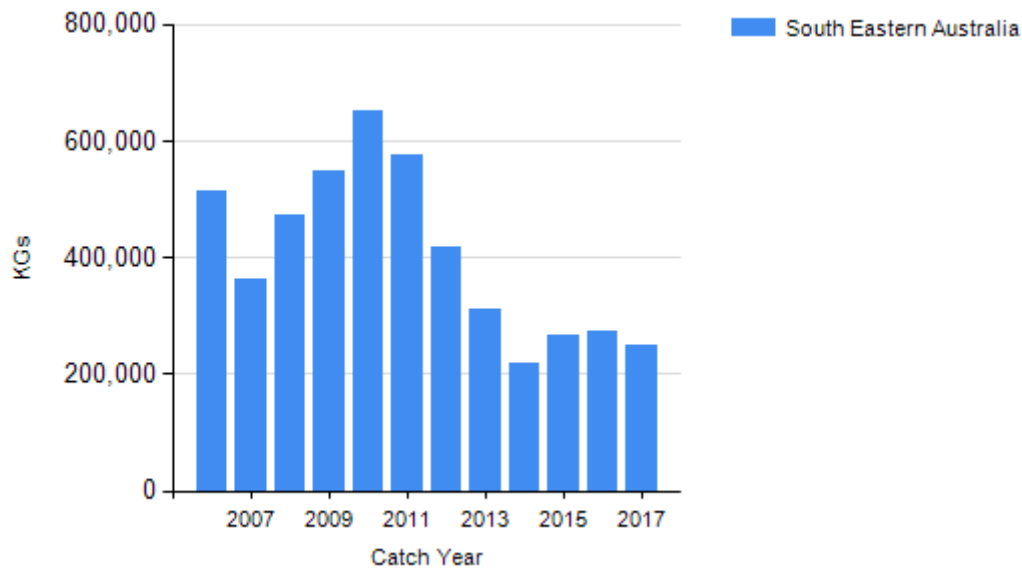
Commonwealth – Recreational The Commonwealth does not manage recreational fishing in Commonwealth waters. Recreational fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters, under its management regulations.

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 “Survey of Recreational Fishing in New South Wales and the ACT, 2013/14” (West et al. 2015)

New South Wales - Indigenous (a) The Aboriginal Cultural Fishing Interim Access Arrangement allows an Indigenous fisher in New South Wales to take in excess of a recreational bag limit in certain circumstances - for example, if they are doing so to provide fish to other community members who cannot harvest themselves; (b) The Aboriginal Cultural Fishing Authority is the authority that Indigenous persons can apply to take catches outside the recreational limits under the *Fisheries Management act 1994* (NSW), Section 27 (1d)(3)(9); and (c) In cases where the *Native Title Act 1993* (Cth) applies fishing activity can be undertaken by the person holding native title in line with S.211 of that Act, which provides for fishing activities for the purpose of satisfying their personal, domestic or non-commercial communal needs. In managing the resource where native title has been formally recognised, the native title holders are engaged with to ensure their native title rights are respected and inform management of the State's fisheries resources.

CATCH CHART



Commercial catch of Mirror Dory - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

ENVIRONMENTAL EFFECTS on Mirror Dory

References	
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1373	AFMA 2017b, Southern and Eastern Scalefish and Shark Fishery South East Resource Assessment Group (SERAG) 2017 Assessment Meeting 2 Draft Minutes of the SE RAG Meeting, 8–10 November 2017.
1374	Harvest Strategy Framework for the Southern and Eastern Scalefish and Shark Fishery 2009 Amended (February 2015).
1375	Tier 4 Analyses of Selected Species of the SESSF. Data from 1986–2015 CSIRO. Hobart.
1376	Haddon, M, and Sporcic, M, 2017. Tier 4 Assessments for selected SESSF species (data to 2016), 14 November 2017. Prepared for the SE RAG teleconference meeting, December 2017, Hobart for the Australian Fisheries Management Authority.
1377	May, JL and Maxwell JGH 1986, A field guide to trawl fish from the temperate waters of Australia. CSIRO Division of Fisheries Research (2nd Edition, revised).
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1379	Parin NV, Pavlov YP, Andrianov DP 1988. Ecology of the Mirror Dory <i>Zenopsis nebulosis</i> , of the Submarine Nasca Ridge. <i>Journal of Ichthyology</i> , 28: 707–16.
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